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Issues on Education and Research: Volume 2

Edited by

Gregory T. Papanikos

Athens Institute for Education and Research

2010

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First Published in Athens, Greece by the
Athens Institute for Education and Research.

ISBN: 978-960-6672-91-0
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Printed and bound in Athens, Greece by ATINER SA

8 Valaoritou Street, Kolonaki
10671 Athens, Greece
www.atiner.gr

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1

An Introduction to Issues on Education and Research: Volume 2

Gregory T. Papanikos

The *Issues on Education and Research: Volume 2* contains papers from the various conferences organized by ATINER during the last couple of years. Most of the papers in this volume were presented at the education conference. This conference attracts over 200 participants from over 50 different countries. In this volume we include about 30 papers organized into three parts. The first part consists of papers which use quantitative empirical methodology to address an education issue. Similarly, the second part of the book includes papers that employ qualitative empirical analyses and the third part incorporate papers that use either case studies or description and historical approaches to study education issues.

The categorization of papers into empirical quantitative studies and empirical qualitative studies or even into descriptive studies is sometimes very difficult. Of course, this is not to be confused with the empirical-theoretical distinction, even though the qualitative approaches can be considered as an inductive method in building if not theories at least hypotheses to be tested with empirical quantitative studies. Thus, one may argue that the process of an education study should start with a qualitative (exploratory) study which among other things develops hypotheses (logical and realistic). The second stage is to explore the issue using an empirical model and collect data to verify the hypotheses, using descriptive or analytical statistical methods. A third stage in this process of education research is studies that discuss these findings as part of a qualitative research process and come up with policy recommendations or suggestions and advices on how to solve a practical educational problem. The last stage can include particular case studies (problem or country based), surveys of literature and meta-analysis of a specific issue or even an historical account of an education theme.

The papers of this volume can be considered as belonging to one of the three types (processes) of education research corresponding to the three parts of the book. The themes covered are very diverse reflecting the general nature of ATINER's conferences on education. This is not a book on a specific

education issue. The topics included reflect the interest of the author(s) and their presentation at the conference. However, this is not the only dissimilarity. The included studies are not at the same level of rigor and research progress. Some studies are an initial attempt by the author to investigate the specific issue while others have examined the particular issue more rigorously and systematically. This mixed of research level has its own merits particularly for the young reader of this volume. Some of the papers of this volume should be considered as early drafts of an ongoing research program by the author(s). This is the case with all ATINER's publications giving the opportunity to many researchers from a diverse group of countries to meet with academic colleagues from all over the word to discuss research and teaching issues. In this volume the authors are coming from USA, U.K., Turkey, and Slovenia. In the next sections of this introductory chapter, the papers included in each of the three parts of the book are very briefly presented.

Qualitative Education Studies

This part includes nine papers. In chapter two, Kimmie Tang and Dennis Kao**,** look at the role of gender and ethnicity in the education of Cambodian American students in urban high school of USA. The purpose of their study is to contribute to the education literature of how gender and ethnic identity can impact on school achievement. The following chapter is another study on ethnicity. Geeta Ludhra and Deborah Jones present research on a group of nine third-generation, British South-Asian girls (aged between 13-16 years) and investigates their lived experiences. Information are drawn from a large secondary school setting in urban London where around 90% of the pupils are of South Asian origin. They focus on friendships as seen through the eyes of the girls. They emphasize the crucial role of talk in developing relationships and forming identities of the girls concerned. Chapter four examines American Indian Schools. In particular, the authors, Rebecca Monhardt, Jim Barta and Kurt H. Becker present a project whose aims was to create community advisory panels (CAPs) in American Indian Schools. This project aims at guiding teacher professional development in order to delivery student-centered, culturally responsive science instruction.

In chapter five the authors Z. Canan Karababa and Aliye Erdem examine attitudes of prospective teachers towards cooperative learning. It is found that prospective teachers seem to have positive attitudes toward courses that integrate cooperative learning stages. The next chapter is also a paper from Turkey and examines again teachers' opinions and attitudes. Tolga Erdogan and Ozge Erdogan examine the opinions of classroom teachers, pre-service teachers of classroom teaching and first year students of primary education on cursive handwriting. The authors conclude with some recommendations on cursive handwriting teaching.

Aysegul Celepoglu and Nuray Kisa in chapter seven look the effects of novels and films on children. Children in three elementary schools of Ankara, Turkey are used to extract information. The authors conclude with recommendations on how to expand their research. The next chapter by Tatjana Devjak and Srečko Devjak deals with preschool teachers' views on the meaning of movement activities or movement games for children's healthy development and the development of their personalities. Quality of education in preschool depends to a great extent on teachers' professional competence. Chapter 9 looks also at preschool teachers and the movement education. The authors, Elif Ustun, Menekşe Boz and Ozge Metin, consider the learning of the movement skills. The authors conclude that the preschool education program should be revised in order to develop the basic movement needs of children. The last chapter of this part by Panagiotis Teklos examines secondary students' attitudes towards music education. He uses three secondary schools of Paphos, Cyprus. The sample involved 44 final year pupils of one Gymnasium school and 38 pupils of the first, second and third grades of two Lyceums. The analyses show evidence of positive attitudes towards the study of theoretical aspects of music modules, but little evidence of satisfaction for practical aspects, including extra-curricular activities.

Quantitative Education Studies

This part incorporates eleven studies that in one way or another use statistical analyses to explore education issues. The first chapter of this second part, authored by Margarida S.D. Serpa, Suzana N. Caldeira, Carlos J. Gomes, Aurea S.T. Sousa and Osvaldo D.L. Silva examine the dimensions of the student's daily life and present results based on the construction of two evaluative scales of this performance (one in academic areas and another one in pro-academic areas). In the next chapter, Susran Erkan Eroglu examines the aggression behavior of high school students in Turkey. "Self (ego) Identity Status Scale" and "Aggression Questionnaire" were used in order to collect the data. Research indicated that there was a significant relationship between the students' (successful, uncertain, dependent and confused) aggression levels and their self (ego) identity status. In chapter 13, Tuncay Ayas and Metin Deniz look at aggression (bullying) in primary schools in Turkey. Results show that most of the bullying behaviors occurred in "class", later in "corridors" and lastly in "school garden" at school. Also, bullying mostly occurred during "recess" at schools. Mostly, boys tend to bullying more than girls and the peers in the same class tend to bullying more than the others.

Chapter fourteen is devoted to value education curriculum in primary schools. The authors, Canay Demirhan Iscan and Nuray Senemoglu, design a values education program for 4th grade primary school pupils. The aim of the values education program was to equip pupils with a set of prespecified values and encourage them to internalize these values. Reflecting the opinions of experts, the program emphasized the values of *open-mindedness, honesty,*

responsibility, helpfulness, which correspond to *"universalism"* and *"benevolence"* value types in Schwartz's value classification system. those who participated in it also used more statements reflecting the values emphasized in the program than did others.

In chapter fifteen, John Vincent Oates examines how the curriculum in Scotish secondary scholls promotes the teaching of China. The author considers this as important given the increasing Sino-Scottish engagement, and the introduction of a new "Curriculum for Excellence" designed to enhance teacher autonomy. The results of a national survey of more than 200 teachers in 2008 show a number of variables that directly impact on the responsiveness of teachers in changing the curriculum. However, it is found that there exists a decline in the provision of the 'China' topic in Modern Studies. The study concludes by providing key policy recommendations.

In the following chapter, Hasan Bozgeyikli uses a survey method to study the attitudes and behaviors of the primary students towards career development. "Childhood Career Development Scale", "Perceived Social Support Scale" and "Personal Information Form" were used. The findings show that there is a statistical significant difference between students' career development and perceived social support. However the regression analysis results indicated that perceived social support, socio-economic status and gender influenced students' career development in a significant way. The research results are important for providing data to experts in career development of elementary school students. Recommendations were made according research findings.

In chapter seventeen, Vida Manfreda Kolar and Tatjana Hodnik Cadez describe the major characteristics of didactic material, points out the problems associated with the use of such material in teaching and learning mathematics. They present the results of an empirical study that attempted to determine whether the views on the issue of didactic material in teaching and learning mathematics depend on the status of respondents, i.e. teachers and students.

In chapter eighteen, the authors, Esra Omeroglu, Sener Buyukozturk, Yasemin Aydogan and Arzu Ozyurek, use a focus group meeting of preschool and primary school teachers within the context of a project of "Improving the Skills of Problem Solving of the Children at Preschools and 1-5th Grades of Primary Schools, and Norm Study of Turkey". A statistically significant difference was found between knowledge, behavior and evaluation scores for a problem-solving skills of teachers in favor of preschool teachers. It was also determined that the knowledge and behavior scores of the teachers was determined by class size.

Sofokli Garo in chapter nineteen compares educational practices in Albanian and USA schools. The study looks at the differences of American and Albanian students in educational practices exerted in different cultural environments. His analyses found significant differences in some of instructional and non-instructional practices. American classrooms were characterized by practices, such as, the use of multiple-choice tests, extended use of hand-held calculators, and self-competence, whereas Albanian

classrooms were characterized by practices, such as reliance on textbooks, blackboard based teaching, and tendency to spend large amounts of time with friends.

In the following chapter, Yasemin Aydogan compares fourth-grade primary school students' problem solving skills and in-class activities. The sample is drawn from 152 fourth-grade students of two schools selected in Çankaya Region in Ankara, Turkey. It is found that there is a significant and positive relation between students' activities in classroom and problem solving skills. In the last chapter of this part, the authors Srecko Devjak and Joze Bencina look at the economics of Slovenian Kindergartens. The paper analyses the setting up of standards to be implemented in preschool education, the system of co-financing by parents and municipalities, as well as the reasons for the above differences among municipalities.

Case Studies

In this last part of the book, an amalgam of studies are include that cover a wide range of topics using a descriptive (historical) and/or a case study (problem-related) analysis. In chapter twenty-two, John E. Kesner and Gary Bingham look at child maltreatment reports in USA. Their approach looks and compares theses reports across USA and across mandated reporter groups. They found that educational personnel made the most reports of child maltreatment to child protective service agencies in the US, but had the lowest substantiation rate among all mandated reporter groups. In the next chapter Jean H. Hollenshead, Michael D. Welch, Barzanna A. White, Gary E. Jones and Casandra Kersh analyses suspension rates in USA. The dropout rate is of great concern and the author reviews the dropout issue on a national level, and focus on one southern state, Louisiana. Determining factors such as school disciplinary policies, the need for multicultural sensitivity in adapting school climate to the student population, and socioeconomic variables are considered.

In chapter twenty-four, Djily Diagne looks at school violence. As the author claims researchers and policy makers have made substantial efforts to understand its causes and consequences and to identify effective methods to reduce its occurrence. The author presents evidence on school violence from the growing economics literature. It shows that the phenomenon has an adverse effect on the level of educational attainment and labour market outcomes. Hence, reducing violence at schools not only eases life for many students who suffer from it but should also lead to more investment in human capital.

In the next chapter, Jelena Davidova and Irena Kokina explore Latvia's teachers' innovative activity. Their research emphasizes the importance of identifying what teachers think about innovations in education and their own position in relation to innovative activity. In chapter twenty-six, Ayşe Cakir Ilhan examines museum education in Turkey. The study is an overview of the current situation of museum education in Turkey, especially after 2000. The next chapter is another study on Turkey. Ayse Okvuran looks at the history of drama as a teaching method. The study examines origins of drama, drama in

national education curricula and drama education in universities. In the last chapter of this book, Naciye Aksoy presents the practice of multigrade schools in Turkey. Multigrade schools are prevalent and have a long history. In the countryside, the term "multigrade classes" is used for cases in which one teacher teaches more than one class of different grades at the same time in the same classroom. The main reasons for the existence of multigrade schooling are insufficient student population, inadequate school buildings, and low teacher supply. The author reviews and evaluates existing problems and current policies.

Part A
Qualitative Studies

2

Gender, Ethnicity and the Education of Cambodian American Students in a U.S. Urban High School

Kimmie Tang, Mount St. Mary's College, USA
Dennis Kao, University of Southern California, USA

Asian Americans are the fastest growing racial group in the United States, nearly doubling since 1990 (Ong & Leung, 2003). Over thirteen percent of the population in the state of California are now Asian Americans—thus making them the state's second largest minority group after Hispanics or Latinos (Asian American Justice Center & Asian Pacific American Legal Center, 2006). Despite tremendous population growth, Asian Americans remain largely neglected or 'invisible' in the educational literature (Olsen, 1997). Because the Asian American population is commonly viewed as a single monolithic group, there is less attention on emerging ethnic subgroups, e.g. Cambodian Americans, who continue to struggle academically. Thus, little is known regarding how to address the tremendous discrepancies in academic achievement that exist across Asian ethnic groups.

While Asian Americans collectively are thought to be highly educated, Cambodian Americans continue to face considerable educational challenges. Based on the 2000 U.S. Census, over half of Cambodian Americans living in California (56%) had less than a high school education, while only nine percent had graduated from college. These disturbingly educational trends among Cambodian Americans seem contrary to the notion of Asian Americans as a 'model minority' or a group that has adapted well to the U.S. socially and economically. Unfortunately, the over-exaggerated success story has advanced stereotypes and generalizations of Asian Americans as being highly educated, where the relative success of some ethnic groups tends to overshadow the hardships faced by other ethnic groups (Kao, 1995; Olsen, 1997; Yang, 2004).

Tremendous heterogeneity exists within the Asian American population, which is an 'umbrella' term referring to more than 45 distinct ethnic or cultural groups (APALC, 2004; Ong & Leung, 2003). In many ways, each Asian ethnic group can be defined by their immigration experience, i.e. the conditions under

which they migrated to the U.S. For example, many Asian Americans arrived to the U.S. as 'voluntary' immigrants, who willingly came to seek better economic or social opportunities, such as higher-paying jobs, better education, or reuniting with family members (Portes & Rumbaut, 1996; Takaki, 1998). In contrast, many Cambodian Americans (especially the older generations) were 'involuntary' immigrants, having been forced to leave Cambodia to escape persecution and mass genocide brought on by the Khmer Rouge[1] and to seek refuge in another country. The 1980s represented the largest wave, with about 114 thousand Cambodians were admitted as refugees to the U.S. (Chhim, 2003). Therefore, for many Cambodian Americans, coming to the U.S. was a highly traumatic experience, making their adjustment that much more challenging. Many arrived to the U.S. with little human capital (e.g. education, job skills, English proficiency, etc.) and after two decades, continue to lag behind other groups.

Forced to leave their homes, many Cambodian Americans also continue to hold strong allegiances to Cambodia and have maintained their cultural and traditional values and beliefs (Takaki, 1998). However, like other immigrant families, their children—who were either born in the U.S. or immigrated at a young age—may be more apt to adopt the mainstream culture and values (Zhou, 1997). Thus, Cambodian American youth may find themselves caught between two 'worlds' that represent differing and often conflicting values (Segal, 2002).

Intergenerational tension can manifest in numerous ways—such as differing gender role expectations and the conflict between family obligations vs. individual interests (Segal, 2002; Takaki, 1998)—which in turn, can directly or indirectly influence the educational achievement of Cambodian American youth. For example, in the majority of Asian cultures, the roles and responsibilities are clearly defined along gender lines. On one hand, cultural norms pressuring Cambodian girls to get married and to have children may be contributing to relatively high drop-out rates among Cambodian girls (Ngo & Lee, 2007). On the other hand, Cambodian parents may have higher educational or economic aspirations for their sons (Park, 2000), since males are expected "to assume the instrumental roles involving task accomplishment" (Segal, 2002, p. 188). Traditional norms may also explain the gender disparities in educational attainment. According to the 2000 Census, only one-third of Cambodian women aged 25 or older have a high school degree, compared to over half of their male counterparts. However, given the high poverty rates in the community, Cambodian boys also may be expected to work to support their families, with less emphasis on their education (Ngo & Lee, 2007).

[1]In 1975, Pol Pot and his Khmer Rouge forces came into power in Cambodia and embarked on a campaign to cleanse its cities (via mass relocations to labor camps located in the rural areas) and people (e.g. killing educated or professional individuals). By the time Pol Pot was overthrown in 1979, almost a third of the country's population or 2 million people were killed in the so-called "killing fields" (Kiernan, 1996).

Purpose of Paper

Our paper explores how issues of gender and ethnicity may influence the academic experience of Cambodian American high school students and what is being done at the school level to address these issues. In general, little research exists pertaining to Cambodian American youth, and to our knowledge, no previous study has specifically focused on how gender- or ethnic-based expectations may influence their education. The broad research questions addressed in this paper include the following:

- How does gender and ethnicity influence the perceptions or attitudes of the students towards school?
- Are the students aware of (and how do they perceive) the gender role expectations in their school and homes?
- How do the students perceive their own ethnicity? And how do they relate to students of other ethnicities, particularly other Asian ethnicities?
- How do parental expectations influence their attitudes towards school?
- Are the school and staff appropriately addressing the academic, social, and emotional needs of its Cambodian American student?

To address these questions, we conducted a qualitative study consisting of in-person interviews with students, teachers, and school administrators at a large urban high school in California. Based on the findings, we discuss the potential implications for future educational practice and research.

How we conducted the Study

For this study, we employed a qualitative approach to delve more deeply into how gender and ethnicity may influence the academic experiences of Cambodian American students. To gain a complete picture, we interviewed three groups of stakeholders at a large high school in California, including the students themselves, their teachers, and school administrators. The study protocol was approved by the University of Southern California Institutional Review Board and the district's research unit. To gain access to the school, a relationship was initially established with a staff person—who would serve as an invaluable key informant regarding the school's inner workings, the personnel, and other issues. We then met with school administrators to discuss the study's intent and to get their support.

Study Site

This study was conducted at a high school in one of California's largest districts, chosen for its high concentration of Cambodian American students.

The school is a large campus with roughly 4,300 students and over 200 staff personnel. Asian American students represent over a third of the student population (about 1,500), followed by African Americans (25%), Hispanics/ Latinos (25%), and Caucasians (12%). Since data is not collected for specific Asian ethnicities, it is not possible to disaggregate the Asian American student population. However, according to a 2008 school survey (obtained from the district), roughly half of the Asian American students (over 700) identified Khmer as the language primarily spoken at home.

Sample

We purposively sampled administrators, teachers, and Cambodian American students to participate in our study. As shown in Table 1, our sample included two administrators, four teachers, and ten ninth-grade students (five boys and five girls). The four teachers were selected among those who taught ninth-grade English classes with high numbers of Cambodian American students. The students were primarily recruited from these classes. We conducted six informational sessions in the four classrooms, but also outreached at the student club meetings. For students who showed initial interest, information regarding the study and parental informed consent forms—in English and Khmer—were sent home to their parents. Since the interviews were conducted in English, students also had to speak and understand English. Prior to the interviews, students were asked to complete a short questionnaire requesting demographic information, such as age, gender, racial/ethnic background, birthplace, and number of years lived in the U.S.

Data Collection

We conducted in-person interviews with the school administrators, teachers, and students, using three different semi-structured questionnaires specifically tailored for each group of participants. The questionnaires included a series of open-ended questions that explored the perceptions regarding how Cambodian American students were faring, with a specific focus on gender and ethnic-based expectations. The students were also asked about their own experiences and perceptions as Cambodian Americans. The questionnaires were first piloted with one student, teacher, and administrator prior to its use with the full sample. In addition, notes were also taken during and after the interviews to highlight important issues that required future probing or clarification and the interviewer's own impressions. Other individuals who worked at the school were informally interviewed to gather supplementary background information and gain further understanding or clarification. These staff included school counselors, the school psychologist, security officers, coaches, and other paraprofessionals. The interviews were conducted by one of the co-authors (Tang) during the 2007-08 academic year—from late September 2007 through January 2008. The interviews were audio-recorded and professionally transcribed.

Analytical Approach

A content analysis of the interview transcripts was conducted to identify significant themes and patterns related to our research questions (Patton, 2002). In an iterative manner, the co-authors read and re-read the transcripts individually and met regularly to compare our analysis. First, we read the transcripts to identify and code distinct categories or themes. Examples included the following: teacher to student interaction; school-related curriculum or activities; the students' perceptions of gender, the students' sense of ethnic self-identity; staff perceptions of Cambodian American students; parental expectations; and how all of these issues related to the students' academic experience or achievement. Second, the data was coded to identify patterns or relationships between the major themes, looking for similarities and differences between the student and staff perspectives were assessed. In cases when the information was incomplete or unclear, we contacted the participant again via telephone or in-person on the school site.

Methodological Limitations

This study seeks to provide some insight to the unique issues impacting the Cambodian American youth, whose experiences and perceptions may be different from those of other students. Therefore, the reader should be cautious in attempting to generalize the findings from this study to other schools or ethnic groups. The study takes place in an urban high school in California with a high concentration of Cambodians. A small purposive sample was used to target stakeholders who may be the best informants, but may not be representative of the entire school staff or student population.

It is important to also note that the lead author is a Cambodian American female, who as a young child, fled Cambodia with her family and eventually settled in the U.S. in the 1980s. On one hand, her being Cambodian American may have introduced bias into the data collection, analysis, and interpretation. On the other hand, her background and understanding of Cambodian culture may have helped the students feel more comfortable during the interview. Nonetheless, every effort was made to maintain a transparent process and to be 'emphatically neutral' (Patton, 2002).

Key Findings & Discussion

The role of ethnicity seems to play out in several ways, all of which have a negative effect on the academic achievement of students. First, it is apparent that Cambodian culture is not very well understood by the staff and unfortunately, the students are not necessarily in the best position to convey their needs. This lack of understanding is an important concern, given the central role that tradition and culture play in the lives of the Cambodian students. For example, the students have been taught by their parents to respect their teachers and not to cause any problems. However, to the teachers who are

more accustomed to a friendlier teacher-student relationship, the students may appear to be distant or disconnected.

Second, the Cambodian American students are commonly perceived generically as Asian or mistaken for another Asian ethnicity (e.g. Chinese or Korean). One of teacher did not know how many Cambodian American students were in her class:

> *I know it's sad, but I can't even tell you if the Asian students in my class* [are] *Khmer or Chinese or Vietnamese. I know that the student is Asian, has an Asian last name, and looks Asian. I know that we have a lot of Khmer students, and the only way I can tell them apart is when the student tells me their ethnicity. Often times the Khmer students don't tell me that they are Khmer. Other Asian students would tell me. I don't know why.*

The students did not express strong feelings one way or the other regarding being categorized with other Asian students. One female student, who reported being mixed Chinese and Cambodian, shared:

> *I think more people think highly of Chinese students than Cambodians, so I don't mind if the teachers call me Chinese. People know more about Chinese than Cambodian culture, and people view the Chinese culture and people, especially girls as beautiful, and exotic. People say nothing beautiful about the Cambodian culture or the country or even the people. If they say anything at all, it's about the civil war or Pol Pot and nothing else.*

However, one consequence is that the students' unique needs may be neglected. Because the students are commonly mistaken as other Asian ethnicities, it is possible that their teachers have certain academic expectations of the students—based on stereotypes of Asians being smart. On the contrary, several students shared that they are having trouble with their coursework. Moreover, because they are fearful of disappointing or bothering their teachers or being embarrassed in front of their peers, they stay silent about their needs and do not seek additional assistance. For example, one male student stated,

> *Sometimes it's good because teachers will just ignore me and move on to another student. Sometimes, it's not good because teachers don't think that I need help, and it's embarrassing sometimes. For example, when we do group work, the other students in the class would tell the teachers that they want to be in my group because I'm Asian and Asians are supposed to be smart. It's a lot of pressure. I know that I'm not that smart, but I do try really hard. And when I don't do well, they blamed me and said, 'You're really not Asian, you're just Cambodian.'*

As mentioned before, Cambodians collectively have among the lowest high school (and college) graduation rates and thus, do not necessarily fit the stereotypes espoused by the model minority myth.

Third, Cambodian American students tend to be marginalized by other students—particularly those of other Asian ethnicities. The students felt that Cambodians are viewed negatively by students of other racial/ethnic groups, based largely on stereotypes (e.g. perceptions of Cambodians as being poor). Therefore, other students often look down upon and harass the Cambodian American students. For example, one male student shared,

> *They* [other students] *would poke fun of the other Cambodian students of the way they talk, dress, and sometimes, it gets really personal where they would talk about the types of jobs Cambodians typically have. I guess by the things they say, they think they are better off than Cambodians.*

This, in effect, may further isolate Cambodian American students and discourage them from engaging in their classes and other school activities.

In terms of gender and family expectations, the students clearly expressed a tension between school and home. For most students, their academic aspirations are trumped by their roles at home. For example, the students are often absent from school in order to take care of their siblings or an elderly family member, in the case of the female students, or to work to help the family financially, in the case of the male students. For the same reasons, the students may also not be able to participate in after-school activities, extracurricular activities, or even tutorials. At the same time, the students are often discouraged from pursuing a college education.

Some teachers questioned why the students are not placing more importance in their coursework. This, again, may be a reflection of a culture that emphasizes family duty over individual achievement. Given the high poverty rates among Cambodian Americans, this may also be the reality. As several students shared, they are unable to participate in many activities or are often absent because they have to take care of a family member or work to earn money for the family. The following statements were made by a male and female student, respectively:

> *My parents says so and so doesn't have a high school diploma and he's doing pretty well for himself, see? Then my mom would say that they don't know any Cambodians who's rich and makes it big. If anything, they wasted their money in the long run going to college. But I'm going to try anyway.*
> *My dad didn't want me to go to college. He says that I should go to the community college first to save money, and if I'm lucky, hopefully, I'll be married off to a rich guy who has a business of his own. If that's the case, I won't be going to college. Beside, my dad*

> *told me that boys should go to college so that they can provide more for their family.*

From these two statements, it is clear their parents' cultural gender norms play a prominent role in their perceptions toward school. While both Cambodian boys and girls are affected, the interviews revealed that they are affected in different ways. On one hand, although there are expectations for Cambodian boys to support the family, going to college still serves as a viable alternative for some boys. On the other hand, Cambodian girls are expected to get married and take care of the family, which makes them especially disadvantaged with respect to their future education.

Parental involvement in their child's academic activities is also minimal but this may be because parents are either working or taking care of the home. Cultural or linguistic barriers may be another factor affecting parental involvement and is an issue that the school can play a role in addressing.

While the students are able to recognize varying gender role expectations in their school and at home, it is not clear whether they view these roles as necessarily wrong or inequitable. For the most part, the students tend to be indifferent. It is possible that the students have merely accepted their roles because they see their parents and relatives fulfilling certain roles. Since all of their parents are first-generation Cambodian, tradition and culture still plays a significant role in determining one's role in the family and community. Among most of the students interviewed, the girls are expected to be in the home and care for the family:

> *When I tell my mom and dad that my brother's not doing anything, my parents just ignore me and sometimes, they would tell me that I should just let them be, you know, let them continue to do nothing. My parents would tell me that that's what girls are for, to help out with the family, you know.*
> *My older sister told me that I'm supposed to help my mom take care of my younger sister and brother. My grandmother told me how to be a girl so that I can take care of my family and husband when I'm older.*

Boys also see their fathers, uncles, and other brothers working and providing for the family and thus, expect to do the same:

> *I learn it from my older brother. He taught me a lot on how to be a man. I must watch over my little brother. I must protect him and take care of the family. When I am old enough, I can work full time. Right now, after school, I must go and work so that I can help bringing in some money. You can't take care of the family if you don't bring in the money.*
> *I learned it from my dad and by watching TV when I was younger. I watch what my dad watches, and do what he does. He tells me that*

boys can do certain jobs like playing sports and architect and make lots of money.

Finally, the interviews suggest that school activities or programs are not readily accessible to both genders. Interestingly, the male students are particularly disadvantaged and largely underrepresented across all the programs, such as the student council, the magnet program, and the counseling center. Efforts are currently being undertaken to address the lack of male participation. Ensuring that the curriculum appeals across gender continues to be a tremendous challenge, with conflicting needs. On one hand, there is a need to find literature that appealed to their male students so they will remain engaged in class. On the other hand, the female teachers, as well as several of the students, felt that there is a need for more literature with more contemporary gender role expectations. Although the students did not express this as a major concern, there was also no current literature specific to Cambodian culture or experience.

It is important to note that in the school is currently working to improve in most of the abovementioned areas. However, addressing the unique needs of the Cambodian student population could be a difficult challenge. All of the staff interviewed for this study demonstrated the best intentions. In many cases, both administrators and teachers showed self-initiative and were proactive in addressing the inequities they observed. At the same time, it was not always clear what can be done, especially given limited resources. The school's counseling center would be central to the school's efforts. For example, the women's support group and the newly created men's support group shows some promise, providing both women and men to discuss gender-specific issues in a safe environment.

Concluding Remarks

The purpose of this study was to explore the potential role that gender and ethnicity may play in the academic experience of Cambodian American students in a large urban high school. The findings emerging from this study may help to further our understanding regarding the experience of Cambodian American students in our educational system and how issues, such as gender and ethnic identity, can affect their academic achievement.

This study shows that the school appears to be struggling to address the specific academic and social needs of its large Cambodian American students. More work is needed to address the academic and social needs of the Cambodian American student population. For one, school administrators—along with the district—should develop a strategy to recruit and hire more Cambodian American staff, particularly teachers. Despite Cambodian Americans representing one of the larger minority groups at the school, only three members of the school's over two hundred staff are Cambodian,

including just one teacher. A more culturally competent staff may help to engage the parents of their Cambodian American students more in their education.

The school could also increase the awareness and cultural sensitivity of the Cambodian American population among its teachers and other personnel, as well as the broader student population. Cultural sensitivity trainings and adoption of culturally competent teaching pedagogy could help teachers to work more effectively with the students. Teachers could also collaborate with students from the school's Cambodian student groups to develop school activities that would raise awareness around Cambodian culture. In addition, administrators and teachers could collaborate with the local community organizations or local businesses serving the Cambodian community to develop strategies in working with the students. Community leaders or service providers could also be consulted to provide in-service trainings for the staff.

The curriculum needs to be revised to incorporate aspects of Cambodian history and culture. In terms of the curriculum, there is virtually no literature about Cambodian Americans or by Cambodian American authors—despite efforts to develop a multicultural and inclusive curriculum. School administrators and teachers could consult with local university faculty with expertise in Asian American or Southeast Asian studies.

Finally, in order to better address the needs of their Cambodian American students as well as other students, the school must begin to monitor differences in academic achievement for distinct subgroups within its student population. Little data disaggregated by specific Asian subgroups is collected by the school. Such information can help to draw attention to the struggles of the Cambodian American students, as well as inform possible interventions.

This study also demonstrates the tremendous need for further research on the education of Cambodian Americans. While there is increasing awareness of Cambodian Americans as a disadvantaged population, most research continues to treat the Asian American population as a homogeneous population. On a national level, many of the Asian subgroups are still relatively small and consequently, there may be a lack of adequate data to allow for statistical analysis. Since Cambodian Americans are mostly concentrated in local regions throughout the U.S., there is a critical need for regional or more localized studies (e.g. at the district or school levels). Some researchers may have a difficult time gaining entry into this population, especially given the distrust and fear that still exists among many Cambodian Americans (Chhim, 2003). Because the lead author is a Cambodian American female, we probably had some advantages in pursuing this study, e.g. explaining the study to the students' parents.

This paper focuses on the educational needs of Cambodian American youth—a population that is virtually "invisible" in the educational system. In doing so, we uncovered the vulnerability and resilience of a newly emerging immigrant group, as well as the well-intended efforts of school administrators and teachers faced with a formidable challenge. Although this study is focused on a single school, the immigration experience is not unique to this district but

touches every district and school. Educators have a mandate to ensure that all students have access to the same academic and social opportunities regardless of their gender and ethnic background. With growing numbers of children from immigrant families, schools have to contend with cultures that may not value education in the same way or with socioeconomic forces that make education less of a priority. Cultural competence and awareness can assist in engaging parents and getting them more invested in their child's education. In this way, school administrators and teachers—with the support of the community and parents—could play an important role in ensuring that Cambodian American and other immigrant youth have access to the same opportunities as other students.

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Table 1. *Summary of Participant Characteristics*

Participants	Gender	Race	Tenure	Miscellaneous
Administrators (n=2)				
Administrator 1	M	White	12 years	---
Administrator 2	M	Black	2 years	---
Teachers (n=4)				Class breakdown (gender):
Teacher 1	M	White	14 years	37 students (22 boys/15 girls) 5 Cambodian students (1 boys/4 girls)
Teacher 2	F	White	8 years	33 students (14 boys/19 girls) 14 Cambodian students (6 boys/8 girls)
Teacher 3	F	Black	8 years	35 students (21 boys/14 girls) 9 Cambodian students (7 boys/2 girls)
Teacher 4	F	White	3 years	35 students (19 boys/16 girls) Number of Cambodian students not known
Students (n=10)	5 boys 5 girls	Cambodian	Age/grade: 14 years old; 9th grade	Nativity and duration in US: 2 U.S.-born (1 boy/1 girl) 5 foreign-born and 5 or more years (3 boys/2 girls) 3 foreign-born and less than 5 years (1 boys/2 girls)

3

Friendships, Talk and Identities: South-Asian Teenage Girls tell their Stories

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Currently within the UK several issues are prevalent within the public discourse. South-Asian girls, especially those from the Muslim communities have received greater attention more recently in relation to the wearing of the headscarf. These girls tend to be classified as a homogenous group, often portrayed as being passive victims of oppressive structures and forced into arranged marriages through their strict family upbringing. They are often portrayed as being in a 'culture crisis/ identity crisis' situation where they are seen to be confused, backward and traditional, craving the freedom enjoyed by the youth of western societies (Shain, 2003; Handa, 2003). Handa (2003: 9) suggests that one of the problems with the **'**culture clash/ identity crisis' model is that it overlooks the importance of race inequalities on identity and treats 'the cultures in question as equal competitors', ignoring notions of a dominant culture in society. Therefore, such discourses may be viewed as rather simplistic as suggested in the following extract:

> *Pupil: People tend to look at you as an Asian girl but it is a generalized look at Asian girls. They think that oh- an Asian girl can't do this and an Asian girl can't do that, but I think they ought to have a wider range of ways of looking at us because every Asian girl is different. If you see one Asian girl, you can't assume that every other Asian girl is brought up in the same way. We are all different!*

Haw (1998: 163) explores these wider societal discourses highlighting those that exist in schools and how these influence the teaching and learning relationships between staff and pupils. Such discourses may focus around the family, the local community, local and national politics. They may also focus on the 'student's ethnic/ racial/ class/ cultural/ religious positioning.' In

addition, these discourses frequently focus around fashion, music, literature and television, which all influence how the girls present themselves to others. The 'Asian' category has many aspects of distinction in terms of heritage, region, language, class, religion and caste. It is important that differences within them are realized and explored (Archer, 2003; Brah, 1996). This research on the lived experiences and perceptions of British South-Asian girls aims to deconstruct some of these societal discourses and explore commonalities and differences between girls from different sub-cultures.

Theoretical Perspective

This paper is located within a post-structuralist framework as it is concerned with the production of identities, and with how identities change within various contexts (Kenway, 1994). Approaching research from this position enabled reflection on multiple gendered and cultural practices within the school. Adopting this stance also informed an analysis of power relations between girls and boys from different cultures and the impact of that on their identity (Francis, 1996). A key concept drawn from post-structuralism is that of discourse and this research explores how institutions are affected and produced by wider ideological discourses. A post-structuralist approach then, facilitates an understanding of meaning making processes and connections between local and historical discourses (Mauthner and Hey, 1999).

Literature Review

Studies of South-Asian Girls

Ghuman (1994; 2003) reports on the specific difficulties of South Asian girls in British schools where he compares the values of Western societies (individualism, a secular outlook, gender equality) to those of South Asian societies (collectivism, religious commitment and gender role differentiation). His longitudinal research on second generation Asian girls highlights that there were difficulties and conflicts between home and school on gender issues and South Asian girls faced greater difficulties in coping with their 'biculturalism' because of differing expectations. Miles (1978) uses the term 'bicultural' to describe how Asian children live between two cultures and adopt aspects of their culture by choice, depending on the circumstances they face. Handa (2003:7) provides a useful definition of the term 'culture' in relation to 'values, attitudes, habits and customs' and uses the term 'value conflicts' rather than 'culture conflicts'. Within her study of second generation Canadian South Asian girls, she notes that Asian girls are torn between the values of 'traditional' and 'modern' cultures. She argues that studies in the West tend to focus on the degree to which minority groups adapt to the main stream culture rather than the degree to which dominant cultures adapt. Within this study, the school's dominant culture was made up of pupils from South Asian origin. Handa's research also showed that conflicts with parents (focused around issues of freedom) were the most important issues affecting the girls in her

research. One of the key themes emerging from her study was that of the 'wearing of masks' and 'safeguarding of secrets'. The girls had to 'mask' certain issues from the family and community in order to avoid any dishonoring of the family. Brah's study (1996) with South Asian and white girls found that 'intergenerational conflicts' between parents and children were no higher among Asian families than with white families.

A key problem for South Asian pupils has been identified as bridging the gap between both home and school cultures, where the schools reflect the belief systems of the host society (Ghuman, 2003). As well as the gap between the two cultures, there exists a common ground between home and school which includes areas such as deferred gratification, need for achievement and respect for learning and knowledge. Further, Asian girls tend to carry an unfair burden of the family's tradition and 'shoulder the *izzat* (honour) of the family'. In order to cope with racial discrimination, exclusion and family pressures they 'have to learn to employ a variety of psychological mechanisms and social strategies' (Ghuman, 2003:4).

There are many complexities faced by South Asian girls who are far from 'passive victims' and are in fact 'active creators and re-creators' of their identities (Shain, 2003). Her doctoral study of 44 South Asian girls classifies them into four key groups according to the strategies they employed to deal with their experiences of schooling and society.

1. Resistance through culture (The ***'Gang girls'*** positively asserted their Asian identities)
2. Survival (The ***'Survivors'*** tended to work within stereotypes in a passive style and focused on academic success)
3. Rebellion (The ***'Rebels'*** acknowledged uneven gender relations and were critical of parents and values of the community)
4. Religious prioritisation (The ***'Faith girls'*** worked hard academically and asserted their religious identities).

Like Shain (2003), Archer's study (2003: 156) surrounding the masculinities of Muslim boys also represents them as active agents who are 'thinking, agentic, complex human beings, rather than the simplistic homogenized, negative stereotypes' of young Muslim men. The experiences of Asian girls are therefore influenced by social structures and sexism within schools can further limit their experiences but 'cannot be said to determine them' Shain (2003: 42). These experiences can be 'institutionalised in the routine structures and practices of the school'. Where stereotypes (such as the 'passive' and 'obedient' Asian girl) are held by teachers, Asian girls could be at an even greater disadvantage than their peers and receive less attention within the classroom.

Bhatti's (1999) extensive ethnographic study of first generation Asian parents and second generation children, researched Asian children's experiences in relation to the perspectives of parents, teachers and peers (a

connection that is missing from much of the literature). By gaining insights into their home lives, a better understanding can be developed of how they negotiate their identities at school and the impact of home. It is argued that second generation Asian children are often left 'in charge of their own destiny' because of the parents' lack of knowledge about their children's needs and the school systems.

Constructing Identities

The postmodern concept of identity asserts that identities are neither fixed, stable or permanent, but change according to the variety of cultural systems and contexts which present themselves, thus assuming different identities at different times. As Hall (1992: 277) puts it, 'we are confronted by a bewildering, fleeting multiplicity of possible identities, any one of which we could identify with, at least temporarily'. Hall (1996:4) further adds that identities are '…constantly in the process of change and transformation' and that they are 'constructed within, not outside discourse. Identities are constructed through, not outside of difference.'

Individuals operate across a range of different contexts, or 'fields' (Bourdieu, 1984). In the case of this study, fields include the home, school sites, social arenas, places of worship and so on. For South-Asian girls, schools are a 'major public site for the active negotiation of their identities' (Shain, 2003: 42). Operating within the different arenas may cause individuals to draw on a range of different identities where they modify their behaviours to suit the context, resulting in them positioning themselves, or being positioned according to the 'fields' of operation. Individuals may choose from a multiplicity of identities which may conflict and result in tensions (Curry-Johnson, 1995). There would, at times, appear to be ambiguity and discomfort, not only over *who,* but also, over *how,* to be as a result of social pressures and competing discourses.

Integral to these processes, are notions of power. As Rutherford (1990: 20) suggests, identity is 'the intersection of our everyday lives with the economic and political relations of subordination and domination'. So, practices which produce meaning, involve relations of power. Individuals can neither be free from, nor operate outside of, the exercise of power (Foucault, 1984). It is interwoven into society through networks and allows for the exploration of different discourses at different times. We are subject to certain discourses and have a certain amount of agency in deciding not only whether or not we will take them up, but also where exactly we will position ourselves.

Ghuman (2003: 36) states that younger Asians in the West find identity formation issues more of a challenge because of 'dual socialization and racial prejudice'. He draws on the very useful theoretical model of Marcia (1994) in Ghuman (2003) for describing this process. This model highlights the importance of an individual's continuity with the past, the present and a clear direction for the future. The following summary of Marcia's identity model usefully outlines the four stages of this process:

1. **Identity diffusion** (lack of commitment to identity)
2. **Foreclosure** (taking on the unexamined views of parents and others without exploration of identity)
3. **Moratorium** (exploring issues of identity or known as 'identity crisis')
4. **Identity achievement** (firm commitments after exploration of identity)

Competition between identities themselves can become a source of conflict (Woodward, 2001). It is evident then that identities are constructed within contexts of struggle and unrest, often resulting in the process being an uncomfortable one. This does not imply that the individuals involved are in a state of crisis.

The Study

This research arose as a result of several conversations with Asian adolescent girls where they discussed their experiences of school and family life. Because of the important issues raised within these interchanges, formal interviews were undertaken within the school setting. Individual, semi-structured interviews (lasting up to one and a half hours), were conducted with nine South-Asian girls aged between 13-16 years (see table 1 for details of sample). The sample included girls that had been in the school since year 7 (secondary school starting point) so that they had a complete wealth of experience to draw upon during the interviews. The sample was made up of three Hindu, three Sikh and three Muslim girls. This allowed comparisons to be made across sub-cultural groups so that they were not viewed as a homogenous group and so that differences within social and cultural contexts could be discussed (Shain, 2003; Ghuman 1994).The study also involved a one hour interview with a senior member of staff from the school which provided a corresponding narrative from the view point of the teacher.

The semi-structured interview approach allowed questions to be asked around a predetermined list of topics, and also provided freedom to modify questions and add explanations (Robson, 2002). As some of the questions were of a more sensitive nature, the semi structured approach provided greater flexibility (Ghuman, 1994).

The school was a large, urban, London based school with over 90% of its pupils coming from the Asian sub-continent. Approval was given by the head teacher following a discussion of the research aims, themes and the University Ethics clearance procedures. Parent/ pupil consent letters and information letters outlining the nature of the study were processed well in advance of any interviews being conducted.

Three pilot interviews were conducted to ensure that the interview schedule was clear and questions were not of a leading nature. Interviews were all

recorded and fully transcribed so that valuable information was not lost and 'paralinguistic signals' such as pitch, tone, volume and speed could be heard (Argyle, 1983). A written journal was also kept to include commentaries on the interviews and visits.

It is important to acknowledge that the interviews were conducted with the girls at a particular moment in their lives. Some participants struggled to openly express all that they 'think, feel or believe' in the interview situation and it is therefore acknowledged that interviews can only provide partial insights in to a participant's opinions (Lankshear and Knobel, 2004). All interviews were transcribed and coded and analysis of interview transcripts revealed that similar themes and patterns emerged.

Findings and Discussion

Girl's Friendships and the Role of Talk

This section will focus on case study insights gathered from two participants (see pupil 1 and pupil 8 in table 1). The 'summary' section will briefly draw on data gathered across the wider sample. Fictional names have been used in all cases.

Sonam's Story (pupil 1)

Sonam described her inner friendship group of the last two years as being made up of three cousins and one other Hindu Punjabi girl. She had moved into this group after being in a large, mixed friendship group which she called the 'popular girl group'. She described how she was often 'pushed away' and 'not made to feel part of the popular group'. This group comprised of girls from a range of ethnic groups, but mainly Asian. She described herself as 'too different' from them and expressed how they made her feel 'less confident'. However, she expressed a sense of 'equality' within her cousin group as demonstrated in this extract.

> *'We are all like on the same page of a book and won't backstab each other as relatives…we have been through the same family situations at home'.*

Sonam therefore extends the family circle to the school and this 'sense of sameness' allows her to feel more comfortable. Hey (1997: 130) describes the 'divisions of power' that girls live within through friendships and the 'natural tendency for girls to institute their friendships through the categories of 'sameness' as 'normality' and against 'difference' as 'other'. During the interview, Sonam talked of how the cousins would often speak in Gujarati together and tell each other Gujarati jokes in the playground. These shared language experiences were important to her. Outside of the school context, Sonam's friends were mainly older teenage cousins (some studying in

University) but this group widened out to include the friends of her cousins who were from white, black and Asian backgrounds, both male and female.

Table 1. *Overview of Sample*

Pupil No.	Age	Year group	Religion/ Background	languages spoken/ written	Country of origin of parents	Parent occupation	Siblings
1	15	11	Hindu Gujrati	Speaks Gujarati fluently and writes it less fluently	Both from Kenya	Mum: airport security guard Dad:- works in a courier company	Sisters- 1 younger Brothers- 0
2	14	10	Hindu Gujrati	Speaks Gujarati fluently	Mum: India Dad: Africa Parents divorced	Mum: housewife Dad: own retail business	Sisters- 0 Brothers- 1 older, 1 younger
3	13	9	Hindu Punjabi	Speaks Punjabi fairly fluently	Mum: New Delhi Dad: Punjab, India	Mum: housewife Dad: engineer	Sisters-0 Brothers- 1 older
4	14	10	Sikh	Speaks fluent Punjabi	Mum: UK Dad: Kenya	Mum: planning officer Dad: unemployed	Sisters-0 Brothers- 1 younger
5	16	11	Sikh	Understands Punjabi but rarely speaks.	Mum: Punjab Dad: UK.	Mum: supermarket cashier Dad: chartered surveyor	Sisters- 1 younger Brothers- 1 older
6	13	9	Sikh	Speaks Punjabi, writes slightly	Mum: Tanzania Dad: Kenya	Mum: computer programmer Dad: engineer	Sisters-0 Brothers- 1 older
7	14	10	Muslim	Speaks fluent Punjabi	Both from Pakistan	Mum: house wife Dad: taxi driver	Sisters- 1 younger Brothers- 2 younger
8	16	11	Muslim	Speak and write in Urdu/ Arabic fluently. Understands Punjabi.	Dad: Kenya Mum: Pakistan	Mum: nursery assistant Dad: bank clerk	Sisters-0 Brothers- 2 younger
9	14	10	Muslim	Speaks Punjabi and Urdu- learning to write Urdu	Dad: UK Mum: Pakistan	Mum: teaching assistant in a mosque Dad: chauffeur	Sisters- 1 older Brothers- 1 younger

When discussing her relationships with boys, Sonam talked of how the Gujarati boys outside of school were ‘easy to talk to and more trustworthy than some of the other girls’. The notion of ‘backstabbing’ emerged again here

where she spoke of not being able to trust some girls from her own community as information could be 'passed on to family'. This is supported by Handa's (2003) research where recurring themes emerged in relation to the 'wearing of masks' and the 'safeguarding of secrets' by Asian girls. However open and modern Sonam considered herself and her family to be, she was still keen to 'safeguard' certain secrets and 'mask' areas of her life as 'private' in relation to the immediate family.

Regarding her perceptions and interactions with white boys, these were somewhat contradictory. The following extract reveals Sonam's beliefs that Asian values are superior to white values.

> *'…they (white friends) have a different way of thinking to us…their parents think differently to our parents- if you are going with an Indian guy, their parents want them to have certain high level professions like being a doctor or a lawyer and their parents are more concerned about their education. The white guys I have as mates can go out every weekend until late, their parents let them smoke and stuff and have girlfriends'.*

Despite the stereotypical views presented above, Sonam felt that she could talk openly with white boys and would consider having a white boyfriend (even though her parents would disagree). She used the expression: '*I would work on them if this happened*'. Here exists a slight contradiction between her views of white boys and how she acceptingly interacts with them. Sonam appears to be operating within Marcia's identity phase of 'disclosure' where the views and stereotypes of parents are taken on without exploring personal issues of identity and belief.

Language emerged as a sub-theme under friendships across the interviews and Sonam discussed this in relation to communicating with her cousins and male Gujarati friends. She felt confident talking in Gujarati with friends and talked of how she and her parents had taught some of her white friends Gujarati phrases and educated them into aspects of her culture.

Sonam described a clear sense of open communication operating between her, her parents, and the various friendships she maintained from all ethnic groups. Her friends had a good relationship with both her parents where they were encouraged to socialize at both family and religious events and eat Gujarati food. This sense of family 'openness' is illustrated in this extract.

> *Sonam: My friends all love my family, they are always round my house, you know, getting along with my mum and stuff. My friends and my family are like one, it is not like having two separate worlds, I can talk about the same things with my mum, like if I have a fight with a friend I can tell my mum about it, and if I have a fight with my mum, I can tell my friends about it, so it's like one world really and I don't have to hide things.*

The importance of socializing with a mixed group of friends was considered important for Sonam and although her inner circle of school friends comprised of mainly Gujarati cousins, she made efforts to socialize with a wider ethnic group outside of school. She talked of how her friends (white, Asian and black) would accompany her family to the *mandir* (Hindu temple) on special occasions and dress up in saris for *Garbar* (Gujarati folk dance). She said she was able to be 'open with her friends' about her background because of 'the openness of the Gujarati culture' and also her family in relation to other Asian families (Sikh and Muslim families mentioned). As a Gujarati girl, she said that she had the 'most open relationship with her parents' compared to her other Asian friends who would often rebel 'behind their parents' backs'. Sonam spoke about this in relation to religion.

> *'The more open a religion is, the less you do behind some one's back and behind the religion. Some of my friends don't even agree with things but just do things in secret'.*

She spoke of how there were fewer restrictions on how she dressed, what she ate and prayer rituals. However, despite these open channels of communication, Sonam felt that the area of boyfriends was the one aspect of her life that she would 'keep secret' from her parents as 'they would have a heart attack if they knew' and were keen for her academic study to be her number one priority.

Sonam acknowledged the impact both of her friends and of her family on her own identity. She described a '50/50' ratio within her life- 50% being family time and 50% friendship time. She spoke of her father's approval of her new group of friends and how this group encouraged her to be 'more academic and concentrate at school'. This she said was 'in line with (her) dad's thinking'. Clearly his approval was important to her and a factor in the shaping of her own identity.

During the final reflection stage of Sonam's interview, she ended by commenting on how the interview had heightened her awareness of the links between family and friends.

> *'I never really thought about how different groups of friends have actually influenced me in school- stuff like that- and how my family have influenced me too. You don't think about how much other people influence you really unless you're asked'.*

In relation to the influence of family and friends she commented that:

> *'…they can both like link together. They are not two different worlds, they are kind of similar. Friends are like a different sort of family, but in school.*

For Sonam, her cousins were her closest friends. The above reflection relates to complementary research where a teacher discusses the importance of outside researchers providing valuable opportunities for girls to openly discuss their inner thoughts. She comments: 'it is not until people ask you those questions that you can reflect on it' (Haw, 1998: 33). The degree of opportunity for Asian girls to engage in such empowering discussions emerged as a clear gap in their experiences and consequently in their developing understandings of themselves and their identities.

Raheena's Story (pupil 8)

Raheena, a highly confident and articulate girl, (who described herself as 'half Muslim and half Kenyan), talked openly about 'her wide circle of friendships' of mixed gender and ethnic group within the school. She described her 'best friend' as a 'mixed race Christian boy' who she had known since the age of four. Raheena was very unique within the school sample in that she demonstrated an remarkable confidence in expressing herself and an increased awareness about various aspects of her sexuality, gender and religion. Throughout, it was clear that she valued the importance of 'difference' within friendships at all levels. Although the extract below refers to her friend of Tamil Pakistani background (originating from Sri Lanka), it shows Raheena's appreciation of difference, even within the same sub-cultural group.

> *Raheema: ...it's more interesting having different friends, like I've got my Tamil friend who is also Pakistani like me. We introduce each other to different things, rather than just knowing everything by heart about each other. Because we are different, we get along and we teach each other new stuff- that makes our friendship more fun!*

A key theme of Raheema's interview was that of the role of talk and debate within personal friendships and in the wider context of the school in general. She discussed how she and her friends would often debate their different beliefs within both formal and informal contexts. It was clear how talk and indeed debate, was key to the development not only of her friendships and wider relationships, but also to the shaping of her own identity.

> *Raheena: ...a lot of my friends have quite different views to me and we have quite a lot of discussions, like deep and passionate discussions about our different views. This doesn't mean we get in to arguments but sometimes heated debates.*

Raheena had belonged to the school 'debating club' since the age of 12 and talked of her passion for debating where she had also taken part in competitions outside of school. She talked extensively about her most interesting debate question: 'Does religion oppress women?' She debated this topic within a group of friends in a school competition. The following extracts

highlight the strength and confidence of her views within a formal school debating context.

> *Raheena: I was asked 'Does religion oppress women?' Well some religions do I think, but because of the way I justified it to the others in the debate, I could think of ways that could contradict that. Like, yeah, because for instance, I am Muslim and I have only just started wearing my headscarf (I only started wearing it just over a year ago), some of my friends were talking about how Muslim girls are sometimes forced to wear it and it is a sign of oppression. I said I wasn't ever forced to wear it.*
> *Interviewer: What has wearing the headscarf done for you?*
> *Raheena: I think it has done that (idea of liberation) because I noticed that people started sort of paying more attention to what I was saying. I don't know why, it is just an observation that I have made. They had actually been looking at me and listening to me more, rather than thinking what is she wearing and why does she have that hairstyle today, you know what I mean?*

This discussion point went on and Raheena then talked about the reaction of her peers and teachers. She felt that there was little reaction from her peers but a more noticeable reaction from particular staff in the school as outlined in this extract about a white male teacher. Clearly the expression of her views impacted on her relationships within the school context.

> *Raheena: I noticed that a couple of my teachers started being a bit- you know- different with me…like one of them he, he, was quite light-hearted in lessons before, he would laugh and joke around with me, but then when it came to me, he would become a bit more- like you know- serious and distant- and I always wondered why is that and then I thought- is it because of my headscarf now, because when I started wearing it he changed his approach and he came up to me saying, is it of your own choice or were you forced to wear it by someone?*

Through Raheena's extended interview, she went on to talk about the stereotypical views held about Muslim women who wear the headscarf (she used the words 'quiet' and 'weak'). Although she was now wearing the headscarf, at no point did she clearly articulate exactly why she made this decision. She was keen to point out that she was not 'forced' to do so by anyone, but she clearly believed that wearing the headscarf was valuable. Nevertheless, in taking up this position she perpetuates the values within her family and follows in her mother's footsteps. She described herself as a confident role model for other Muslim girls in the school who wore the headscarf. In many ways, it appeared that for Raheena, her confidence was

reflected in her choice of clothing and the headscarf had become a symbol of her values. In this way it appeared that her identity was strengthened. In a discussion with one of her teachers, it became apparent that her more recent confidence was noticed by staff after her wearing of the headscarf.

Raheena demonstrated a real awareness and interest of political issues in Pakistan with regards to the importance of female leaders like Benezir Bhutto and why some men in power may feel threatened by her. Raheena described her popularity with a wide group of friends in the school and felt that this was down to her 'openness' and 'willingness to listen to all sides of the story'. She felt that she was not a 'stereotypical Muslim girl' but a positive portrayal of one. The following extract from Haw (1998: 33) explores this issue of stereotyping from a teacher's perspective. A teacher from a Muslim faith school talks about the limited perspectives and knowledge of some Western people.

> *Teacher: People do stereotype. ...I can remember being in a situation where a man, whom I would describe as a scholar, in the same sense that he has probably got more academic knowledge of Islam than me, commented that he could not imagine women wearing the hijab unless they had been forced into it. He was looking from a Western point of view at something that Muslims have accepted…his impression was that every women that covers the hair is suppressed.*

However confident Raheena appeared at school, her story again revealed deeper elements of 'secrecy' and 'masking' where she still lacked confidence to discuss certain issues openly with family. Raheena's family setting was far more traditional than Sonam's and she spoke of the suppression her mother had experienced from her extended family days during the early years of marriage. Raheena talked powerfully about her mother being her main role model in life. She described her mother's desperate need for Raheena to lead a 'different life' to that of her own. Their relationship was characterized by openness and a willingness to discuss a range of issues and this proved to be a powerful factor in the shaping of Raheena's identity.

Summary of other Participants

In following the theme of friendships through the other participants, it became evident how 'highly complex and contradictory' the aspect of differences could be (Hey, 1997). The role of talk was clearly important within friendships and girls' prior experiences of friends in earlier primary years. Those girls who moved within different groups in a fluid style, like Raheena, were happy to come out of their 'comfort zone' of 'sameness' and demonstrated greater levels of confidence to deal with and contest differences. However, the high number of Asian pupils within the school and the geographical location of the school within a predominantly Asian community heavily restricted the range of 'different' friendships maintained outside of

their ethnic group. The girls had to have the confidence and motivation to actively search outside of their group if they wanted to build wider friendships. In certain cases, they did not want to and felt that were very happy with their friends.

For example, pupil 2 spoke of how she preferred to have Asian friends because of her negative experiences with white girls in her early primary years in Scotland. She talked of her traumatic experiences of exclusion and racism, not only as an individual but as a family. The notion of 'normality' and 'common grounds' with similar Asian friends emerged across several interviews where pupil 2 spoke of having 'less restrictions' when talking to her Asian friends. Pupil 2 spoke of having 'other friends' of Christian background (within lessons) but added that 'you don't really hang out with them properly as mates'.

Pupil 4 spoke assertively about the importance of sharing similar values and backgrounds with other like minded Asian friends and shared some of her negative stereotypes of white boys and girls, including their parents. Pupil 5 went even further to confine her friendships both inside and outside of the school setting to 'mainly other Sikh girls and one Muslim girl friend'. Again, like pupil 2 she had had previously engaged in negative experiences of racism with white girls back in her primary school. Pupil 5 talked of having mixed Asian friends from all the sub-cultural groups but felt that the added common dimension of the Sikh religion further bonded her with her Sikh girl friends.

The role of explicit talk and discussion about such themes (as those in the interview) were obviously very new to the girls as one said on reflection: *'I found the interview questions hard- I had to think a lot'.*

Conclusions and Implications

Within the constraints of this paper, these short extracts of first hand accounts have revealed that the process of identity construction is a highly complex one for the girls within this study. The degree to which girls wanted to express their thoughts and beliefs varied as did the degree to which this was encouraged by the school or home community, but such external forces did not hinder the development of their views which were clearly expressed during the interviews. They had simply not been given the opportunity or forum to discuss some of the more abstract ideas from the interviews and make those thoughts explicit- some of which they had clearly never considered prior to the interviews.

The final interview reflections highlighted the impact of these discussions on their thinking and the clear need for extended interview sessions and more collaborative discussions within schools at all levels.

The strong influence of the family was evident across the sample. Eight out of nine girls talked passionately about mothers as their role models. This was mainly related to the sacrifices they had made within their extended families

and their hardworking nature. The girls expressed a read admiration for this. Where the father was once mentioned, it was because the girl admired him for his philosophical discussions and how he made her think about real life issues.

For Sonam, the sense of family openness meant that she was able to integrate the 'two worlds.' For Raheena, the influence of her mother pervaded her values and actions and was fundamental to her becoming a powerful female role model. For both girls the role of the family was highly significant and the impact on them as young adolescents, far reaching. In many ways they had learned to operate successfully in the culture of home and the culture of school and demonstrated highly sophisticated understandings of the differences of these two cultures. An issue for them was whether to reconcile elements of both or keep them separate. What became apparent was that each girl works out her own journey, which may result in uncertainty or some degree of confusion or frustration. This illustrates the need for schools to engage in developing a stronger understanding of cultural issues within the home and encourage networking opportunities for them to engage in discussions with staff. For some Asian parents (particularly mothers), the school maybe viewed as a powerful institution where they have little say. The strengthening of home school links and development of partnership is important if parents are to work with teachers to encourage their daughters to think critically about their aspirant identities. It is important that these girls appreciate their strengths not only academically but socially in relation to the men they interact with and their peers.

The School Ethos

The school ethos clearly supported and valued the girls' heritage and identity so that they were generally confident within the school community (Cummins, 2000). Community celebrations played a key role and these were elaborately celebrated. Within such a large Asian community, this could be argued to be a natural consequence of the make up of the school simply because of the large numbers of Asian pupils attending. The degree to which these girls felt part of society at large is questionable because of their limited interactions with children from other ethnic groups and because of the location of the school. There was clearly a limited interaction with other children from white communities- some of this was clearly out of choice.

Teachers and schools, especially those who have had limited experience of working with South Asian children, need to ensure that they build an awareness of not only the Asian culture as a whole but sub-cultural groups within this category. By drawing on the expertise of multi-cultural teachers who share similar backgrounds, mono-cultural teachers are able to gain additional insights in to their home lives and curriculum implications. Three girls for example, talked of how the Religious Education curriculum at school was heavily biased towards Christianity and should provide greater opportunities for study of their first religion.

To what degree anyone is mono-cultural in today's society is questionable- it old be argued that it is more the degree to which an individual wishes to

engage and learn about other cultures to enhance their own understanding. This is illustrated in this short extract from the teacher interview.

> *Interviewer: What impact do you think you have had as an Asian, female, Muslim teacher over the last 10 years within this school?*
> *Teacher (part of an extended response): I think I have made white teachers more aware of Asian children and their background. I tell them about some of the things that we do as Asian families, and the expectations at home. I think some of the teachers now are a lot more aware of what actually goes on behind the religion and behind closed doors. When you turn round and tell them certain things they say – 'Oh I never realized this was happening- it makes sense now'. Well, how would they? But by me being very open with them in the staffroom, they are now also very open with me when asking questions. I think they have learned a lot from me and learnt to examine their own views.*

Further Research and Final Remarks

The purpose of this study was to provide a much needed voice for a small group of South Asian girls. In a wider scale study, corresponding narratives of parents, teachers or South-Asian boys would add further dimensions to this field of research (as in the ethnographic study of Bhatti, 1999). This study has already widened to explore the experiences of a further nine South Asian girls' (similar sample) studying within a predominantly white secondary school setting in London. This development will allow comparisons to be drawn between the pupils in both schools.

The girls within the study appeared to have a good understanding of how to succeed within their friendships groups and different fields. The processes that they engaged in did not necessarily present 'major crisis' of identity as much of the literature suggests. They positioned themselves, moving along a continuum of 'traditional Asian/ modern British-Asian' where they cleverly selected, and in cases 'manipulated' the values inherent in both cultures to help them succeed and feel comfortable. They moved between Shain's (2003) useful classified groups depending on the context in which they found themselves. For example, Raheena could move fluidly between the role of 'rebel' and 'faith girl' at school.

Of the girls interviewed, many had not lost aspects of their culture but were keen to maintain aspects where they saw importance and relevance. Equally they were keen to embrace elements of the differing cultures with which they engaged in as part of their every day lives. Crucial to the process of identity construction was the formation of relationships and friendships within and outside of the family. Integral to this, was the role of talk and the development of their views.

To conclude, the girls interviewed did not generally reinforce the stereotypes of Asian girls portrayed in the media, rather the interviews revealed

how they had clearly moved a long way in areas of their lives and were beginning to find 'their strength and voice' in their current context 'setting an example for each other and the next generation' of young Asian women (Minhas, 2008).

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4

Creating Community Advisory Panels in American Indian Schools: Connecting the Culture of Students' Everyday Lives to School Science

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The American Indian population of the United States is one of the fastest growing ethnic groups in the United States, with about 533,000 children attending public schools. It is well-documented that American Indian students are underrepresented in careers that require high-level scientific knowledge (Indian Nation at Risk Task Force, 1992; Lawrenz & McCreath, 1988; NIES, 2005; National Science Foundation, 1996; Nelson-Barber & Estrin, 1995). In fact, of all minority populations, Native Americans are least likely to enter scientific careers. A summary of research on American Indian students reveals our educational system does not meet their needs as learners (Demmert, Grissmer, and Towner, 2006) and this is especially true in science. In reviewing achievement data, educators are in agreement that revision of the educational approaches used with American Indian students is long overdue. However, teachers often lack the knowledge and experience in planning and delivering instruction that considers the cultural specifics of tribal life and how these cultural norms relate to education.

Research suggests that the disconnect between traditions of home and school could have a consequence of conflicting situations for the students and impact their attitudes toward formal education and their relevant academic achievement (Ladson-Billings, 1995). The resulting non-satisfactory student progress of American Indian students and the subsequent negative lifelong outcomes bring to the forefront the urgent need for incorporating home and culture in their educational experiences. The importance of helping students understand the relevance of science to their everyday lives is not a new educational goal and much is currently being done to address this issue (Barton, et al, 2001). In spite of these efforts, school science is still often foreign to the lived experience of many students and is often disconnected from

students' day- to- day life (Bouillion & Gomez, 2001). Few of the models used with American Indian students are culturally based, a factor that a growing number of researchers have long believed hinders their success (Cahape & Howley, 1992; Indian Nations at Risk Task Force, 1992; Allen & Crawley, 1998; Nelson-Barber & Estrin, 1995; Posey, 1998; Mercer, 1993). Because "their own culture of everyday life and meaning continues to intrude on every side" American Indian students, who may already feel separated from the culture of school, may feel doubly removed from the subculture of math and science classes, and may find it even more difficult to negotiate "meaning from one domain to another" (Cajete, 1999, p. 97).

Mathematics and science, two of the most important content areas targeted by educational reform are, at the same time, areas of lowest achievement of American Indian students. We believe that a culturally relevant professional development model driven by stakeholders in American Indian communities can provide educators with the knowledge and skills needed to teach in a culturally responsive way and ultimately increase students' school success. This paper describes our efforts in developing this kind of professional development model. This effort is part an NSF funded project titled *Communities of Effective Practice: A Professional STEM Development Model for Teachers of American Indian Student,* currently in its final year of implementation. The first step in the project was the formation of a Community Advisory Panel (CAP) created to guide the development of a professional development model. Few projects with Native students begin with the local community which makes this attempt different than most. Strong criticism of the *No Child Left Behind Act* in the U.S. suggests that it has taken away decisions once made by the local community and put these decisions in the hands of the federal government (McKim, 2007).

Literature Review

Culturally Relevant Professional Development

Effective professional development is considered key for ongoing school reform and improvement (Glickman, Gordon & Ross-Gordon, 2007; Gordon, 2004; Loucks-Horsley, Love, Stiles, Mundry &Hewson, 2003). The accountability required from teachers and schools and the focus on increased student achievement pose significant challenges for educators across content areas and grade levels nationwide. However, while a model of culturally responsive professional development should ultimately lead to better student achievement, it should be centered on the culturally specific characteristics and learning approaches of American Indian learners. This would be possible by building and using everyday educational practices, that is the knowledge about American Indian culture, traditions, values, and beliefs and their influence on the individual as a person and as a learner. A model of professional development for teachers of American Indian students should account for the influence of American Indian cultural values and beliefs on the learning

outcomes.

Professional development in math and science has its established traditions. Models of effective professional development have been developed and analyzed with respect to teachers' goals and students' needs (Loucks-Horsley et al, 2003). Research indicates that professional development that addresses the immediate concerns of teachers and students in formats aligned with teacher learning and specific classroom implementation are most effective for students and appealing to educators (Gordon, 2004; Loucks-Horsley et al, 2003.) A culturally responsive professional development model for teachers of American Indian students could build on these models but should include, additionally, specific elements observed in the Native educational tradition and be engaging for teachers and students alike. Culturally relevant professional development in STEM would provide teachers with the opportunity to gain the knowledge and experience needed to teach effectively in a culturally responsive way. Further understanding of the underlying American Indian beliefs and their relevance to learning and education is key for becoming knowledgeable of the best educational practices used with American Indian students. It is not our goal to take existing educational models from Western traditions and try to fit Native ways into these models. Rather, our aim is to begin in the opposite way by beginning with the Native paradigm.

American Indian Educational Traditions

Traditional education of American Indian people is known to have been informal, situated in nature and provided by experts in particular areas. This approach to education is in unison with the core values of harmony and relatedness of indigenous people (Reagan, 1996). Educational opportunities are selected by considering individual abilities and do not force the learner to proceed if mastery has not been achieved. The heart of American Indian educational tradition is "not primarily the acquisition of specific skills or factual knowledge. Rather it is learning how to be a human being. That is, how to live a life of utmost spiritual quality" (Reagan, 1996).

The American Indian educational approach has traditionally been community-based, with educational experiences immersed in everyday lives. Parents, relatives, and elders would take the role of teachers most of the time; often, all other community members, would become teachers and would receive respect and appreciation for sharing their knowledge. Rituals and ceremonies have central roles in this process of knowledge acquisition. Games and game-like situations attended by children and adults alike would also present opportunities for learning. Klug and Whitfield (2004) describe indigenous education in terms of current day educational terminology as "experiential learning followed by authentic assessment" (p. 29). The related process consists, generally, of observation, followed by practice and demonstration.

With over 550 officially recognized American Indian tribal groups in the United States, the diversity within the people that identify themselves as

American Indian/Alaska Native is significant. While some beliefs and traditions are common for some groups, there are specific traditions, values, and beliefs recognized only within a certain cultural group. In some groups there is a lack of written documents that describe these traditions, and the details about them are known to and passed from generation to generation by tribal elders. Together with the community-based nature of education, this method of communicating specific cultural information calls for involvement of community members in the process of learning about Native traditions and knowledge and their relevance to classrooms and instruction. The professional development model described here takes in account the need for obtaining authentic cultural elements to be incorporated in instruction by including Community Advisory Panels (CAPs) a driving force of the culturally relevant model. Care must be taken in establishing school, community and university partnerships and the upfront realization that conflict and tension are inevitably part of the process."

Community Partnerships

Collaborative partnerships involving schools, the communities they serve and a university can be powerful forces in school improvement and have the potential to address social exclusion of less powerful stakeholders in disadvantaged communities (Monhardt et al., 2002; Tett, 2005). Working collaboratively, while generally seen as a positive idea in educational settings (Epstein, 2007) is a complex process due to the differing expectations, worldviews, skills, power and resources that partners may bring to the process (Huxham & Vangen, 2000; Craig & Taylor, 2002). Rather than the unproblematic process that is often portrayed, forming successful partnerships it not always as easy as it may seem. Issues of unequal power and inauthentic involvement of all members can actually marginalize the groups that the partnership is actually intended to empower (Tett, 2005).

The research literature identifies factors that are present in successful partnerships. These include 1) a clearly identified purpose for the collaborative effort; 2) roles for each member that are clearly defined from the outset; 3) the valuing of the contributions of each member of the partnership; 4) shared ownerships of the task; 5) trust relationships that are established among the members of the partnership; 6) commitment of the partners to learn from each other (Pettigrew, et al., 1992; Pratt et al, 1998; Riddell & Tett, 2001; Craig et al, 2002.) Making sure that these factors are present can be a time-consuming endeavor that requires commitment, stops and starts, and often, hard work from all involved. Forming partnerships that actually accomplish meaningful outcomes may not happen quickly. In externally funded project such as this one, there is often pressure from the funding agency to get results quickly. Cautions in the research literature regarding these "audit cultures"can result in having the real power lie in the hands of the professional bodies that have the role of ensuring accountability for the project (Wagner & Spence, 2003; Tett 2005) In educational settings, this accountability role often belongs to the university who ultimately answers to the funding agency.

Research Design and Methodology

The purpose of this qualitative study was to describe the process of developing community advisory panels in an American Indian school community and how the CAP impacted the way science was taught. The research design used for this investigation was a case study which provided insight into a single issue: the establishment of a school community advisory panel in a Native community and its impact (Creswell, 2008). The case was viewed through the lens of critical ethnography which is well suited to the investigation of issues related to power, empowerment and inequity (Carspecken, 1995; Carspecken & Apple; Thomas, 1993; Creswell, 2008). The school population was 100% Navajo. The committee represented individuals who traditionally wielded power in the school setting (administrators and district officials) as well as those who were a less powerful force in decisions related to schools (teachers, parents, elders). Most of the American Indian members of the CAP had never before had a voice in critical issues related to curriculum, making the issues of power and empowerment of interest. The researcher's role in this setting was political and transparent in nature.

Data Collection

Data collection started in the summer of 2006 and continued through January of 2009. Sources of data included documents (meeting agendas and minutes, emails and phone conversations, district memos, curriculum materials), participant observation, interviews, and the researcher's field journal. The researcher spent extended periods of time in the community and interacted with the participants in the study setting. This included the school, district office and other locations in the community. From this data, a description of the process of forming the CAP, what was learned from the process and the outcomes of the committees efforts are put forward. As with any qualitative study, generalizability is left to the reader. The aim is not whether the findings are generalizeable to every situation but rather to identify certain similar setting and subjects where results may be generalizable.

Subjects and Setting

The study took place in the extended school community of Mexican Hat Elementary which serves Navajo students in the San Juan School District in extreme southern Utah. The K-6 school is in a remote rural area and has approximately 200 students. Class sizes are small and the teacher/student ratio is 1:12. The students in the school are all Navajo and the community is in a part of the Navajo Reservation. The community has a high poverty rate, with 95% of the students eligible for free or reduced lunch. The school has traditionally been a low-performing school.

Community Advisory Panel

The CAP that was established at the school consists of the elementary

school principal (Anglo male), a USU professor in elementary science education (Anglo female), a parent (Navajo female), the school staff developer (Navajo female), the curriculum director for the district (Anglo male), the district bilingual director and Navajo Language expert (Navajo male), and the director of the district media center and a Navajo cultural expert (Navajo male). The staff developer is a former teacher at the school and was appointed as chair of the CAP at the first meeting. The parent member currently has one child at the school where the project takes place and is one of the most active parents in the community. All of her children attended the school. The university researcher has worked in this school community for twelve years with various projects, although with a different principal. The new principal assumed this role during the first year of the project. The CAP meets approximately once a month from 1-3 hours. Sometimes the meeting is held at the district office about 40 miles from the school and other times it is held at the school itself. This committee has evolved into a collegial group with one of the members usually deciding to bring food. Regular attendance of all member at the CAPs meetings is the norm, something that does not often happen with with other school meetings in this school community. The chair of the CAP is credited with the successful organization and attendance. She sees that the meetings have a formal agenda in place, reminder emails are sent out to all members the day before the meeting, and minutes are taken and sent to all members. The membership of this CAP has remained the same since the beginning of the project. The major products of this committee have been a model for instruction called the Dine' Lifeway Paradigm which teachers will use in planning STEM lessons for students (Appendix A) and the development of the process for delivery of professional development at the school.

A Description of the Process

Year 1: Establishing the Community Advisory Panel
The Importance of Having Knowledge of the Community

In establishing school/community/university partnerships in American Indian communities it is important that researchers and others have background information of the community, the Native ways and current or historical background of issues that may be present. In this study, the university researcher was familiar with the community and had background knowledge that proved useful in working here. The school district is a large one, and the community is comprised of equal numbers of Anglo and Navajo citizens. A contentious issue that began over 30 years ago is still in the memory of many community members and those in the school administration. In 1974, Navajo parents filed a lawsuit against the school district regarding the inadequacy of their children's education. This suit was settled but resurfaced in the early 1990's when parents charged that the school district was in noncompliance with the terms of the settlement. The case went back to court and the courts again ruled in favor of the Navajo parents in 1997. Resentment as a result of

this legal issue is not outwardly evident, but bad feelings and lack of trust still exist in subtle ways that those unfamiliar with this situation would probably not notice. District administrators are almost all Anglo and refer to the three predominantly Navajo school communities as "the southern schools" creating an artificial distinction between these schools and other predominantly Anglo school in the district. They view these schools as problematic because of their consistent low scores on standardized tests. Navajo parents also perceive a chasm between their schools and the others that make up the district. Both sides have power and both have a cautious respect for each other. As a researcher working in this setting, knowledge of this history influenced the way that issues were raised with the district and the Navajo community. The main premise of this project was to infuse Navajo culture into science instruction, not as an afterthought but as a guiding framework for instruction. While the Navajo members of the community whole-heartedly supported this effort, the school district also had to agree just as enthusiastically if the idea was to take hold. As a researcher, having background information of the community and culture was useful in brokering this idea.

Cultural Etiquette

Non-Native researchers as well as non-Native CAP members must be familiar with cultural norms of the community related to decision-making and communication styles. Listening respectfully without interrupting with questions or comments is important within the Navajo culture, regardless of how long another person speaks. When the speaker is finished, others must wait an appropriate amount of time before responding. Even knowledge of basic rules of conduct such as the amount of firmness in a handshake in a greeting can set the tone and demonstrates knowledge and respect for the culture. Within Native cultures, decision-making often requires much discussion, careful thought and time before decisions can be reached. To researchers working on funded projects who must adhere to somewhat rigid timelines for accomplishing tasks, extended time frames for decision-making must be accepted and preexisting timelines modified as necessary. Not doing so will delay the process even further.

Careful Selection of CAP Members

Members Should Be Representative of the Community

Knowledge of the community and its history also aids in the selection of the participants for the CAP. In this project, who would make up the CAP was the first critical question that had to be addressed. We realized that for the committee to be successful, deciding who was asked to participate was a most important decision. While the researcher had knowledge of individuals who were leaders within the community, it was essential in establishing power structures that this decision came from the community rather than the university. We thought that the CAP membership should certainly reflect the school population as closely as possible where ethnicity, class, religion and

language were concerned. In fact, this seemed an obvious conclusion and we were quite surprised that this was not a shared idea. When the project was funded, the researcher contacted the new principal and asked him to think about people in the school community who he would suggest to be members of the CAP. Even though he was new to the school, he had lived in the northern end of the school district his entire life and knew many people in the community. The people suggested by the administrator were all Anglo, and some lived in the northern end of the district, even though the school was 100% Navajo. This posed a dilemma for the university researcher who did not want to control selection of the committee yet knew that an all-White committee was not acceptable in this setting and for this purpose. The researcher talked to the principal about his choices and reiterated that the CAP's purpose was to represent the community and to do this, insiders to the culture must be part of the committee. He immediately agreed and said he had "just never thought of that." As we talked about different people in the community and what they could bring to the committee, a more representative group emerged.

A successful CAP is made up of members who are selected on the basis of the particular skills they possess which can help to accomplish the identified tasks. A diverse skill set makes for a productive committee. The individuals who make up the CAP must have their own sphere of influence and the more areas of influence that are represented, the more likely that decisions made by the committee will actually be accepted and enacted. Administrators who are members of the CAP have the power to see that the ideas agreed upon by the committee are actually put into practice in the school. Members of the CAP representing the Native community have the power to garner support from parents and other community members, helping to ensure that when change is enacted, it represents what the community wants. Having a member who has a connection to the tribal council is also important in communities where the council has a great deal of power. The Navajo Nation is naturally protective of its traditional knowledge and decides what is appropriate to share and what is not.

Each member of the CAP needs some motivation to make changes that will result in school improvement, even though each member's motivation may be quite different. The school administrators who are part of the CAP are very up front with their interest - they want school test scores to improve and see this project as making that happen. The community member who has worked for many years to publish curriculum materials that are grounded in the Native culture sees this project as a way to have help in his work. He is anxious to publish the materials that will come from the project. The parent wants the children in the school to be proud of their culture and sees this as a way to energize the curriculum and make it more interesting and engaging for students. The staff developer is a long-time advocate for the school. She was once a teacher at the school and because of her expertise in the classroom, she was asked to coach other teachers. She is strongly committed to the school and wants to see improvement. The university has its agenda as well. We want to

create a model that others working in similar settings can find useful. One of the Navajo members of the committee sees this as the opportunity he has been waiting for. When asked to participate, he was very enthusiastic and said that this was what he had been hoping for. At the first meeting, he shared a story about his father who is a local medicine man. He father visited one of the schools a few years ago and was not happy with what he saw. He said he had a song that he wants to sing before he dies but he cannot do it until a change occurs in the community - namely a revival of the culture that he thinks is disappearing. This is a very personal reason for this CAP member to have a vested interest in the project and what drives his efforts.

These examples show that a CAP needs to involve a variety of individuals who can critically reflect on different perspectives of the educational process and its connection to professional development, cultural relevance of instruction, and student achievement. Another practical issue that surfaced from data analysis was the ideal number of people that should be involved in the CAP. Because multiple perspectives and voices are important, it is also important that all of these voices be heard and considered. Thus, the optimal number of CAP members seems to be five to seven people. It was observed that this size of a CAP is possible to manage organizationally, while it allows for involving key representatives of all groups. Our meetings lasted a long time, sometimes over three hours. Every person had their say and what they said was considered by others. A larger group would simply not have provided time for all to be heard.

A Clearly Defined Task

A clearly defined role for the committee must be identified from the onset. The initial task of the CAP was to develop and approve a mission statement. The consensus of the group was for the university member to create an initial draft and then the committee would review it and provide input. Even though the main part of the draft remained the same, members of each committee suggested significant improvements in the documents. One committee decided that the cultural component should be expanded to include a sense of place, which they felt was an important part of the culture anyway but wanted it to be stated. Navajo members suggested changes in some of the language that was used, most significantly, replacing the phrase "Navajo values and beliefs" with "Navajo ways."

Not only did creating the mission statement at the first CAP meeting clarify the purpose of the committee, but it also provided the initial attempt to clarify the way the committee would work related to power structures. The university researcher was reluctant to take on the role of drafting the initial document but assumed the responsibility at the request of the group. However, when the document was brought forward for review, it was presented in a way that clearly established shared responsibility of each member. All were asked for input; all responded and the changes that were suggested were put into the final document. For those working in university settings, this may be the norm for

committee work, but it is often not the way things work in university, school, and community partnerships of this kind. Often, the university who hold the funds has a greater amount of power than the school and community stakeholders. We did not want this to be the case and the first collaborative task was an opportunity to demonstrate this. It set the tone for all that was to follow.

Setting Rules for Participation

All voices must be heard and in the CAP setting all have equal weight. It is often difficult to put aside other roles that CAP members play in the school setting, especially when teachers and administrators are both part of the committee. Members from the community who perhaps have felt voiceless in the past must find validation that what they say is taken into consideration. The power differences in the CAP were equalized rather quickly. Initially, the committee seemed to defer to the university researcher but when they realized that she was not solely going to make decisions on how things were going to happen and constantly asked each member to give their input, things changed rather quickly. This did not just occur by accident, but rather by design. The university's intent from the onset was to establish an authentic community group, not one that existed just in theory. The actions by the university were aimed at this goal but it was actually rather surprising how quickly this happened with minimal effort. It seems to make all the difference in how this committee has been able to create products that incorporate the best of all worlds. The committee is very pleased with what they have accomplished. What has transpired is similar to what Lyn Tett (2005) describes as a "joined-up government." This idea views shared leadership as "governance" rather then "government," where people work together to design policy around shared goals. Successful partnerships in government or education negotiate both policies and they way these policies are implemented with partners in the community, university and public school settings.

Leadership: The Value of a Strong Leader

Among the features that support effective group work and collaboration, several issues arose with respect to the formation and functioning of a CAP. First, while everyone's participation and opinion should be heard and valued, it is imperative that the group has chosen a CAP chair. The role of a chair, as determined from our experience, is critical for coordination and communication between all members. The CAP has a very proactive chair who is a community member as opposed to the university representative, familiar with a multitude of aspects of the educational system, as well as with the (lack of) cultural relevance in it. This CAP reports regular meetings with strong participation of all members. Thus, leadership is imperative for the structure and the purpose of a
CAP.

Year 2: Developing a Lesson Template that Integrated Science and Culture

It was not until the second year of the project that the CAP began in earnest to work on its first task and that task was to develop a science lesson plan template that was grounded in Navajo culture. It was important that this lesson plan format started first with Navajo ways and then considered how science might fit in. One of the Navajo elders took the lead and suggested a model that he thought would work. He took into consideration that not only Navajo teachers would be implementing this plan but Anglo teachers as well. The circular model commonly attempted in previous projects on the Navajo Reservation was difficult for Anglo teachers and even some Navajo teachers to implement. With much discussion and modification, a "linear adaptation of a circular process" was developed. All the CAP members were excited about this model and we began to think of how science instruction could fit into the Navajo idea. It was surprisingly easy! Our enthusiasm was dampened a little when our CAP elder shared our idea with tribal leaders. Although they liked the idea, in general, they felt that the model we developed was too close to the Navajo creation story, a sacred part of traditional culture that was inappropriate to use. They did offer suggestions for changes that would make it appropriate and the CAP made the necessary modifications in the initial template. A description of this template in included in the Appendix.

Next, the template was shared with teachers. They were enthusiastic but initially needed help with cultural connections. This was something they had never considered including in instruction, even though two of the teachers were Navajo and had a great deal of cultural knowledge. Two Navajo members of the CAP provided ideas and resources for appropriate cultural connections and conducted sessions for teachers throughout the year on how to plan lessons using the template. The university science educator conducted sessions on science standards and how science lessons might look using this format. As Year 2 continued, the CAP was pleased with what had been accomplished but realized that a more formalized plan needed to be put into place if teachers were going to put this into practice. Even though teachers thought it was a great idea, they were not using it on their own.

The committee decided that a more structured way of insuring that the model would be used need to be implemented. A suggestion was made to use a modified version of the professional development model that teachers were already familiar with in reading, a cognitive coaching model (Costa and Garmston, 2002). This formed the starting point, and as a time went on, modifications were made until finally a model that CAP members were happy with was in place.

The modified cognitive coaching model was well suited to this setting, mainly because of the small number of teachers who were involved in this project, and the fact that the school had a staff developer on site who was also a member of the CAP. The final professional development model looks like this:

- Teachers plan a science lesson, getting input from the university science educator or Navajo elder if they need assistance on any part of the lesson.
- The staff developer observes the teacher implement the lesson and evaluates it using the Reformed Teaching Observation Protocol (RTOP) developed by Michael Piburn & Daiyo Sawada. The lesson is also videotaped.
- The coach and the teacher watch the video using the RTOP as a beginning way to begin discussion of the lesson.
- Teachers set goals they would like to work on in the next lesson and if they feel that they need additional information, the university researcher or Navajo elder is invited to conduct a targeted session on the identified topic.

Year 3: Implementing the Professional Development Model

During the third and final year of the project, the professional development model was put into place. The agreed upon goal was to have each teacher prepare at least six lesson plans during the year and go through the identified process. The cognitive coaching model has provided support/coaching for teachers who are interacting with students and engaging in active learning and reflection although initially, they were not at all happy about being observed teaching lessons and especially about being videotaped. To this group of teachers, this was something they had not experienced before and viewed in terms of simply being evaluated rather than as a way they can improve their practice. But, teachers have come to see the value of this process and all view it in a positive way. The personalized support provided by the coach has proven to be very helpful based on the goals and identified needs of individual teachers. The fact that the model came from stakeholders representing the community is also important to teachers.

The four classroom teachers who have the responsibility of teaching science to their students this year had never taught science before and they were quite anxious at this prospect. Before this year, science instruction for all students in the school was the responsibility of another teacher who is no longer employed by the school district. The four teachers involved in this effort are somewhat anxious about teaching science and even though they are all experienced teachers with many years of teaching experience between them, teaching science to new to them and very frightening. In this subject area, they have some of the same concerns as a beginning teacher might have. The teachers initial concerns dealt with finding simple, hands-on activities and getting the necessary supplies to do these activities. This is similar to what a beginning science teacher would worry about: concern with planning what students they will have students *do* rather than beginning with learning outcomes and thinking about how they can best help students achieve these outcomes. The teachers have grown tremendously through this process and think that their teaching has improved and believe that students are more connected and interested in science.

Final Thoughts

Even though the project has officially ended, the school district has decided to continue having the CAP direct the professional development for science in this school and continue the program that is in place. The current CAP members are anxious to continue and plans for next year are already taking shape. The existing model will continue and take-home science kits for students to supplement instruction will be created. Teachers have seen increased interest in science from students and see the coaching model and the lesson plan template as ways to improve their instruction. Students can begin to see how what they are learning in science fits into their lives outside of school. The Community Advisory Panel in this school has helped bridge the lived world of Native students at home and at school. Member of the community, insiders to the culture, have knowledge of what is appropriate to include and what is not. Teachers, even Native teachers, are often hesitant to include traditional ways in instruction because they are afraid that what they do may be inappropriate to use. The Navajo members of the CAP have been able to bring this knowledge into the classroom, and working with non-Native educational experts have been able to bring together the best of both worlds.

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Appendix A

Lesson Plan Template
Dine' Lifeway Paradigm

What do you want students to learn?

The most important part of any lesson is its purpose. What content or skills do you want students to have at the end of a lesson? The Utah Science Core Curriculum specifies Standards and objectives for topics at each grade level. The Core Curriculum should be the framework for what students learn and teachers teach. But, some of these objectives focus on narrow pieces of information that have little meaning to many students. Children who think holistically need to begin with the big picture rather than focusing on the pieces which don't seem to fit together. Rather than stating what you want students to learn as behavioral objectives, state them simply as Big Ideas that capture what is most important. Here are some examples:

At the conclusion of this lesson, students will know that:

- Plants make their own food.
- Plants are alive.
- There are forces that shape the earth.
- The sun is the center of our solar system.
- In a physical change, matter only changes form but is still the same substance.

Sih Hasin - Background Knowledge

How will you begin the lesson?

The strength of a plant is in the roots. The seeds of knowledge start here, underground in a dark, hidden place. But, in the blackness of this place, the seed shines bright and the contrast makes it possible to see its light well, even though it is hidden deep inside. The cumulative history and ancestral knowledge found here provides support, motivation, self-respect, and self-identity. (paraphrased statement from Clayton Long, 2007)

A strong beginning to a lesson creates interest and a foundation on which to build the teaching/learning activities that follow. Activating background knowledge is probably the best way to start instruction. Children come to school with their own constructed knowledge of how the world works and this body of knowledge is substantial. Prior knowledge and experiences form the foundation for learning science. This idea is widely accepted in the teaching of Western science but also is a key element of Navajo education. Teachers should begin each lesson by building on prior knowledge and experience. Prior knowledge may include:

- Traditional knowledge that connects to the past – stories from the oral tradition
- Connection to the place
- Connection to prior science content knowledge
- Everyday life experiences

Examples of teacher strategies for activating background knowledge:

- Telling a story (or asking an elder to tell a traditional story) to build common background knowledge that everyone will have or to activate existing knowledge.
- Asking students what they already know.
- Connecting to the place where students live or to something that is familiar to them in their everyday experience.

Nahat'a' - Plan
What teaching/learning activities will be part of this lesson?

Carefully developed procedures are critical to a successful science lesson and are at the heart of a lesson plan. Think about the best way to teach children what you want them to know and the best way for them to learn it. Make a plan that considers these issues and incorporates many different kinds of skills and various activities. This not only adds variety to the lesson which will help maintain interest, but it will also reinforce skills that children have learned and give them the opportunity to practice these skills. For example, literacy (reading, writing, listening, speaking) should be incorporated into every science lesson in some way. Specific examples can include using reading strategies such as sequencing or making predictions; incorporating children's literature that addresses what is being taught/learned; having children write informally in science journals and/or engage in more formal writing where they have to use to a particular genre and make several drafts before the writing is complete

Examples of possible lesson strategies:

- Working together in cooperative groups
- Asking questions
- Finding out what other know about a topic (getting information from books, the internet or human sources)
- Doing hands-on activities
- Using simple scientific instruments
- Designing investigations
- Analyzing data
- Drawing conclusions

Iina'-Life
How do the skills and knowledge students have learned apply to their lives?

Knowledge often has little meaning to students (and adults) unless they can see a practical application for the information or some relevance to their lives. Educators must merge the traditional views they have of learning to the real world. (Davies, 2001). This is a critical part of the instructional process, and teachers must help students identify how what they have learned is present in the world they live in every day. For example, in the Four Corners area, the topic of landforms is a very relevant one because children only need to step out the door to see examples of weathering and erosion, volcanic activity and uplift. But, this is not often obvious to them, even when they learn this concept in school. The teacher must help students make these connections and must do it explicitly. This may be a time when teachers revisit and expand on the foundation (Sih Hasin) which began this lesson.

Nitsahakees - Thought
What have student learned?

The last part of the lesson framework deals with assessment: personal reflection as well as comments from others. This information guides the path for future lessons and tells the teacher where to go next. Finding information on whether students have learned what was intended (or not) can take many forms and using a variety of assessment measures can provide a clearer picture of what students have really learned. Here are just some examples that teachers may use:

- Traditional pencil and paper tests
- Projects (scored by a rubric created by the teacher and shared with students before they begin the project)
- Journal reflections
- Reports (both written and oral)
- Drawings

5

Prospective Teachers' Attitudes towards Cooperative Learning

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In the traditional classroom, it is generally the teacher who lectures and the students listen and watch the teacher to follow the lesson and work individually. However, cooperative learning model provides students opportunities to work together in projects and problem solving tasks, to develop positive attachment and self-evaluation.

Cooperative learning model has been widely used in the last two decades as an alternative way to the traditional pedagogical methodology (Mills & Durden 1992; Slavin 1991 – cited in Hendrix, 1999). The research shows that cooperative learning has significance effect on success, and a variety of cognitive and affective factors like keeping something in mind longer, transfer, meta cognitive perceptions, friendship, integration of handicapped into the mainstream, self-respect, attitude, anxiety and control (Açıkgöz 1992 – cited in Özder, 2000). Cooperative learning can be described as forming groups of student under a common goal to help each other in academic subjects where group work is rewarded in different ways (Çaycı, Demir, Başaran & Demir, 2006).

The new basic compulsory education curriculum in Turkey enacted starting at the academic year of 2005–2006 is based on constructivist approach replacing behaviorism. Constructivist approach centralizes on the cognitive processes resulting in learning where it leads to active learning components like cooperation, group work, helping each other, more interaction and problem based tasks. Cooperative learning is appropriate for any instructional task. The more conceptual the task, the more problem solving and decision making that are required, and the more creative the answers need to be, the greater the superiority of cooperative over competitive and indivualistic learning (Johnson & Johnson & Holubec, 1991:2:3).

Cooperative learning should follow these stages (Sönmez, 2007:132):

1. Topic selection
2. Planning in cooperation
3. Beginning the study
4. Analyzing and synthesizing
5. Presenting the information to the class
6. Assessment

The advantages of the cooperative learning can be summarized as follows:

- Supports learning and academic success of the students,
- Increases keeping useful information in mind longer,
- Helps feel satisfied while learning,
- Improves communication skills,
- Develops social skills,
- Enhances self-respect,
- Improves meta cognitive thinking skills,
- Helps express their ideas during discussions and be critical.

Problem Statement

Faculties of Educational Sciences in Turkey offer 'Contemporary Teaching Methods and Approaches' course where the instruction is mainly theoretical. Nevertheless, prospective teachers at these faculties need to see the methods in practice in real applications.

The Rationale

The purpose of this study is to examine the attitudes of prospective teachers towards cooperative learning and its potential effects on teacher candidates.

Importance of the Study

Traditionally, learner is a passive agent responsible for whatever is given in the class; teacher is the information provider at the very center of teaching instruction. Therefore, students graduate without necessary knowledge sufficient to meet needs of the society and the economics institutions. In today's world where political boundaries are no more that significant as it used to be, those without international standards cannot succeed, and educational institutions target training individuals that could meet the needs of the society.

To reach their aims, these institutions need to utilize teaching methodology that can replace the traditional ones in the classrooms. One of the suggested models is cooperative learning with its effective outcomes.

Methodology

This study examines the attitudes of prospective teachers towards cooperative learning and its potential effects on teacher candidates. The qualitative research design of the study embedded a questionnaire with 12 statements of 3 Likert scale as "Always, Sometimes, Never" and interviews. The interviews with the prospective teachers were recorded and then transcribed to conduct content analysis.

Participants

The participants of the study were 29 second year students studying at the department of Primary Education, Ankara University Faculty of Educational Sciences during 2007–2008 spring semester. The study took place in Turkish language teaching course. Out of 29 students, 23 of them are female whereas 6 are male.

Data Collection Instrument

"Group work Evaluation Questionnaire" was developed to determine the effects of cooperative learning approach on the prospective teachers. The criteria in evaluating the group works were:

1. We worked in harmony.
2. We decided as a group.
3. We found chance to talk; interact with classmates we do not communicate much except for this study.
4. We warned our classmates who did not participate in the group work properly.
5. We listened to other groups' presentations quietly.
6. We distributed tasks within the group.
7. All group members performed the assigned tasks.
8. We helped each other in learning process.
9. We solved the problems occurred among friends by talking and negotiating.
10. All members contributed when making decisions.
11. We asked questions to our teacher where necessary.
12. We completed our tasks on time.

The findings of the questionnaire applied to the prospective teachers formed the content of the interviews. All participants were interviewed for twenty minutes. They are recorded, analyzed and evaluated. The interview questions are:

1. What did the group gain through activities?
2. How did you help each other during the activities?
3. Did the delivery of the course and the activities provide a good learning model?

4. Did these activities contribute to your academic success or your communication with your classmates?

Procedure

- ✓ A questionnaire was developed to examine the attitudes of prospective teachers towards the cooperative learning model.
- ✓ The questionnaire was piloted, some items were omitted and it was finalized.
- ✓ The questionnaire was administered during Turkish language teaching course to 29 second year students at the Primary Teaching department, Ankara University.
- ✓ Prospective teachers were informed about cooperative learning.
- ✓ Groups of 5 were formed in class.
- ✓ Each group was assigned different topics.
- ✓ Groups worked on their tasks and presented their work.
- ✓ Each week a different group member presented their work.
- ✓ After group presentations, all students filled in the questionnaire "Group work Evaluation Questionnaire" selecting "Always", "Sometimes" and "Never".
- ✓ Group works lasted for 5 weeks.
- ✓ The questionnaire findings formed the interview questions.
- ✓ The interview composed of four questions and lasted 20 minutes.
- ✓ All participants were interviewed.
- ✓ The recorded interviews were transcribed and evaluated.
- ✓ The results were analyzed using Microsoft Excel program.

Findings

The findings of the "Group work Evaluation Questionnaire" are presented in a table and interview analyses are provided in this part.

The first stage of the study includes "Group work Evaluation Questionnaire". The findings of the questionnaire are given in Table 1.

Four statements out of 12 in the questionnaire are related to group work. The following are the ideas of prospective teachers on group work:

24 participants affirmed the statement "We worked in harmony." whereas 5 selected "Sometimes". "We decided as a group." was approved by 23 and 6 responded as "Sometimes". 25 of the participants selected 'Always' about "We distributed tasks within the group." and 4 "Sometimes". 20 agreed on "All members contributed when making decisions", while 7 partially agreed, 2 did not agree.

Three statements of the questionnaire are related to learning styles and processes. The findings on the opinions of the participants on learning styles and processes are given below:

25 chose 'Always' for the statement "We helped each other learn" and 4 "Sometimes". "We asked questions to our teacher where necessary." was

approved by 9 participants, and 14 agreed "Sometimes", where 6 did not agree. "We warned our classmates who did not participate in the group work properly." was approved by 17, and "Sometimes" approved by 12.

In addition, 16 participants stated that they found a chance to talk, interact with classmates they do not communicate much except for this study. 23 completed their tasks on time, 5 partially and 1 did not according to their statements.

Table 1. *Group Work Evaluation Questionnaire Findings*

STATEMENT	ALWAYS	SOMETIMES	NEVER
S.1. We worked in harmony.	24	5	0
S.2. We decided as a group.	23	6	0
S.3. We found chance to talk, interact with classmates we do not communicate much except for this study.	16	11	2
S.4. We warned our classmates who did not participate in the group work properly.	17	12	0
S.5. We listened to other groups' presentations quietly.	21	8	0
S.6. We distributed tasks within the group.	25	4	0
S.7. All group members performed the assigned tasks.	19	10	0
S.8. We helped each other learn.	25	4	0
S.9. We solved the problems occurred among friends by talking and negotiating.	22	6	1
S.10. All members contributed when making decisions.	20	7	2
S.11. We asked questions to our teacher where necessary.	9	14	6
S.12. We completed our tasks on time	23	5	1

In conclusion, prospective teachers can be said to have positive attitudes toward group work. Responses to the statements numbered 1, 2, 6, 8, and 10 are interesting in that they represent productive features of the group work.

The second stage of study covers interview questions and content analysis of the interviews conducted with the prospective teachers. This stage of the study aims to let participants express their ideas clearly with their own expression. For the first three questions of the interview the categories for the analysis are "statements on interaction, positive statements and the ones on professional skills".

First question in the interview is "What did the group again through activities?" The responses to this question analyzed under the topic interaction had these subtopics: 7 declared to have acquired skills of working in

cooperation, 3 to have enjoyed their time spent together, 6 to have developed role distribution and responsibility in groups, 3 to have practiced integration and cooperation, 5 to have improved their skills to be developed.

Positive statements out of the responses to the first question are: 2 participants stated to have learned new things, 2 to have increased their self confidence, 1 to have had a good experience, 1 to have got used to the activities, 1 to have had a group who enjoyed being together, 1 to have enlarged their perspectives and 1 participant to have focused on the topic very well.

The statements on negative judgments from the first question are: 2 participants pointed out that it is difficult and tiring to implement the method and 1 emphasized the need for integrating creativity.

Finally, for the first question the statements on professional skills are: learning by doing would contribute to their professional life, provide basic job related knowledge, help reach different conclusions and perspectives, have a general view of the potential professional problems.

Interaction related statements under second question "How did we help each other during the activities?" are that 9 participants stated to have shared stages of the study and 8 to have warned each other about the mistakes to be corrected, 5 to have worked in cooperation, 4 to have finalized the work by the group and 2 participants to have encouraged each other by supporting and giving speeches of motivation.

Positive statements on the second question are that 2 participants declared to have presented the best they could, 1 to have helped each other and the activities formed a whole, 1 to have integrated creativity to the tasks, 1 to have felt pride when his own poem was read and lastly 1 participant to have actively participated in the activities. One negative statement from 1 participant is the lack of time necessary to complete the tasks. The statement on professional skills is that 1 participant pointed out to have discussed different teaching techniques.

Responses to the third question "Did the delivery of the course and the activities provide a good learning model?" reveal that there is no statement related to interaction. However, the positive statements are that 2 participants stated to have realized their weak points, 1 named the method as the best model, another one pointed out that as there can be no perfect model, and this one could be one of the best to be used.

Negative statement for the third question is uttered by 5 participants as the model could be effective itself but is not easy to apply. On the other hand, statements on professional skills are: 12 participants told that it was a beneficial experience for future reference, 5 stated to have gained information on classroom routines, 4 to have examined each stage and stated that it is best remembered when practiced, 2 to have triggered reflections on how to best and effectively teach.

The fourth and last question of the interview: "Did these activities contribute to your academic success or your communication with your classmates?" was answered by 12 as to have had contributions to the

communication with friends; 5 to have had a role on academic achievement, 11 to have positive influence on the relationship between friends and on academic achievement.

Results and Discussion

The questionnaire and interview analysis display that prospective teachers have an overall positive attitude towards courses delivered where cooperative learning model at the center. Participants stated that cooperative learning helps improve group awareness and acting as a group while they work in harmony.

The analysis of questionnaire formed the interview content and some issues needed particular attention; the interview was composed of four questions. The interview provided opportunities for prospective teachers to explore more about the responses of the questions in the questionnaire with some samples and evidence. It is believed that cooperative learning promoted relationships and communication among students while fostering learning process. Moreover, the content analysis revealed that prospective teachers are planning to make use of cooperative learning as an affective method in their own classes in their future profession. In addition, some negative opinions were stated such as difficulty in the implementation, its tiring characteristic and problems in timing.

Among the most surprising findings of this study are that some students feel as if they were real teachers in real classes and see cooperative learning as an effective learning method to be implemented in the future.

In conclusion, it is observed that implementing cooperative learning in class requires a lot of effort and energy on the learners' side rather than just being lectured about its theoretical perspective. Last but not the least; cooperative learning promotes learning process, interaction and communication in the classroom.

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The Opinions of Classroom Teachers, Pre-Service Teachers of Classroom Teaching and First Year Students of Primary Education on Cursive Handwriting

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The future of the individual and the society is bound to the information access, use and production in 21st century in which the science and technology is developing rapidly. This situation makes the qualified education and the teaching of reading-writing necessary. In Turkish language teaching 1-5 grades curriculum which was put into practice beginning from 2005-2006 educational year, it is aimed at accomplishing effective reading-writing teaching beginning from the first year; bringing up individuals who can think, understand, question, learn how to learn, use the information and solve the problems (Güneş, 2007). In Turkish Language Teaching Program which was modified in this context, sound based sentence method in reading-writing teaching and cursive handwriting in writing teaching started to be used in the light of the improvements in science and technology.

The teaching of cursive handwriting taken into consideration in Turkish Language Teaching Program is based on contemporary educational approaches, new writing teaching methods, and studies related to mental, physical, social development and psychology of the children. Cursive handwriting is a writing type in which syllabuses are formed connecting letters and words are formed connecting syllabuses. Students always make connections while writing and change this into a habit in time. This situation makes the student think on all connections and details of writing. Thus, student can learn and develop connective and detailed thinking by means of cursive handwriting. This kind of development is compatible with the constructive approach which the new educational system is based on (Güneş, 2006).

The continuity and rapid in cursive handwriting is overlapping with and supporting the continuity and rapid in thinking. Therefore, the fluency in writing reflects on the fluency in reading. Cursive handwriting's being fluent and continuous is also supporting the left-to-right direction of writing. Learning reading-writing by means of cursive handwriting does not create

problems in reading texts written with basic vertical letters. While there is only one starting point of cursive handwriting, vertical letters have different starting points. Therefore, the child can write letters without any confusion. Moreover, when the developmental features of the first year students were examined, it is observed that students draw inclined and circular lines when they first take the pencil in their hands (Akyol, 2007; MEB, 2005).

In teaching letters in cursive handwriting, teaching writing body parts with top and bottom parts is an important point and the connections between the letters are available in this kind of writing. These connections are diagonal and horizontal. Horizontal connections are the connections which do not start from the basic line. For example, when the word "boran" is examined, it will be seen that the connection between "b" and "o" is horizontal and the connection between "a" and "n" is diagonal. If the diagonal connection is made horizontal in teaching, the space between the letters of the word will be more than required (Akyol, 2007).

Teachers should take the general development levels of the students as the basis while they are planning teaching writing. The samples of letters which will be taught should be appropriate to the anatomic structures of the students. It would be helpful for a teacher to focus on the letters in which the students may have difficulty additions which students may confuse with different letters. This is quite important for the student achievement. Otherwise, an error at the beginning may be permanent and may continue until another teacher notice. The achievement in writing type which will be used in teaching is closely related to the knowledge and skill of the teacher (Artut, 2005).

The fact that the characteristics of cursive handwriting which is used in reading-writing teaching are well known by the teacher is very important for teaching students accurately. Moreover, the most important information about the effectiveness and functionality of cursive handwriting can be obtained from the teachers who are the practitioners and the students who learn how to write using cursive handwriting. The problems teachers come across in the application process of cursive handwriting and their solutions to these problems are required in order to make the necessary corrections and overcome the occurring problems. Taking opinions of pre-service teachers who observe the application and students who start writing learning by means of cursive handwriting in addition to the teachers' opinions for the evaluation of the cursive handwriting is important for it presents different points of view.

The Purpose of the Study

It is to determine the opinions of classroom teachers, pre-service teachers of classroom teaching and primary school first year students on cursive handwriting. The following questions were asked in order to reach this aim:

1. What are the opinions of classroom teachers on cursive handwriting?
2. What are the opinions of pre-service teachers of classroom teaching on cursive handwriting?

3. What are the opinions of primary school first year students on cursive handwriting?

Method

The Method of the Study

In this study which aimed at determining the opinions of teachers, pre-service teachers and students on cursive handwriting, descriptive model was used since the purpose is to present the situation as it is. Qualitative research method was used in collection, analysis and interpretation of the data obtained in the study.

The Universe of the Study

The study was carried out with classroom teachers of first years of primary education working in different primary schools in Ankara, pre-service teachers of classroom teaching taking Practice Teaching course in these schools and first year students. The study was carried out with 10 classroom teachers, 10 pre-service teachers and 10 first year students who were chosen by means of easily reachable situation sampling which is one of the sampling on purpose methods. Researcher chooses a situation which is close and easy to be reached in easily reachable situation sampling method. This sampling method makes the study faster and more practical (Yıldırım and Şimşek, 2006).

The Collection and the Analysis of the Data

Semi structured interviews were conducted with teachers, pre-service teachers and students. Predetermined questions are asked to the participant in semi structured interviews. In addition to these, new questions can be asked when it is necessary or some question can be omitted (Yıldırım and Şimşek, 2006; 120). Firstly, interview questions were prepared by the researchers for the interviews. Three field experts were consulted about the prepared interview questions. After that, a teacher, a pre-service teacher and a student were interviewed and final changes about the questions were made after these interviews. The data obtained in the interviews were recorded with a sound recorder and they were transcribed. The information in text was placed into the matrix. The frequency of the information was found coding the data on the matrix. Reliability was accomplished as two researchers analyzed the data.

The data obtained in the study was examined by means of descriptive analysis and content analysis. The main objective in content analysis is to reach the concepts and relationships which can explain the obtained data. In descriptive analysis, the obtained data is summarized and interpreted according to the predetermined themes. The objective of this kind of analysis is to present the findings as organized and interpreted way (Yıldırım and Şimşek, 2006).

Findings and Commentary

The Opinions of Classroom Teachers on Cursive Handwriting
The Appropriateness of Cursive Handwriting to the Developmental Characteristics of First Year Students

Almost half of the teachers (4 people) participating in this study stated that cursive handwriting was not appropriate to the developmental characteristics of students and more than half of the teachers (6 people) stated that it was appropriate. Teachers stated that cursive handwriting was not appropriate to the developmental characteristics of first year students because the wrist and finger muscles were not developed enough (3 people), the students could not adjust the eye distance while writing (2 people), students were to write without removing the pencil and this made the student tired and fed up (2 people). 4th participant stated the followings related to this issue:

> "It is really harmful for a first year student. Student has difficulty in using this since the wrist and finger muscles of the student has not developed. In other words, we can not achieve what is expected. First year student's writing without removing his hand makes him fed up, damages his enthusiasm and it creates an antipathy towards writing."

Moreover, teachers stated that cursive handwriting was appropriate for students' developmental characteristics because the lines students had drawn before coming to school was appropriate with cursive handwriting (6 people), students drew inclined lines more easily (5 people) and they did not have difficulty while writing this kind of writing (4 people). 7th participant stated the following related to this issue:

> "Students are already drawing randomly, horizontal, vertical and inclined lines before they come to school. Thus, the lines they draw are appropriate to this kind of writing. This is quite appropriate to their developmental features."

The Effectiveness of Cursive Handwriting on Reinforcing Students to Write the Letters Accurately

Some of the teachers (3 people) participating in the study stated that cursive handwriting was not effective on reinforcing students to write letters accurately while most of the them (7 people) stated that it was effective. Teachers stated that cursive handwriting was not effective on reinforcing students to write the letters effective because there was not enough preparation time (3 people) and students wrote with mistake while combining the letters (2 people). 9th participant stated the following on this issue:

> "Letters are either written with mistake or omitted while combining. They cannot write some letters accurately. They particularly cannot write the letters t, r, n, i letters."

Moreover, teachers stated that cursive handwriting was effective on reinforcing students to write the letters accurately because adding and combining was used in cursive handwriting (6 people) and there was not a reverse writing in this kind of writing (5 people). 1st participants stated the following on this issue:

> "There is reverse writing in previous type of writing. However, it is not possible in this writing. They cannot write reversely since they add and combine."

The Legibility and Understandability of the Students' Cursive Handwriting

Half of the teachers (5 people) participated into the study stated that students' cursive handwriting was not legible and understandable while the rest half of the teachers (5 people) stated that it was legible and understandable. Teachers claimed that students confused some letters (5 people) and they were not able to write nicely (3 people) and thus their handwriting was not legible and understandable. 3rd participant stated the following on this issue:

> "It is difficult to be legible. They cannot even read their friends' writing because they confuse some letters."

Reinforcing Students about Fast Writing Skills by Cursive Handwriting

Almost half of the teachers (4 people) participated into the study claimed that cursive handwriting was not effective on reinforcing students to write fast but more than half of the teachers (6 people) claimed that it was effective. Teachers stated that students spent time while combining letters (3 people) and writing accurately (2 people); and thus they could not write fast. 5th participant stated the following on this issue:

> "Students cannot write fast. They struggle to combine the letters. Moreover, they also spend time to write accurately. Therefore, their writing speed is low."

Moreover, teachers claimed that students could write fast due to the fact that students combined the letters (4 people) and this type of writing was appropriate for fast writing (4 people). 8th participant stated the following on this issue:

> "The most important benefit of cursive handwriting is the fact that students can write fast. This type of writing is increasing students' writing speed."

Problems Encountered in Implementing Cursive Handwriting

Most of the teachers participated into the study (8 people) stated that they had encountered some problems during the implementation of cursive handwriting while the rest of them (2) stated that they had not. Teachers participated into the study claimed that they had some problems because of the fact that there was no enough source about cursive handwriting (5 people), they could not read what students write (5 people), the preparation time was very short (4 people), there was a parental pressure (4 people) and students forgot to write some letters (2 people). 3rd participant stated the following on this issue:

> "We had many problems about the source on this issue. The numbers of the sources written on this issue is very low. Moreover, there is a parental pressure. We would like to keep the preparation time longer but parents complain stating that their children are still drawing lines. As a result, we keep the preparation time shorter."

Recommendations for the Implementation of Cursive Handwriting Effectively

Teachers participated into the study suggested that the preparation period should be kept longer (4 people), drawing exercises for cursive handwriting should be done in preschool education (4 people), the number of the sources should be increased (3 people) and teachers should be patient (3 people). 6th participant stated the following on this issue:

> "The preparation period should be kept longer. Here, preschool education is important as well. Drawing exercises should be done there. Teachers should also be patient; otherwise they cannot be successful."

The Opinions of Preservice Teachers of Classroom Teaching on Cursive Handwriting

The Appropriateness of Cursive Handwriting to the Developmental Characteristics of First Year Students

More than half of the teachers participated into the study (6 people) stated that cursive handwriting was not appropriate for the developmental characteristics of students, almost half of them (4 people) stated that it was appropriate. Preservice teachers asserted that cursive handwriting was not appropriate for the developmental characteristics of students due to the facts that students did not reach enough maturity in writing cursive handwriting (4 people), they had difficulty in writing (4 people), writing without removing their hands was difficult for them (3 people) and their small muscle skills were not developed enough (3 people). 4th participants stated the following on this issue:

> "Students have difficulty since their small muscles has not developed. If the case is about handwriting, it is more difficult for

> them. In my opinion it is not appropriate for children's developmental characteristics."

Moreover, some preservice teachers claimed that this type of writing was appropriate for the developmental characteristics of students due to the facts that it was appropriate with shapes and lines they had drawn before they started writing (3 people) and they wrote comfortably with this kind of writing (2 people). 8th participant stated the following on this issue:

> "In my opinion, it is appropriate for the developmental characteristics of students. They had already draw lines similar to the cursive handwriting."

The Effectiveness of Cursive Handwriting on Reinforcing Students to Write the Letters Accurately

More than half of the preservice teachers (6 people) expressed that cursive handwriting was not effective on reinforcing students to write the letters accurately while almost half of them (4 people) claimed that it was effective. Preservice teachers claimed that it was not effective due to the facts that students confused the letters (4 people) and they made mistakes while combining letters (4 people). 5th participants stated the following on this issue:

> "Students have difficulty in this issue. They confuse letters and they cannot write the letters accurately."

Moreover, preservice teachers claimed that it was effective due to the facts that the combined letters while using cursive handwriting (3 people) and they wrote the direction of letters accurately (3 people). 2nd participant stated the followings on this issue:

> "I think that cursive handwriting is effective on this issue. They can write the direction of letters accurately. There is an effect of combining letters on this issue."

The Legibility and Understandability of the Students' Cursive Handwriting

Most of the preservice teachers participated into the study (8 people) mentioned that students cursive handwriting was not legible and understandable while the rest of them (2 people) thought that it was not legible and understandable. Preservice teachers claimed that students' writing was not legible and understandable because of the facts that students confused some letters (5 people), they could not write organized and nicely (4 people) their small muscle skills and holding pencil skills had not developed (3 people) and teachers made mistakes (2 people). 10th participants stated the followings on this issue:

> "Students' handwriting is legible most of the time. They can not write letters accurately since their small muscle skills have not developed. Their handwriting is not organized and nice."

Preservice teachers also stated that their writing was legible and understandable because students did not have difficulty in writing cursive handwriting (2 people). 10th participant stated the following on this issue.

> "Their handwriting is legible. They do not have difficulty while writing. Therefore, their writings are legible."

Reinforcing Students about Fast Writing Skills by Cursive Handwriting

Half of the preservice teachers participated into the study (5 people) stated that cursive handwriting was not effective on reinforcing fast writing skills and the rest half of the preservice teachers (5 people) stated that it was effective. Preservice teachers stated that students could not write fast because they spent time while combining letters (4 people) and they spent time to write accurately (3 people). 3rd participant stated the following on this issue:

> "Students cannot write fast in this kind of writing. Most of students write very slowly. Combining letters make them lose time."

Moreover, preservice teachers stated that they could write fast because students combine letters (5 people) and they did not remove their hands (2 people) in this kind of writing 7th participant stated the following on this issue:

> "I think, they can write fast enough. Not removing their hands while writing is increasing their speed."

Problems Encountered in Implementing Cursive Handwriting

Most of the preservice teachers participated into the study (8 people) expressed that they had some problems during the implementation while the rest of them (2 people) expressed that they did not. Preservice teachers participated into the study stated that they had some problems because students made mistakes while combining letters (4 people) cursive handwriting made students bored (4 people), the writings around them were written with basic vertical letters (3 people), they wrote slowly (3 people), they wrote some letters wrongly (2 people), they confuse letters (2 people), students had difficulty about writing without removing their hands (2 people) and students got tired while writing (2 people). 9th participants stated the following on this issue:

> *"Students have difficulty while they are writing without removing their hands. This type of writing makes students bored. Moreover, the fact that the writings in the books are in basic vertical letters is a problem, I think."*

Recommendations for the Implementation of Cursive Handwriting Effectively

Preservice teachers participated into the study suggested about the implementation of cursive handwriting that the activities about the topic should be increased and teachers should practice different activities (4 people), teachers should be careful and sensitive about the writing (3 people), teachers should give feedback immediately (2 people) and in-service training should be organized for teachers on cursive handwriting (1 person). 7th participant stated the following on this issue:

> "I think teachers should be very careful and sensitive while students are writing. They should make student do different activities."

The Opinions of First Year Students of Primary Education on Cursive Handwriting

Their Levels of Having Difficulty While Using Cursive Handwriting

A part of the students participated into the study (1 person) stated that they had difficulty; the other part of students (2 people) stated that they had a little difficulty; and most of the students (7 people) did not have any difficulty while using cursive handwriting. Students stated that they did not have any difficulty due to the fact that cursive handwriting was easy (7 people), it was very enjoyable (5 people) and it was comfortable (4 people). 3rd participant stated the following on this issue:

> *"I do not have any difficulty while using cursive handwriting. Because it can easily be written."*

Moreover, students stated that they had difficulty because it was difficult to write some letters (2 people), they are not used to this type of writing (1 person) and their hands hurt (1 person). 1st participant stated the following on this issue:

> *"I have a little difficulty. Because my hand is not used to."*

Their Levels of Fast Writing through Cursive Handwriting

Almost half of the students participated into the study (4 people) expressed that they could not write fast, some of the students (2 people) could write a little fast and almost half of them (4 people) could write fast with cursive handwriting. Students stated that they could not write fast because they missed some letters (3 people) and they could not write beautifully (2 people). 10th participant stated the following on this issue:

> *"I cannot write fast. I miss some letters when I write fast."*

Besides, students stated that they could write fast because writing with cursive handwriting is easy (4 people).

"Writing with cursive handwriting is very easy. I can write fast. I do not have any difficulty."

Confusing Letters while Using Cursive Handwriting

Most of the students participated into the study (7 people) stated that they confused some letters and the rest of the students (3 people) stated that they did not. Students stated that they confused "f" (3 people), "e" (2 people), "b" (2 people), "y" (2 people), "ğ" (2 people), "n" (1 person) "r" (1 person) "g" (1 person), "c" (1 person) and "m" (1 person) with other letters. 7th participants stated the following on this issue:

"I confuse some letters. I especially confuse the letters d, a, v, e."

Moreover, some of the students stated that they did not confuse any letters. 2nd participant stated the following on this issue:

"I do not confuse any letters. I write all of them accurately."

The State of Students' Writing without Removing their Hands While Using Cursive Handwriting

Almost half of the students participated into the study (4 people) had difficulty while writing without removing their hands while more than half of them (6 people) did not. Students stated that they difficulty because writing without removing their hands is tiring (4 students). 5th participant stated the following on this issue:

"I have difficulty in not removing the pencil. It is difficult for me to write without removing my hand. I really get tired."

Moreover, some of the students stated that they did not have any difficulty while they were writing without removing their hands. 8th participant stated the following on this issue:

"I do not have any difficulty. Because I can write quickly."

The State of Students' Reading their Friends' Writing

Some of the students participated into the study (2 people) stated that they could not read their friends' writing, the other part of the students (3 people) could read some parts and half of the students (5 people) could read. Students stated that they could not read their friends' writing because their friends' writing is bad (3 people) and some of the letters were written incorrectly (3 people). 1st participant stated the following on this issue:

"I cannot read. They write disorganized. They write letters incorrectly."

Moreover, some of the students stated that they could read their friends' writing. 10th participant stated the following on this issue:

> *"I can read. I do not have any difficulty. They write similar to mine."*

The State of Students' Reading Written with Basic Vertical Letters

Some of the students participated into the study (3 people) stated that they sometimes had difficulty in reading pieces written with basic vertical letters while most of them (7 people) stated that they did not. Students stated that they sometimed had difficulty because they confused some letters written with basic vertical letters (2 people), they did not know some letters (2 people) and it was difficult to read writings written with cursive handwriting (1 person). 4th participant stated the following on this issue:

> *"There are some letters that I do not know. Therefore I sometimes have difficulty."*

Moreover, some students stated that they could read writings written with basic vertical letters. 4th participant stated the following on this issue:

> *"I can read. It is very easy. I did not have any difficulty."*

Conclusion and Recommendations

The following findings were obtained in this study in which it was aimed at determining the opinions of teachers, preservice teachers and first year students at a primary school:

1. More than half of the teachers and almost half of the preservice teachers stated that cursive handwriting was appropriate for the developmental characteristics of the first year students.
2. More than half of the teachers and almost half of the preservice teachers stated that cursive handwriting was effective on reinforcing students to write the letters accurately.
3. More than half of the teachers and a few of the preservice teachers stated that students' writing was legible.
4. More than half of the teachers and half of the preservice teachers stated that cursive handwriting is effective on reinforcing students about fast writing skills.
5. The most commonly encountered problems by teachers and preservice teachers during the implementation of cursive handwriting are the shortness of preparation period, a parental pressure, the illegibility of students' writings, the errors students

make while combining letters and the fact that cursive handwriting makes students bored.
6. Teachers and preservice teachers have some suggestions about the effective implementation of cursive handwriting such as the period of preparation should be longer, drawing line activities should be done in preschool education, the numbers of sources and activities related to cursive handwriting should be increased, different activities should be carried out and teachers should be careful and sensitive about these issues.
7. Most of the students stated that they did not have any difficulty while writing with cursive handwriting.
8. Almost half of the students stated that they could write fast with cursive handwriting.
9. A few of the students stated that they did not confuse any letters while writing with cursive handwriting. Moreover, the most commonly confused letters were b, d, e, f, ğ, y.
10. More than half of the students stated that they did not have any difficulty while writing without removing their hands.
11. Half of the students stated that they could read what their friends wrote.
12. Most of the students stated that they could read the pieces written with basic vertical letters.

In the light of the findings of the study, the following recommendations can be done about the effective implementation of cursive handwriting and overcoming the problems encountered during the process:

1. The preparation period for the writing should be kept longer in the first year and some activities related to cursive handwriting should be carried out.
2. Activities related to cursive handwriting should be carried out during the preschool education period.
3. The numbers of sources and activities related to cursive handwriting should be increased.
4. More activities should be done about writing letters accurately, combining letters and writing fast.
5. It should be searched how efficient the teachers are about cursive handwriting.
6. Similar studies can be carried out with more teachers, preservice teachers and students.

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7

The Effects of Fantastic Novels and Films on Children

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The word “fantastic” is an adjective which is “fantasticum” in Latin originally and the verb form “phantasein” in Greek means “to make visible or to seem like” (Steintetz, 2006: 7). At present, it means; “adj. strange and imaginary, or not reasonable” (Cambridge International Language of English 1995: 503).

Although we may come across with many definitions in literature for the concept of “the fantastic”, Todorov firstly addressed this concept as a type of literature in his book titled “Introduction a la Littérature Fantastique” (A Structural Approach to the Type of Fantasy Literature) which he wrote in 1970 (Sipahioğlu 2006:3).

Since children’s books started to include fantastic elements, the concept of “children’s fantasy literature” has been on the rise. Dilidüzgün (1996: 45) described the concept as "Narrations where an imaginary world appears against the real and objective world we know". The products of children’s fantasy literature address the imaginary and surrealistic events within the context of real life.

When the tales, mythological stories, legends and fables in Turkish children’s literature are analyzed, it is seen that we are not unfamiliar with the works that have fantastic elements. However, different from these genres, the word “fantastic” here appears as a new phenomenon which defines the set-up of the story, the novel and encompasses them from their basis (Dilidüzgün 1996: 47).

Children’s fantasy books became apparent under the name of “fantasy adventure stories” in 1950s in Europe (Doderer 1975: 37). In latter periods, they appeared as a genre against the aridity and absolute realist tendencies created by realist children’s books of 1970s (Haas, 1984: 267) (as cited in Dilidüzgün, 1996: 47).

Astrid Lindgren’s “Pippi Longstocking” can be evaluated as the beginning of fantasy literature. Books such as “Pinocchio, Alice in Wonderland, Doctor Dolittle” which have been defined for a long time as “stories like tales” are the examples that are closer to fantasy literature (Dilidüzgün 1996: 47).

The aim of fantasy literature is to reach to the points where no books of realist genre can reach, to explain those which are impossible to be explained by only realities, and to broaden the horizons of its readers by using the limitless possibilities of imagination (Dilidüzgün 1996: 48).

While reading a fantasy book, readers put their logic aside knowingly and intentionally, and travel with their feelings and senses in a world that is surrealistic, magical, mysterious and extraordinary. Fantastic journeys give readers joy and excitement. This joy has kept tradition of fantasy books alive for years. The moment that the readers start to ask questions about the fantastic text they are reading, the spell is broken and fantastic art fails. Children and youngsters can not grasp the difference between reality and fiction as easily as adults can, so they are not expected to break the spell of fantastic texts (Kara 2007: 71).

As we know, children's world of imagination is very different from the adults. Children enjoy reading books that involves legendary, extraordinary and irrational events because of the fact that those books show similarities with children's own logic. Children need dreams and to imagine more than adults.

Since children are able to read these books with the expected approach by fantasy book readers and due to the characteristics mentioned about childhood period, "children's fantasy literature" has been seen as a beneficiary tool in education. For this reason, when the literature has been searched, it is seen that there are different thoughts related to how "fantasy literary works" affect children.

According to James Krüss: "Children have a rich imagination. It is necessary to benefit from this richness in order to tell them the reality of the world. As they have an imagination, you can explain to them what is good, what is bad by talking about fairies and genies…Those who would write for children should benefit from this; furthermore they have to!" J.Krüss sees children's imagination which has not been shaped by the rules of the society as a source to be benefited from. He also points out that children are different and if the right ways are pursued they will acquire many things by benefiting from fantastic elements. Children exist with their imagination and they can be educated with this imagination (as cited in Dilidüzgün, 1996: 47).

Rather than instilling fear into the children, the products of fantasy literature presents a possibility for children to enter into a world where the dreams and miracles take place and legendary events are realized. Thus, children can acquire the opportunity of both differentiating the logical and the illogical, imaginary and reality and correlating these two opposite points. Fantasy literature has a function of facilitating children's confronting with the realities rather than their escaping from realities and of teaching them to overcome their fears. (Dilidüzgün 1996: 49)

According to Dilidüzgün (1996: 53) the function of the extraordinary things in fantasy books is to show the realities from another dimension and to explain children the reality that they can not see from a different perspective. In this way reality doesn't get obscured; on the contrary it becomes easier for children to cope with real life.

As Pierce (1996: 183) says fantasy creates hope and optimism in readers. It is the pure stuff of wonder, the kind that carries over into everyday life and colors the way readers perceive things around them. And nowadays extra hope and wonder are what we all need.

In brief, what is expected from a qualified fantasy book is to develop children's imagination, and to raise awareness of children about the elements that makes children depended on certain things or people, about making themselves independent or about establishing an egalitarian understanding by showing them reality from a different perspective. Here, in children's pedagogy, becoming independent and egalitarian understanding is rather about criticisms of oppressive methods in education system and raising the awareness of the readers **(**Dilidüzgün 1996: 61).

In addition to these positive effects of fantasy literature works on children, there are some controversies about reading these books. Some adults think that these books can adversely affect children as they do not have the capacity to differentiate the reality and the fantasy. However, the content of curricula and the researches done in the fields of psychology show that the children at the age of elementary school can make this differentiation (Martinez, Temple, Yokota 2006: 393).

Another group of adults are worried about that fantasy literature is a genre that allows escaping from reality and children who read these books might prevent them from reading more important books (Martinez, Temple, Yokota 2006: 393). According to another point of view on the same subject, the important works of this genre should be benefited by using the children's fantasy books where children can see their own problems in order to make children's acquiring reading habit and to raise them as independent individuals by paving the way for their independent thinking. To the extent that we can transfer such books into the education programs or help children gain a habit of reading such books in their spare times, children who are more aware and who can think critically would be raised (Dilidüzgün, 1996: 62).

Following in the footsteps of fantasy literature, fantasy television series have been frequently introduced in Turkish channels recently. By using the limitless possibilities of imagination like in the children's novels, these series have attempted to make children find rights and wrongs, pushing the doors of children's imagination. In addition to these, there are some children who identify themselves with the heroes/heroines of the series and want to lead such a magical atmosphere in the real life. Therefore, the effect of such books and series on children is necessarily concerned. The first purpose of this research is to reveal how fantasy novels and films affect the children and the second one is to understand what fantasy books and films present to the children.

Method

This research is a scientific study based on qualitative research model.

Data Collection Methods

In this study, verbal interviews (focal interviews) have been used as a data collection method. The study has been formed in line with the answers given to the questions asked to the children who are in the first stage of elementary education (aged 7-11).

In this study, children have been talked with about the fantasy novels in children's literature and fantasy series in the Turkish television channels whose number are growing recently. Answers to the questions have been searched upon how watching these series and reading these novels affect children.

Some of the researchers in the field of children's literature emphasize that such books or films are based on power and violence, and watching those films and reading these books might be disadvantageous. However, some researchers are of the opinion that children's imagination is very different than adults' and children need such films and books. The answers of children on this subject have been evaluated in order to clarify these different views on this subject.

Sample

The study group of the research is composed of sixteen students from three different elementary schools in Ankara.

Analysis of Data

Content analysis has been applied to the data obtained in the research. The answer given by the students have been recorded on a tape recorder, later deciphered and meaningful parts or themes of data have been grouped, and a coding list has been formed by giving descriptive names.

Findings and Remarks

In this research, the answers of sixteen students from three different elementary schools in Ankara have been grouped and qualitative data have been digitized.

Sixteen students were asked for their opinions, some of them have given different answers. Different opinions have been stated with the own answers of the students in this study.

Table 1. *Frequency and Percentage of Answers given to "Do you Watch Fantasy Film?" Question*

	f	**%**
"I watch."	6	38
"I know such series but, I don't watch."	6	38
"I sometimes watch."	4	24

Table 2. *Frequency and Percentage of Answers given to "Do you Read Fantasy Books?" Question*

	f	**%**
"I don't read such books."	8	50
"I read fantasy books."	3	19
"I sometimes read."	5	31

According to the data obtained in the research, 38% of the students watch fantasy films, while 38 % know them but don't watch, 24% watch sometimes. When it comes to reading fantasy books, 50% of the students do not read such books, 19% read, 31% read if it is suggested. Thus, the reading rate of such books is lower than watching rate. Students prefer to visualize rather than read.

Table 3. *Children's Opinions about Fantasy Films and Book*

	f	**%**
"I like them."	6	37
"I find them enjoyable."	3	19
"I find them encouraging."	2	13
"I don't like them, I find them nonsense."	2	13
"I find them realist."	1	6
"I find them boring."	1	6
"I find them exaggerated."	1	6

According to the data obtained, 37% of the students like fantasy TV series and books, 19% find them enjoyable, 13% find them encouraging, 13% do not like and find them nonsense, 6% find them realist, 6% find them exaggerated and again 6% find them boring. Thus, more than a half of the students like fantasy TV series and books.

Table 4. *Frequency and Percentage of Answers given to "What the Adults in your Family say about Fantasy Films and Books?" Question*

	f	**%**
"My family doesn't say anything about them."	12	75
"They don't want me to watch or read."	4	25

According to data obtained, of the adults in their families 75% do not get involved in their children watching fantasy TV series and reading such books, while 25% do not favor their children watching or reading them.

By looking at Table 5 we can say the following upon the contribution of fantasy films or books to the children: 44% of the students say it has a contribution, it develops their imagination. 25% say it does not contribute. 13% say it contributes as it entertains them. 6% states that it develops them as long as it is didactic. 6% don't watch but think that it might adversely affect those who watch. And 6% of children say that they learn from fantasy books what they didn't know before. Thus, almost half of the children share the opinion that it is beneficial to them in terms of developing their imagination.

Table 5. *Children's Opinions about the Contributions of Fantasy Films and Books to them*

	f	**%**
"It contributes, it develops my imagination."	7	44
"It doesn't have any contribution."	4	25
"It contributes, it entertains me."	2	13
"If it is didactic, it develops me."	1	6
"I don't watch, but it might adversely affect those watching."	1	6
"It contributes; I learn from fantasy books what I didn't know before."	1	6

Table 6. *Frequency and Percentage of Answers given to "Do you want to be in the Place of these Heroes/heroines in the Fantasy Films on Books?" Question*

	F	**%**
"I want to be in the place of them because of various reasons."	5	31
"I don't want to be in the place of them."	11	69

According to the data obtained, of the students who participated in the research, 69% do not want to be in the place of heroes/heroines of such films and books, 31% want to be in the place of them in order to do good deeds. Thus, we see that despite them not watching fantasy films or reading fantasy books, students are conscious and want to be in the place of good heroes/heroines rather than bad characters.

Table 7. *Frequency and Percentage of Answers given to "Do you Think that Fantasy Films or Books might affect your Life in the Future?" Question*

	f	**%**
"It might affect in a positive way."	11	69
"It doesn't affect."	5	31

69% of the students who participated in the study think that such books or films might affect their life in a positive way in the future.

Conclusion and Suggestions

As a result of this study, it is seen that students who participated to this research are conscious of the effects of fantasy books and television series. We see that 69% of the students do not want to be in the place of the heroes/heroines in such TV series or books, and 44% state that following such books and TV series develop their imagination. In this study, it is noteworthy that fantasy films are followed closer than the books. According to data obtained, it is understood that the views of some of the researchers are right; who state that children need fantasy films or books, their imagination is different from the adults and children already know such works are imaginary.

This study might be expanded and applied on children who are at the level of elementary education, living in different cities and whose families have different income levels.

Studying the reasons of why children choose to watch movies rather than read books might be worth further research for those interested in this topic.

To reduce the worries about the effect of fantasy films it might be useful to work with academics while preparing such television series and films. Moreover, since children wanted to be in good characters' shoes, it is important to inform authors and producers about the findings so that they can elaborate these characters with more important values in terms of education. Therefore, interviews and TV programs which are organized with this purpose can be helpful.

In order to measure whether the imaginations of children who read fantasy books or watch fantasy films flourish or not, it might also be possible to make students write stories, complete stories which are half done, do three-dimensional works, and draw pictures.

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8

Play and Movement in the Preschool Child

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The Slovenian Preschool Curriculum, reformed in 1999, includes six activity areas: language, art, society, nature, mathematics, and movement. The goals set in this curriculum by individual area provide a framework, whereas at the level of the implementing the curriculum preschool teachers connect, improve, and supplement the contents and activities proposed in various ways. This paper highlights movement as an extremely important education area because the path to attaining curriculum goals leads through the children's movement activities. However, even though we already have the prescribed goals and activities, and we know who is supposed to implement them (i.e., preschool teachers), the question still remains of how to implement them. In other words, it seems everyone interprets this in their own way. Implementing individual activities depends not only on the working conditions (i.e., rooms, appropriate equipment, the number of children in the group, etc.), but also on the teachers' attitude towards movement activities and the level of their professional expertise and competence.

Play and Movement

Like any other game, a movement game is also an internally motivated, free, open, and child-friendly activity. It represents a way that children develop and learn in early childhood (Videmšek and Kovač 2001). Body movement depends on awareness of the environment, space, time, and oneself. In elementary movement games, children gradually get to know the meaning and sense of following the rules of games, thus becoming better socialized (Kurikulum 1999). However, play and movement are not important merely for children. Bognar (1987: 8) ascribes great significance to play, claiming that "in people's lives, as well as in the lives of animals, there is an activity that has attracted the attention of philosophers, biologists, physicians, and educators for centuries; that is, play. It is generally typical of childhood, but adults also seem

to be fond of it because it keeps the participants constantly engaged. Children cannot do without play, whereas in adults, it evokes passions, which occasionally also become a social problem." Recently, movement has again been increasing in importance in individuals' lives, in line with fulfilling the still-topical ancient saying "A sound mind in a sound body." Friedrich Fröbel was the first educator that was seriously engaged in the issue of play and its educational role; he also included movement games among a series of games important for children. Even today's educators have emphasized the importance of play and movement, especially since 1960, when they began considering play a part of serious learning and a component of education.

The majority of children enjoy movement; however, a pleasant and trusting atmosphere, offering appropriate challenges, and enabling relaxed participation without fear of failure and rejection also contribute importantly to their motivation to perform movement activities. Their attitude towards movement activities is also influenced by the manner in which teachers transmit their ideas and expectations (Kurikulum 1999). What is meant here is teachers' implicit theories, which have to do with a personally acquired and built system of values, knowledge, and beliefs about the nature and development of children, and the educational goals and viewpoints connected with the possible and appropriate methods of achieving these goals that derive from teacher's beliefs. Miljak (1993) thus believes that implicit educational theory notably affects the children's learning, development, education, and schooling. The curriculum aspects mentioned above, from which children can acquire specific behaviors, viewpoints, values, and stereotypes, are part of the "hidden" curriculum. This is connected with indirect messages that the children receive about themselves and others through the way adults see and judge them as well as through the viewpoints and prejudices that are often completely unconsciously reflected in the way the adults treat children (O'Hagan and Smith 1993). In movement activities it is thus important that adults treat the children's efforts, attempts, and solutions seriously and objectively, and that they always commend them for their efforts. Children must perceive their own progress as a success, regardless of their peers' achievements. In this it is important that movement activities be planned on the basis of thorough knowledge and understanding of children's development and needs because children can only be successful if the needs of the individual are taken into account; in other words, success is relative to children's individual interests and abilities (Kurikulum 1999). In order to perform movement activities, as well as other activities, preschool teachers must have suitable professional competence. One should be aware that children cannot later make up for what they miss in the earliest development period. The bases of the children's movement experiences must be built with quality because they have an important impact on their development (Videmšek and Kovač 2001).

In the preschool period, movement activity has a different impact on learning than later; this is why professionally guided activities demand a different process that must take into account the special features and characteristics of individual development.

Empirical Part

Method

The Purpose of the Study

The basic purpose of the study[1] was to investigate preschool teachers' views on the preschool curriculum goals, especially with regard to movement activities and the selected recommended examples of movement activities for children three to six years old derived from this curriculum. Focus was placed on the following research questions:

1. What are the viewpoints of preschool teachers on various goals set in the preschool curriculum connected with movement that they are to implement in their work?
2. What are the viewpoints of preschool teachers on individual planned movement activities for children three to six years old?
3. To what extent and in what conditions do preschool teachers lead or implement movement activities in their preschool groups?
4. What do the teachers believe are the greatest obstacles or problems hindering the implementation of individual movement activities?
5. What is their opinion of their own competence for leading and implementing movement activities?

Sample

The study, which was performed in 2007, included 133 preschool teachers, who participated in various continuing education and training programs at the University of Ljubljana's Faculty of Education (N=51) and at the University of Primorska's Faculty of Education in Koper (N=82). On average, teachers from Ljubljana had 17.9 years of work experience, and teachers from Koper had 1.6 years of work experience. 76% of the preschool teachers included were regularly employed and 24% were working on temporary contracts.

Measurement Instruments Used

A teacher questionnaire[2] was used in the study, which covered the five problem-based sections selected: (1) assessment of the importance of

[1]The study presented is part of a more extensive study conducted by the authors; for the purposes of this article, attention is only placed on selected thematic sections.

[2]The questionnaire was developed as early as the beginning of 2000, soon after the new Slovenian Preschool Curriculum was adopted in 1999. It was designed by Tatjana Devjak and Mojca Juriševič for the purposes of the study *Osebna stališča vzgojiteljic predšolskih otrok in študentk predšolske vzgoje do nekaterih ciljev kurikula za vrtce za področje gibalnih dejavnosti* (Personal Views of Preschool Teachers and People Studying Preschool Education on Certain Goals of the Preschool Curriculum Connected with Movement Activities). The findings of this study were presented in the authors' article "Igre in gibanje: odnos vzgojiteljic do ciljev in dejavnosti iz kurikuluma predšolske vzgoje za področje gibalnih dejavnosti" (Games and Movement: The Attitude of Preschool Teachers Towards the Goals and Activities Set in the Preschool Curriculum with Regard to Movement Activities), published in the proceedings of the 1st international conference Child in Motion, which took place in October 2000.

individual curriculum goals connected with movement activities, in which a three-point assessment scale was used (less important goal, medium important goal, very important goal); (2) assessment of the importance of selected movement activities for children three to six years old (a five-point assessment scale ranging from 1 – activity not important for the child's development to 5 – activity very important for the child's development) and actual implementation of proposed movement activities (open questions); (3) the environment and place of implementing movement activities, in which a five-point assessment scale was used (ranking according to the frequency of implementing activities at a specific place, from 1 – most frequently to 5 – only rarely); (4) problems and obstacles during and regarding the implementation of movement activities (open question); and (5) assessment of their own professional competence to implement movement activities (a five-point assessment scale from 5 – very good to 1 – very bad), desire to undergo additional training and education in movement activities (YES and NO questions), and areas in which preschool teachers would like to learn more (open question).

Collecting and Processing Data

Preschool teachers filled out the questionnaire from January to August 2007 while attending supplementary education and training programs. The data were processed with Windows Excel and SPSS, answers were sorted and entered into a frequency and structural table; in addition, percentage frequencies were used, and the arithmetic mean and standard deviation were calculated.

In order to statistically process the data connected with the degree of agreement with individual goals, the teachers' answers were scored as follows: 3 points for a "very important goal," 2 points for a "medium important goal," and 1 point for a "less important goal." By analogy, answers connected with the examples of movement activities were scored and processed using points ranging from 5 (activity very important for the child's development) to 1 (activity not important for the child's development). By comparing the relative values, the ratio between the degree of agreement with regard to the importance of individual recommended movement activities and their actual implementation in a concrete preschool group was determined. Answers to open questions were processed in a qualitative manner and ranked into categories, where this seemed appropriate.

The Findings and their Interpretation

The Importance of the Curriculum Goals connected with Movement Activities

On average, preschool teachers assess the curriculum goals for movement activities as important (M= 2.52, SD 0.60). Table 1 shows that they evaluate the following goals as the most important for the children's development: (01) developing coordination/harmony of movement (coordination of the entire body, arms, and legs), balance: 94% replies; (17) learning the basic principles of personal hygiene: 87%; (03) developing finger and fine motor skills: 83%; (21) learning the basic safety measures required in performing movement

activities, and increasing the awareness of one's own safety and that of others: 82% ; and (14) introducing children to games in which rules must be followed: 80%. Preschool teacher estimate the following goals as less important for the children's development: (11) learning the skills of riding a bike, rollerblading, etc: 34%; (13) learning the basic skills of traditional (folk) movement games and other dance games: 38%; (12) learning winter activities, and (16) getting to know various sports equipment, its names, and usage: 26%; and (19) getting to know the elementary games and sports typical of Slovenia and other cultural environments in the past and the present: 17%.

The question of whether preschool teachers might add their own goals to the ones proposed based on their own teaching experience did not yield any proposals, although nearly eight years had passed from the adoption of the curriculum to this survey. It can be concluded that the movement activity curriculum includes all the goals important for the children's development and the development of their movement abilities and skills. We believe the reasons for various evaluations of the importance of the goals laid down in the curriculum are to be first of all sought in the subjective evaluation by individual preschool teachers, and second, in the definitions of the goals addressed. First, according to the data collected, nearly half (i.e., 48.6%) of all preschool teachers claim they plan their own movement activities and that at the same time, are active in the movement (sports) area themselves. Second, for example, the first curriculum goal (01) "developing coordination/harmony of movement (coordination of the entire body, arms, and legs), balance" (the most important goals according to the teachers) demonstrates great differences in the degree of agreement about the importance of specific activity in relation to goal (11) "learning the skills of riding a bike, rollerblading etc." (which the majority of teachers list among less important goals). Does this mean that in cycling, rollerblading, and other related activities, children do not also develop the skills described in the first goal – that is, the harmony of the entire body, and balance?

Examples of Movement Activities for Children Three to Six Years Old: Evaluation of Importance, and Actual Implementation

The movement activity curriculum lists (recommended) examples of movement activities for children three to six years old that can be implemented. These include: (01) natural forms of movement, such as walking, running, climbing, etc. indoors; (02) natural forms of movement, such as walking, running, climbing, etc. outdoors; (03) performing activities in rhythm, moving the body to music, using various aids, rhythmic and singing exercises; (04) performing various ball and balloon games; (05) moving using various aids, such as bicycles, scooters, tricycles etc.; (06) games on ice and snow; (07) water games; (08) relaxation games and movement activities; (09) movement games as a way of working with others; and (10) games enabling finger and arm movement, and manipulation of objects and various substances (i.e., sand or water).

Preschool teachers were only allowed to mark one of the possible answers with each activity. They were also asked to circle the numbers in the table in front of those activities that they personally most frequently use with their preschool group. They could also add any activities not included in the table.

The results showed that both the Ljubljana and Koper preschool teachers believe that the following movement activities, which they also most frequently use with their groups of children, are the most important for the development of preschool children: natural forms of movement, such as walking, running, climbing etc. outdoors (02); games enabling finger and arm movement, and manipulation of objects and various substances (i.e., sand or water) (10); and movement games as a way of working with others (09). Less important movement activities that the teachers also rarely implement seem to be the following: games on ice and snow (06), performing various ball and balloon games (04), and (in Ljubljana) natural forms of indoor movement (01). The greatest differences between Ljubljana and Koper were revealed with regard to natural forms of indoor movement, such as walking, running, climbing etc. In addition, it is also interesting that on average teachers give high scores to movement games as a way of working with others (09) in terms of the children's development, but only rarely implement them in practice. And vice versa, they generally consider various ball and balloon games (04) as a less important goal, but it is this activity that they most often use with preschool children.

These results are not surprising, but they reflect the trend confirmed by some studies in which the researchers seek differences between behavioral readiness (intent, viewpoint) and actual behavior (Rus, 1997). This means that despite the fact that we generally know that something is good, useful, or worth doing, we cannot do it "here and now" for various reasons. The findings obtained are elucidated from the viewpoint of internal and external factors, which we believe provide a good explanation of these findings. These factors include the environment and space in which movement activities are performed, problems and obstacles hindering the implementation of movement activities (external factors), and the professional competence of preschool teachers to lead and implement movement activities as an internal factor that hinders or indirectly influences the implementation of movement activities with preschool children.

Preschool teachers were also asked how they usually plan movement activities for the children in their groups. Several answers were provided to them and they had to choose the one that on average comes the closest to the actual situation in practice. 36% of preschool teachers thus usually plans movement activities along with their assistants, 37% of preschool teachers include both their assistants and children in their planning, 9% of them plan their work alone, 4% only with the children, and 1.5% with other preschool teachers. More than 12% of preschool teachers selected the "miscellaneous" category (i.e., with the principal, parents, parents and children, or at meetings with teachers from other preschools in the same local community or the unit of

the National Education Institute that covers a specific territorial area of Slovenia).

The Environment and Space in which Movement Activities are performed

One of the questions also asked about where the teachers most often perform the movement activities. They had to choose between the following alternatives: the playroom, the lobby/cloakroom or hall, the preschool playground, the gym, natural surroundings (meadow, forest, etc.), the playroom yard, and/or other. They were asked to indicate for each place how often they use it (from 5 – most often, to 1 – only rarely).

Through weighted values[1] it was established that preschool teachers most often perform movement activities in the playroom and the preschool playground, followed by the gym, the natural surroundings, and the playroom entry hallway, or in the cloakroom or the hall. A considerable number of teachers still perform these activities in the yard or other rooms at the preschool. These findings lead to the conclusion that the environment and place of performing activities can be treated as an important factor that can partially explain the relation between the teacher's viewpoints on movement activities and their actual implementation. It is highly unlikely that the children will play in water, swim, cycle, ski, and so on indoors or in the preschool playground (although the latter is generally an "enclosed" area found outdoors).

Problems hindering the Implementation of Movement Activities

Preschool teachers believe that the environment in which they work with their preschool group is usually inappropriate for performing movement activities due to the lack of available space. Many of them wrote that they miss having a gym (only those preschool teachers whose departments are part of primary schools have this at their disposal). Even if they do have access to a gym, they can use it only rarely – that is, only when the primary school pupils do not have classes or are on vacation. The preschool teachers state that another problem is the lack of appropriate equipment for performing sports or movement activities. Yet another problem they list is the size of the group, which is usually too large.[2]

Preschool teachers see the reasons for this situation in the lack of funds. In Slovenia, nearly 70% of the funds required for the establishment and operation of preschools are provided by local communities, and 30% by parents. They believe the solution is not to be found in the increase of the price of the

[1]The weighted values were used to calculate the average. After this, the positive or negative deviation from this average was calculated for individual activities.

[2]Slovenian legislation stipulates that homogenous groups of children in the first (younger) age group (ages 1–3) consist of a maximum of 12 children, in the second (older) age group (ages 3–6) of a maximum of 17 children (for children three to four years old), and a maximum of 22 children in groups consisting of children four to five and five to six years old. In heterogeneous groups, the maximum number of children in the first age group should be 10, and in the second age group 19. For mixed-age classes, the maximum is 17 children (Article 34 of the 2005 Rules on the Norms and Personnel Conditions for Performing Preschool Activities).

preschool (to the detriment of the local community and parents), but in a greater financial contribution by the state and certain systemic solutions, such as arrangement or construction of appropriate facilities (such as a gym), purchase of appropriate sports equipment, and payment of above-standard services (e.g., swimming and skiing courses) for all Slovenian preschool children. Other solutions include hiring additional professional staff to help out in classes intended for movement activities. Teachers are also well aware that good will is not enough and self-critically assess that the issue of expertise and the question of how to correctly teach children how to swim, ski, ride a bike etc. is also important.

The problems that cause preschool teachers difficulties in performing movement activities can be listed among the possible reasons for the discrepancies between their viewpoints on movement activities and their actual implementation.

Professional Competence of Preschool Teachers to Implement Movement Activities

It is interesting that the majority of preschool teachers (82%) estimate that they are well or extremely well qualified to lead and implement movement activities. 13% of preschool teachers from Koper estimate their professional competence as excellent, whereas only 4% of teachers from Ljubljana believe the same. It should be mentioned that in Ljubljana and Koper undergraduate studies and further education and training programs take place following the same programs and with the same instructors. Up until a few years ago, this had been even part of the same faculty of the University of Ljubljana. Almost all of the preschool teachers in Koper and Ljubljana, except for four, agreed with the need for additional professional training and education. They are especially interested in topics that provide them an opportunity to further develop, extend, and connect their knowledge in various areas (play, movement, sports, learning, developing children's abilities, and learning in preschool children by age) – that is, topics that would enable them to use a comprehensive approach to education (and learning) of preschool children. They are well aware of the importance of movement activities for preschool children, which is why they would like to achieve a higher level of competence in this area (i.e., the competence to perform these activities in practice). Among concrete topics that interest them, they list the following: getting to know activities and games for healthy development of individual parts of the body, the importance of sports for preschool children, movement and rhythm, a healthy lifestyle and the importance of movement for children's health, movement in relation to natural science, dance, rollerblading, folklore, mountaineering, and so on.

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9

Views of the Preschool Teachers regarding the Content and Implementation of the Movement Education in Preschool

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Human beings require movement in order to live a healthier and high quality life. This is a life-long movement. Infants born with reflexive movements and through this they form staging of creating the most significant physiological and social-emotional bonds and their future movement skills. In the beginning simple movements are observed due to reflexive movements and these movements, which enable a child to be a social being, cede to more complicated movement skills. Reflexes cede to primitive movements such as crawling, sitting, catching-holding… Such skills help a child to recognize himself or herself and his or her surroundings, to learn the world.

Such movements a child acquires in the early years will form the basis for the expected future movements. Movement makes us consider not only learning the movement skills but also learning by movement skills. Piaget sees movement as the primary effect on acquiring cognitive functions, especially at infancy and preschool ages (Gallahue, 1982).

The basic movement skills period, in which children discover and develop movements, cover the ages of 2 – 7. Children in this period discover and try various locomotor, balance and movements requiring object control. This period consists of three phases; beginning, first phase and maturity phase, respectively. Basic Movements Period is the building stone of the Sport Related Movements Period (Payne and Isaacs, 2005, Gallahue and Omzun, 2006). A child developing such skills is much more skillful, coordinated and fluent in making these movements. In this period, where the effect of maturity is significant, this is not the sole factor for progress.

However, opportunity to practice, encouraging and educative plays a significant role. Increasing movement skills of children in period between ages 2–7 and giving them opportunities is the most significant factor in the

formation of sport movement skills and in the progress of their motor, cognitive and social-emotional developments.

One of the most evident features of preschool children is the fact that they are vivacious. This vivacity is expressed most in skills such as running, jumping, bouncing, etc. Children manifest such skills through plays. They discover, develop their movement skills and manifest new skills through these plays (Özer and Özer, 2002).

Lack of suitable places for movement education both in and out of the institutions giving preschool education in our country, insufficiency of materials and incorrect attitude and inadequacy of teachers in this issue influence children negatively to have a programmed movement education.

Giving opportunities to a child to encounter with motor stimulants in preschool period affect that child's individual development substantially. The fact that today the street plays are replaced with computers render children to become inactive individuals and over-protective attitudes of parents increase this negativity.

Movement education has two significant purposes: learning movement and learning by movement. Children develop first motor skills, cognitive, social and emotional adequacies within the movement education program and this program enables them to adopt lifelong sport as a philosophy. It is known that movement education has a significant place in children to acquire basic movement skills as well as in improving and learning in other developmental areas (Gallahue and Omzun 1998; Garhan, Holt Hale and Parker 1998; Gallahue 2002).

Method

The sample of the research consists of totally thirty teachers selected from six different schools by simple random sampling method. One-to-one interviews were made with teachers and eight open-ended questions in the structured interview format were asked. In addition, in order to reveal the general physical characteristics of the institution they work in, a questionnaire to determine the physical environment and material inventory for movement education was applied, and the replies received in the interviews were analyzed for content. The purpose of the content analysis is to reveal the common aspects of the many text contents in general (Früh, 2001). For this reason, the common aspects in the replies were determined and these were assessed in accordance with the categories developed depending on the purpose of the research.

The structured interview form is formed by the researchers with the purpose to reveal the significance of the movement education in preschool age, adequacy of the content of the program applied in the school in terms of movement education, what skills teachers aim to have children acquire, at what frequency and when teachers hold movement activities, their sufficiency in terms of movement education, whether the institution they work in is

convenient for realizing movement education activities, and finally which materials they use during movement education activities.

Findings and Discussion

When Table 1 is considered, 56.6% of the participating teachers work in private schools, they mostly have a professional experience of 2-5 years, and they are in the range of 25-30.

Table 1. *Distribution of Participating Teachers in Terms of their Institutions, Professional Experience and Ages (N: 30)*

Institution	F	%
Private School	17	56.6
State School	6	20
Institution School	7	23.3
Professional Experience		
2-5 years	11	36.6
6-10 years	6	20
11-15 years	4	13.3
16-20 years	8	26.6
Over 21 years	1	3.3
Age Range		
20-24	6	20
25-30	11	36.6
31-35	2	6.6
36-40	7	23.3
Over 41	3	10

One of the purposes of the movement education programs is to develop basic movement skills of children, and another one is to enable them to learn while moving. When the purposes of movement education are considered in this respect, besides developing the motor skills of preschool children, connecting all of the other developmental areas with movement education and enabling children to learn by using their bodies, become important.

If the replies of the participating teachers for the significance of movement education program in preschool education program are considered, (see Table 2) it is seen that they focus on physical development, bodily awareness, balance, large-small muscle motor development, as well as learning by movement. Under the light of these data, it is possible to suggest that they find motor development in preschool education program significant in terms of supporting other developmental fields. In addition, teachers indicate the significance of movement education for children to discharge their energies.

Table 2. *Distribution of Replies of Participating Teachers on the Significance of Movement Education Activities in Preschool Education Program*

Significance of Movement Education	f
Learning to Move Physical development, body control, balance, large-small muscle development, hand-eye coordination, flexibility of body	23
Learning by Movement Moving with group, struggling, sharing, respecting, adapting, socializing, expressing oneself, friendship relations	22
Energy Discharge Spending energy while moving	7

It is known that movement education has a significant place in children to acquire basic movement skills as well as in improving and learning in other developmental areas (Gallahue and Omzun, 1998; Garhan, Holt Hale and Parker 1998; Gallahue 2002).

Plays and activities planned in accordance with the development levels of children both contribute basic movements to reach to a mature form, and constitute a basis at the sport-related movement period by supporting the development of physical and motor suitability factors (Özer and Özer, 2000).

Gallahue (1989) highlights that a child requires regular, systematic, quality learning-teaching mediums in developing his or her motor skills and that guidance should be provided in child exercises.

Following are the expressions of teachers on learning to move:

> *"It is important to support their physical development according to their age levels in terms of ensuring their mental and social development while comprehending how to control body."*
> *"We give many things, which we cannot give by sitting and explaining, during physical training."*
> *"Getting to know one's own body plays an active role in the skill of acquiring proficiency and using the body right."*
> *"It supports small-large muscle development; supports hand-eye coordination; supports making certain movements which require balance."*

The expressions of teachers *"Their self-confidence develops as they express themselves better"* and *"When movement and play units, friendship relations develop positively"* bear the explanatory quality of their opinions on learning by moving.

In Table 3, the views of the interviewed teachers on whether they find the movement education purposes sufficient in the MoNE preschool education program. 66% of the teachers express that they do not find the content sufficient. Yet, it is seen that only five purposes on movement education are included in the MoNE preschool education program. It is interesting that mostly cognitive development fields are included in the program and it is

possible to suggest that educators mostly focus on academic skills in this respect. If it is considered that the preschool program will constitute the basis for the future school programs, then it is evident that the purposes and acquisitions of the primary education physical education program should be examined and a program should be prepared under the light of this. When the MoNE primary school physical education program is examined, it is seen that the program covers learning fields such as basic movement skills, specialized movement skills and sports skills. Main objective of the physical education program is to contribute to the physical, motion, cognitive, emotional and social development of an individual, and to participate in lifelong physical activities (MoNE primary education, physical education course program, 2007).

Table 3. *Distribution of Replies of Participating Teachers on the Sufficiency of MoNE Preschool Education Program Content in Terms of Movement Education*

Content of the preschool program movement education	f	%
I find it sufficient	20	66.6
I do not find it sufficient	6	20
I have no idea	4	13.3

It is seen that the purposes and acquisitions, found in the psychomotor field within the scope of preschool education program, are limited because movement training is classified as primitive movement skills (ages 0-2); basic movement skills (ages 2-7); sport-related movement skills (ages 7-12). Under the basic movement skills in preschool age, skills such as walking, running, jumping, galloping, hopping, climbing, walking on a line, walking on a balance beam, rolling, throwing-catching ball, dribbling and hitting a target, etc. are determined as acquisition (Gallegue, 2004). Preschool education program in an integral program and it is important that it supports the entire development fields and prepares the foundation for creating the future years. Therefore the insufficiency of the purposes and acquisitions found in the psychomotor field is noteworthy. Teachers expressing the movement education content as sufficient may be explained with the fact that they have difficulty in applying the existing content as a result of the unclear feedbacks and that they find it sufficient because their movement education application areas are limited.

In the following expressions, although the program is found sufficient, the fact that they experience difficulty in application due to the physical conditions in the MoNE schools.

> *"It is sufficient but it is impossible to apply these in MoNE schools. Because classes are very small, area of application is limited."*
> *"It is sufficient but it is sufficient only if the medium and conditions are convenient and if it is applied according to its objective."*
> *"Yes. However, what is important is to make applications parallel to objectives. To create opportunities, mediums for movement."*

As it is seen from the above expressions, rather than to state if the purposes and acquisitions for movement education is sufficient or not, the evaluations are based on the insufficiency of the area of application.

When the above movement education applications are considered, it is observed that modular programs are applied in which basic movement skills, i.e. the locomotor, balance, and object control skills are found.

Following expressions are the ones in which teachers find the content insufficient:

> *"It is not sufficient. I think that the items for large and small muscle development are insufficient and general. I think that this education cannot be limited, it should be included in the entire education cases, whole day."*
> *"The achievement types which will be aimed by an activity to develop the stated skills, especially the achievements in the social field should be broader in scope considering the future social skill needs of children. Sometimes it is possible to have difficulty in finding an activity to support certain achievements found in the program. It will be beneficial for the movement training to have achievements more in real life, which address the needs of children and these should be increased in variety."*

In Table 4, it is seen that teachers express that they try to have children to acquire basic movement skills and small-large muscle skills in the motor skills field as a result of the movement education activities and that they also include these activities for development of skills in other fields such as cooperating with the group, responsibility, expressing oneself, feeling empathy, etc.

Table 4. *Distribution of the Skills which Participating Teachers wish to have Children Acquire*

Motor Skills	f
Basic movement skills	12
Large-small muscle skills	18
Attention concentration skills	3
Using body in a coordinated way	5
Hand-eye coordination	3
Using energy in a right way	1
Social Skills	9
Struggling, cooperation with the group, fulfilling responsibility, being orderly, related with sports	
Cognitive Skills	6
Expressing oneself, creativity, establishing cause-effect relation, observing	
Emotional Skills	7
Releasing oneself from egocentrism, respecting, feeling empathy, developing positive attitude	

In the study of Dursun (2004), the skills such as running, throwing-catching ball, balance, stop long jump, hurling ball, agility and speed, needed to be acquired by children in movement education are determined, including the special physical education program (Dursun, 2004)

> "*Having them to acquire skills of running, jumping, climbing, crawling, throwing and catching, going down, going up, walking backwards, turning around, riding a bicycle, jumping, climbing, hopping, rocking"*
> *"I am trying to give the skills of jumping, staying at balance, running, walking, holding, throwing, rolling, turning, sitting, standing on one foot"*
> *"Making movements requiring bodily coordination and using muscle skills in a right way"*
> *"I place importance to have them acquire skills like acting in accordance with the instructions, walking right, balance, etc."*

How frequently teachers employ movement education in their programs can be seen in Table 5. As it can be revealed from the replies of the teachers in the sample, giving movement education everyday is a pleasing result; however, from the expression *"This education is given in elective courses such as ballet, folklore, etc. Movement education is also employed in drama"* reveals that they use such activities while passing to other activities, in elective courses and at every dimension of the program and that they perceive all of these activities as movement education.

Table 5. *Distribution of the Replies given by Participating Teachers to how Frequently they Employ Activities for Movement Education*

Where	How Long	When
Everyday in program 2 days a week 3-4 days a week	One hour Half an hour	During elective courses; drama, orff course, music and rhythm studies Before noon Towards noon In the morning hours Morning sports At every dimension of the program When passing to other activities When needed
In the plays In "Sports activities" In physical education course	Half an hour One hour	In the morning, towards noon

As it can be seen from the table, it is expressed that morning sports is made for implementing activities for the purposes of movement education. Also from the following expression example it is found out that this activity is made

separate from activities which they consider within the scope of movement education which are made at other times.

> *"I am definitely organizing a morning sport activity of thirty minutes within the entire daily programs. Besides, I organize special courses and garden activities depending on the day"* and *"I am diligent on making morning sport each morning with music. I am trying to enrich the plays with materials such as rope, ball, mat, chair, etc."*

Following expressions are related with the times when movement education is employed:

> *"I am diligent on making morning sport each morning with music. I am trying to enrich the plays with materials such as rope, ball, mat, chair, etc."*
> *"This education is given in elective courses such as ballet, folklore, etc. Movement education is also employed in drama. All of them are 1.5 hours at average. Other than these, we give the main movement education at morning hours."*

Table 6 shows that 83.3% of the teachers find themselves sufficient in movement education.

Table 6. *Distribution of the Replies given by Participating Teachers on their Sufficiency in Applying Movement Education Activities*

Sufficiency to apply movement education activity	f	%
I am sufficient	25	83.3
I am not sufficient	5	16.6

> *"I am not sufficient, I tried support it by taking drama training."*
> *"I am not sufficient; I would like to improve myself in application."*
> *"The education I got was not sufficient by I feel that I became sufficient after the on-the-job trainings I took later on."*
> *"I feel myself sufficient. I am taking creative drama training and off training, and I am including these in the movement education activities."*
> *"I did not receive its training but it was sufficient based on my experience."*
> *"In fact, when the training you receive and your practical experience join, you can feel yourself sufficient. Therefore I feel myself fairly sufficient."*
> *"As the teacher is sufficient and willing, he or she will feel himself/herself sufficient as days pass."*

"I am sufficient but I am in continuous need of adequate information such as putting developing training into practice, planning and evaluating the process, etc."
"In time, we improve ourselves by years of practice, observing reactions of children, and experience."

As the above expressions of teachers show, although they feel sufficient they are open to improvement and willing to increase their knowledge continuously, and the experience teachers gain in their professional lives, cause them to feel sufficient.

As Table 7 shows, the fact that the physical opportunities and materials of the institutions are found convenient for movement education activities may be caused by the fact that 56.6% of the participating teachers are working in private schools.

Table 7. *Replies of Participating Teachers on whether they find the Physical Opportunities and Materials, found in Preschool Institutions they Work in, in the Application of Movement Education Activities*

Convenience of Physical Opportunities and Materials	f	%
I find them convenient	15	50
I do not find them convenient	15	50

"I find them convenient because I think that we have the entire opportunities. We have all of the sports materials, a wide, large, lawn garden, we have a large area with mat sets" expression is explanatory in defining the opportunities of a private institution.

However, following are some of the expressions of teachers regarding the insufficiencies of the physical environment and materials.

"Physical conditions are not sufficient at all. In addition, the number of students in a class is always too high, classroom areas are very small, and they have difficulty in moving. A separate play room should definitely be present at schools."
"The most important shortage in this issue is that we do not have an open space where children can move safely. Being forced to use closed areas for open air activities causes a huge limitation. Besides, not having sufficient education materials limits the applied movement education program."
"I do not find it sufficient. We apply them at classroom and play room in the school. We do not have any corridors. Sometimes we use the garden. We could have wider areas. Also, I think that our materials are few. We could have materials for balance."
"Our opportunities are not sufficient. Our medium is very small and restricted; I wish we could have wider areas. I wish to have

materials used in movement education such as climbing bars, balance materials, etc."

In many studies carried out in Turkey, the physical opportunities of the preschool education institutions are stated to be inconvenient for implementing movement education programs. In the Fact Finding Research on Preschool Education Institutions in Turkey, carried out by Baykan et al. in 1993, the ratio of the preschool education institutions, of which buildings are insufficient or mediocre, was found to be 43.28%.

When we examine Table 8 on the areas teachers use for movement education, we see that they mostly use classrooms. In addition, as it is seen in the following expression, classrooms are stated to be small in other expressions.

Table 8. *Distribution of the Areas used by Teachers for Movement Education Activities*

Application Areas Where Movement Education Activities are Made	f
Gym	8
Classroom	13
Corridor	3
Garden	11
Other-play room, gymnastic saloon	5

"Classroom is small, student number is too high, they play, eat, and make activities at the same place. We have to carry out all of our studies in the same small classroom. Although we had a small park made in our school garden, the principal do not let us to play there because the green areas are damaged."

In the researched carried out, 37.65% of the classrooms in the preschool education institutions are found to be insufficient or at a mediocre level (Baykal et al. 1;1993)

Among the application areas, one of the most widely used is garden; however, it is found out that there are administrative problems experienced in using such areas.

The following expression tells us the difficulties experienced in spite of using classroom and garden.

"We mostly use the classroom area because the physical conditions and materials of the school are insufficient and there is no special area given to us. Since our classrooms are very small we have many difficulties during applications."
"The floor of our garden is slippery and there are iron playthings. And this may be dangerous for children. Therefore I use the classroom."

It is found out that the most used materials by teachers are ball and mat weight (see Table 9). However, it is possible to use many different sports materials and waste materials. Considering that the research was made in a metropolitan, children living at such cities mostly live in apartment buildings. The running, jumping, hopping, climbing needs of such children are not fulfilled adequately. Considering all these, it is an undeniable fact that children are in need of learning mediums with sufficient equipment, in terms of both area and materials, where they can acquire experience. In this respect, implementing landscaping in the preschool education institutions considering such needs of preschool children.

Table 9. *Materials Used by Participating Teachers for Movement Education at School*

Materials used in the activities for movement education	Number of Schools they are found in
Ball pool	4
Slide	2
Swing	1
Climbing ladder	4
Jumping balls	6
Ropes	2
Seesaw	1
Sand pool	2
Ball	4
Mat	8
Balance beam	1
Hoops	2
Rocking playthings	2
Climbing rope	3
Lego –blocks	3
Climbing hawser	3

In their study in 2004, Arıkan and Müniroğlu state that mostly ball is used as a material in movement education activities in the public and private preschool education institutions.

Suggestions

Existing preschool education program may be revised under the light of developing basic movement needs of children.

Training services where learning movement and learning by movement difference is highlighted may be provided to teachers.

On-the-job training on how to carry out movement education activities and how to assess the basic movement skills of children may be provided to teachers.

Assessment during implementation and dynamism of the program may be ensured by carrying out measurement and assessment studies on the adequacy of children in basic movement skills.

More emphasis may be placed on courses such as movement education application, motor development, acquiring and assessing basic movement skills, etc. in the programs of preschool teacher education.

Studies may be carried out in order to make physical landscaping and to enrich materials for the applicability of movement education activities in preschool education institutions.

Carrying out this study more deeply is believed to help collecting more explanatory data on "observing and assessing the movement education activities of teachers".

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10

Pupils' Attitudes towards Music Education in Secondary Schools of Cyprus: A Pilot Study

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Music exists in everyday school life and within the school curricula of many European and other international countries. Although the term music education is now commonly used, its meaning is often debatable. With the advent of music education in mainstream curriculum settings, there may be a tendency to think of music as another 'school module'. As we can understand, it is extremely important that music is carried out in schools to represent the real concept of music education. If we consider that we live in a globalized world where more and more pressure falls upon schools in terms of education outcomes, music may well be cast aside as a 'worthless school module' or regarded as an optional, rather than core area of study. Music should not be seen simply as a subject where pupils make notes, take exams and use limited skills. According to Bessom *et al.* (1980) the role of music education in secondary schools is to develop music understanding and appreciation through the ability to perceive and react to music aesthetically. They also state that this criterion provides opportunities for the musical growth of all pupils within general education. The ideal goal of music education in schools is to encourage the pupils to participate in music making and listening (Kaplan, 1966). Paynter (1978) claims that music education describes a course of training in which the pupils practice and use certain techniques in order to acquire musical expertise; however, this usually takes place outside of school through private instrumental or vocal tuition. Music education in schools should not be seen as mere relaxation or diversion, but it should be accepted by pupils and administrators as a serious discipline with its own meanings, standards, procedures, feels and techniques (Plummeridge, 1991; Bessom et al., 1980), which aim at pupils' emotional, intellectual, physical and social development (Brocklehurst, 1971). According to Plummeridge (1991), the emergence of the concept of music education in recent years may be considered as representing a positive step. In order to maintain this representation, sufficient time and

attention should be given to ensure that music is a potent force in pupils' education (Plummeridge, 1991).

Pupils' attitudes towards secondary music education in Cyprus have yet to be explored, since existing studies have been conducted only for primary education (Sanderson and Savva, 2004; Economidou, 2006a, 2006b). Since pupils' attitudes are significant for their learning, a study that aims to explore pupils' attitudes towards music education in secondary schools of Cyprus is of great importance as the exploration of particular issues may illuminate pupils' perceptions of secondary music education and actions could be taken to improve aspects of the education system (if necessary) so as to ensure its continued success. Before moving on, it is important to define the psychological concept of attitudes and the relationship between pupils' attitudes and music education within schools.

Attitudes

Attitudes express peoples' passions, attractions, repulsions, likes and dislikes (Eagly and Chaiken, 1998; Hogg, and Vaughan, 2002). It is generally recognized that attitudes also play an important part in peoples' decision making (Goldstein and Hogarth, 1997). Attitudes, according to Oppenheim (2001), have attributes such as intensity, endurance and depth, and while those attitudes which exist at deep levels reflect values and beliefs, others are more superficial, showing opinions.

In social psychology, many central ideas and a variety of definitions have been adopted by theorists throughout the years with regard to the term 'attitude'. Eagly and Shelly (1993) state that 'attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour' (p. 1). As Eagly and Shelly (1993) explain, the term 'psychological tendency' refers to a state that is internal to the person, and the 'evaluating' refers to all classes of evaluative response. Katz (1960) defines attitude as the predisposition of a person to evaluate some symbol or object or aspect of the individual's world in a favourable or unfavourable manner. According to Greenwald *et.al.* (2002) 'an attitude is the association of a social object or social group concept with a valence attribute concept (p. 5). Himmelfarb and Eagly (1974) describe attitude as a relatively enduring organisation of beliefs, feelings and behavioural tendencies towards significant objects, groups, events and symbols. This description emphasises that attitudes are permanent; they persist across time or situations, and are limited to socially significant events or objects. Oppenheim (1992) describes attitudes as 'a single sentence that expresses a point of view, a belief, a preference, a judgment, an emotional feeling, a position for or against something' (p.174). A useful definition that encapsulates most of the central ideas of psychologists, theorists and researchers is thus: an attitude is 'an idea charged with emotion which predisposes a class of actions to a particular class of social situations' (Triandis, 1971; p. 2).

The fundamental question 'Why do people have attitudes?' may be answered on several levels: attitudes enable individuals to adapt to their environment (Eagly and Chaiken, 1998); attitudes can help people to understand the world around them; attitudes may protect peoples' self-esteem by avoiding unpleasant truths about themselves; attitudes can help them adjust in a complex world; and attitudes allow them to express their fundamental values (Triandis, 1971). Smith *et.al*. (1956), identified attitudes' object-appraisal function, by which 'attitudes enable people to classify for action the objects of the environment and to make available appropriate response tendencies' in relation to these objects (p. 42). In other words attitudes allow people to appraise stimuli in terms of their goals and concerns (Eagly and Chaiken, 1998).

The Relationship between Pupils' Attitudes and Music Education

As Bentley (1975) claims, the success of music education is largely based on the positive attitudes of pupils and teachers, while failure is based on negative attitudes. Brocklehurst (1971) indicates that success in the teaching of music 'depends on creating favourable dispositions and positive constructive attitudes through imparting information and developing skills' (p. 57). Therefore, the creation of positive attitudes towards music is determined by the quantity and quality of musical teaching and musical learning; equally, the creation of negative attitudes has as a result the reception of music as a subject that is unimportant. According to Bentley (1975), 'attitudes of individuals are conditioned largely by environment, opportunity and the quality of motivation supplied by the teacher, possibly even by genetic endowment' (p. 10). Environmental factors, such as the school, the family, the teacher, and other siblings, act towards the construction of positive (or negative) attitudes. A healthy environment may include the quality of aesthetics within a music classroom and the condition of music equipment and books. The lack of progress in learning and involvement in music may have dire consequences on pupils' attitudes toward music education in school. If poor provision is made, pupils may 'drop out' and unfavorable attitudes towards the subject or the teacher may be nurtured (Regelski, 1975).

One important factor to consider in the formation of pupils' positive attitudes is the teacher's personality, temperament and musical skills (Brocklehurst, 1971; Bentley, 1975; Regelski, 1975). Pupils are highly impressed and inspired by their teacher. The teacher, who is the leader in a music classroom, requires imagination, enthusiasm and patience in order to inspire young children about music, and thus to create positive attitudes. In addition, it is extremely beneficial for young pupils to have a teacher who is warm, friendly and encouraging. Negative reinforcement, such as punishment and bad communication among teachers and pupils may increase the development of negative attitudes (Marshall and Hargreaves; 2007); in

addition, this negative condition arises when pupils are not interested or challenged by the teacher or when the teacher fails to provide interesting and challenging learning conditions (Vygotsky, 1962). Howell (2002) suggests that music teachers must attempt to sustain or change pupils' values (or deep-level attitudes) so as to provoke high levels of interest in music. If pupils are merely taught facts about the subject, they will become consumers of music rather than active participants and creators.

The creation of positive attitudes is based upon pleasurable experiences that a school provides (Brocklehurst, 1971; Bentley, 1975). Instrumental and vocal lessons can be considered as enjoyable and pleasurable activities because they involve practical, 'hands-on' engagement with music. It is important to provide opportunities for pupils to develop creative and listening skills though active involvement and participation in music making. Pupils need activities which involve challenges and lead to experiences through achievement, without being over-stretched. Indeed, music education in school is by no means a form of entertainment (a misconception that may be spread because of music's commonplace function as entertainment in everyday lives), as pupils should demonstrate high standards of work, achievement and performance. Additionally, lack of music learning, music making and music experiences may lead to pupils' strengths being ignored and undiscovered: if pupils have insufficient opportunities to discover their talents in music, their attitudes towards music education in school might well be negative (Bentley, 1975). Teachers must deliver music in a way that allows pupils to enjoy and to make their own music. As Howell (2002) claims, effective teaching involves the ability to be flexible in approach: sometimes, it is necessary for the teacher to work with selected pupils after class, in a kind of tutorial, or in seminars with smaller groups out of the class; in addition, teachers need to shape the curriculum in a way that pupils will enjoy. Secondary general music education curricula should allow for multiple ways of engaging pupils with music. Teachers must be available to teach one-to-one or in small groups, particularly when pupils are playing instruments, for example. As for the school administrators and head-teachers, they have the responsibility to support and encourage the music teacher in the development of their work.

By the time the pupil transfers from primary to secondary school, he/she has developed certain attitudes towards music. According to Bentley (1975), those attitudes are based on the kind of musical experiences and musical teachings the pupil has had in the primary school, as well as the musical skills he/she has gained within primary school. Unfortunately, at the transition from primary to secondary education, other subjects may well become more important to pupils than music. Maybe this is a result of poor or insufficient provision of music within primary education, or because of the perceived significance of other subjects. Therefore, it is possible that pupils, even those who like and are good at music, may well drop the subject as it becomes an optional part of the schools curricula (Bentley, 1975).

As Finney and Tymoczko (2003) state, '[the] pupils' voice is seen as a valuable source of educational evaluation and agent for school improvement'

(p.26). Indeed, an awareness of pupils' voices as heard in relation to secondary music education in Cyprus may well be vital in evaluating (and improving) the situation of music within Cypriot schools. Moreover, according to Sanderson and Savva (2004), positive pupils' attitudes are necessary for learning to occur. In their study, they identified pupils' attitudes towards artists in primary schools of Cyprus. They reported that knowledge of pupils' attitudes towards artists and their roles in schools could provide useful information for all involved in the educational experience, including artists, teachers, head teachers, curriculum planners and government administrators. Ball (1990) also highlighted the powerful role of pupils in relation to music education, and he characterized a bottom-up phenomenon whereby teachers and curriculum-makers 'learn' from pupils.

With regard to pupils' views of studying music in school, class music may be liked or disliked by pupils for a range of different reasons. In their study of music pupils in the UK, Hargreaves *et al.* (2002; 2003) found that the main reasons for liking class music were the opportunities for the pupils to play a variety of instruments, to compose music in groups, and to experience contact with professional musicians. The main reason for some pupils disliking class music was due to the necessity of learning 'dry' facts about music, especially in secondary schools.

Pupils' attitudes play an important role in the way that a music module might be delivered and received. According to Regelski (1975), the way that music education is carried out in schools can affect pupils' attitudes in learning situations; sometimes the pupil is aware of the learning situation and if poor provision is made, it is likely that the pupil will 'drop out' and certain unfavourable attitudes may be nurtured. In contrast, pupils who are well supported are more likely to perceive music in a favourable light, hence they will express positive attitudes towards musical activities (Button, 2006).

Methodology

The central research question of this study was as follows: what are pupils' attitudes towards music education in secondary schools in Cyprus? In order to investigate this question, a questionnaire survey was carried out with an emphasis on collating quantitative data. According to Crowl (1996), quantitative research methodology is used to examine questions that can be best answered in numerical form. The questionnaire included closed- and open-ended questions (a copy of the questionnaire can be obtained from the author). There were a few differences between the questionnaires used for Gymnasium and Lyceum pupils, due to the optional character of the module within Grades B and C in the Lyceum (explained below). The questions were constructed after careful analysis of the Cypriot music curriculum, and related international and Cypriot literature on music education.

As an exploratory pilot study, the questionnaire was distributed in three secondary schools of Paphos (Cyprus). Cypriot secondary education divides into two cycles, namely the lower, or Gymnasium (ages 12-15), and the upper, or Lyceum (ages 15-18). The sample included three secondary schools: one Gymnasium and two Lyceums and involved 44 final year pupils aged 14 of one Gymnasium and 38 pupils of grades A, B and C of two Lyceums. With regard to the pupils in the Lyceums, the music module was obligatory for the 15 pupils of Grade A (aged 15), whereas for the 12 pupils of Grade B (aged 16) and 11 pupils of Grade C (aged 17), the music module was optional. The sample of Gymnasium questionnaires consisted of 22 (50%) girls and 22 (50%) boys and the sample of Lyceum questionnaires consisted of 24 (63.2%) girls and 14 (36.8%) boys. The data were analyzed using SPSS (Statistical Package for the Social Sciences), which is among the most widely used programs for statistical analysis in the field.

The Findings

From a total of 82 pupils (100%), the majority (65%) across the Gymnasium and Lyceums played a musical instrument (Table 1). The results indicated that more females pupils play a musical instrument than male pupils (Table 2).

Table 1. *Participants who played a Musical Instrument (according to school/grade)*
Count

		A1a		Total
		yes	no	
class	grade c gymnasium	29	15	44
	grade a lyceum	8	7	15
	grade b lyceum	9	3	12
	grade c lyceum	7	4	11
Total		53	29	82

The results of this study also showed that the majority of pupils (95%) in the Gymnasium enjoyed the way that music module was carried out (Table 3). This was mainly because of the teacher who was described as friendly and encouraged person. The personality of the teacher, to some extent thus affected the pupils' attitudes towards the subject. Only 2 pupils (4.5%) did not enjoy the way that the music module was carried out because they either did not like music or they were not interested in the music module.

Table 2. *Participants who played a Musical Instrument (according to gender & school/grade)*

Count

Gender			A1a		Total
			yes	No	
male	class	grade c gymnasium	13	9	22
		grade a lyceum	2	4	6
		grade b lyceum	5	1	6
		grade c lyceum	2	0	2
	Total		22	14	36
Female	class	grade c gymnasium	16	6	22
		grade a lyceum	6	3	9
		grade b lyceum	4	2	6
		grade c lyceum	5	4	9
	Total		31	15	46

Table 3. *Indications of Enjoyment for the Music Module by Gymnasium Pupils*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	42	95.5	95.5	95.5
	No	2	4.5	4.5	100.0
	Total	44	100.0	100.0	

Lyceum pupils (94.7%) also like the way that music module was carried out (Table 4). The main reason given for this response was due to their interest in music or because they liked watching DVDs during the lesson. Only 2 pupils (4.5%) did not enjoy the way that the music module was carried out either because they did not like theory/harmony or because they were not interested in the music module.

Table 4. *Indications of Enjoyment for the Music Module by Lyceum Pupils*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	94.7	94.7	94.7
	No	2	5.3	5.3	100.0
	Total	38	100.0	100.0	

The Gymnasium pupils liked the content of the music module. In particular, they liked singing and playing music. With regard to the Lyceum, the majority of the pupils liked the content because it enhanced their knowledge of music history and different genres of music. The minority of pupils who did not like the content of music module stated that they did not like the material of the book, or because there was limited time to play/perform music.

Most of the pupils in the Lyceum (92.1%) believed that the music module as provided in their school was satisfactory (Table 5). Only a small number of pupils (7.9 %) felt that the music module was not satisfactory, and this was mainly due to the large number of pupils in the class.

Table 5. *Indications of Satisfaction about the School's Provision of the Music Module*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	92.1	92.1	92.1
	No	3	7.9	7.9	100.0
	Total	38	100.0	100.0	

The majority of pupils in the Gymnasium and Lyceum did not learn any other instrument in school apart from the recorder (18.2%). Only three pupils (3.6%) responded that they learned the piano in school. Many pupils (35.6%) responded that they learned to play an instrument with a private tutor, outside the school, and this was construed as a negative attitude towards provision in schools (Table 6).

Table 6. *Types of Instrument & Placement of learning for Participants*

class * A1b * A1c Crosstabulation

Count

A1c		A1b								Total
		none	aulos	piano	drums	guitar	violin	bouzouk	flute	
i dont play any in	class grade c gymr	15								15
	grade a lyceu	7								7
	grade b lyceu	2								2
	grade c lyceu	4								4
	Total	28								28
school	class grade c gymr		11	2						13
	grade a lyceu		2	0						2
	grade b lyceu		2	1						3
	Total		15	3						18
private tutor out	class grade c gymr		0	2	3	2	1	4	1	13
	grade a lyceu		0	3	2	0	0	0	0	5
	grade b lyceu		1	2	1	0	1	0	0	5
	grade c lyceu		0	5	0	1	0	0	0	6
	Total		1	12	6	3	2	4	1	29
family	class grade c gymr		1	2	0	0				3
	grade a lyceu		0	0	0	1				1
	grade b lyceu		0	2	0	0				2
	grade c lyceu		0	0	1	0				1
	Total		1	4	1	1				7

The majority of participants responded that they preferred Popular music (37.8%), while Classical (9.7%) and Jazz (3.6%) genres received the lowest ratings. Popular music is not included in the curriculum of the Gymnasium and Lyceum for the music module, which suggests a potential negative attitude (Table 7).

Table 7. *Participants' Musical Preferences*

		A1d							Total
		classical	jazz	Pop	rock	traditional	laika	Electronic	
class	Grade c gymnasium	4	2	16	8	3	6	5	44
	grade a lyceum	1	0	7	5	0	1	1	15
	grade b lyceum	1	1	5	2	2	0	1	12
	grade c lyceum	2	0	3	1	2	1	2	11
Total		8	3	31	16	7	8	9	82

The proportion of pupils involved in extra-curricular music activities in the Gymnasium and Lyceum, such as choir (Table 8) and orchestra (Table 9) was very limited; from a total of 82 pupils, only 20 (24.3%) were involved in such extra-curricular music activities within school. This shows a lack of involvement in musical activities by the majority of participants.

Table 8. *Indications of Involvement in School Choir*

		A2a		Total
		yes	No	
class	grade c gymnasium	0	44	44
	grade a lyceum	4	11	15
	grade b lyceum	5	7	12
	grade c lyceum	2	9	11
Total		11	71	82

Table 9. *Indications of Involvement in School Orchestra*

		A3a		Total
		yes	no	
class	grade c gymnasium	2	42	44
	grade a lyceum	2	13	15
	grade b lyceum	4	8	12
	grade c lyceum	1	10	11
Total		9	73	82

Most pupils of the Gymnasium and Lyceum did not know how to describe their voice (as soprano, alto, tenor or bass). From the total number of participants, only 11 pupils from the lyceum (13.4%) were able to describe their voice (Table 10).

Table 10. *Indications of Response to knowing Voice Type (SATB)*
Count

		A2a		Total
		yes	No	yes
class	grade c gymnasium	0	44	44
	grade a lyceum	4	11	15
	grade b lyceum	5	7	12
	grade c lyceum	2	9	11
Total		11	71	82

Gymnasium pupils responded that they preferred the music module to be optional and not obligatory, because, from their point of view, not all pupils are interested in the subject and it is not considered to be core. Only six pupils (13.6%) answered that the music module should be obligatory because it enhances their learning (Table 11). However, the majority of Gymnasium pupils in Grade C believed that having music lessons once a week and for only 45 minutes was not satisfactory (Table 12).

Table 11. *Indications about the Music Module as Obligatory/optional*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Optional because I am not interested	4	9.1	9.1	9.1
	Optional because not all pupils are interested	25	56.8	56.8	65.9
	Obligatory: Relaxing	9	20.5	20.5	86.4
	Obligatory: Learning	6	13.6	13.6	100.0
	Total	44	100.0	100.0	

With regard to the use of music computer programs which are supposed to be taught to Lyceum pupils, as the findings of the study show, there is no such use of music software or hardware. Lyceum pupils indicated that the music module would be better taught with the use of technology.

Table 12. *Indications about Satisfaction with Frequency of Music Lessons*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	9	20.5	20.5	20.5
	No	35	79.5	79.5	100.0
	Total	44	100.0	100.0	

Finally, the majority of pupils in the Gymnasium (Table 13a) and Lyceums (Table 13b) stated that they learned music better outside of the school with a private tutor because they learned more things and there was more time for personal development.

Table 13a. *Preferences for learning Environment (Gymnasium Pupils)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	School	17	38.6	38.6	38.6
	private tutor, out of school	25	56.8	56.8	95.5
	family, home	2	4.5	4.5	100.0
	Total	44	100.0	100.0	

Table 13b. *Preferences for learning Environment (Lyceum Pupils)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	School	13	34.2	34.2	34.2
	Private tutor, out of school	24	63.2	63.2	97.4
	family, home	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Discussion

To summarize, the analyses of the pilot-study showed evidence of positive attitudes towards the study of certain aspects of the music module in school, but less evidence of satisfaction for practical aspects. The factors relating to the positive attitudes were found to be linked to the delivery of the module in the classroom: pupils' attitudes were strongly influenced by the personality of the teacher and the way that the teacher carried out the lessons. Negative attitudes were constructed about the practical requirements of the music module, such as participation in extra-curricular music activities like choir and orchestra. The limited participation of pupils in extra-curricular activities can be considered as alarming since, as the MOEC (2003) states, 'attitudes can be measured by the degree to which pupils participate particularly in extra-curriculum activities (p.13). The findings of the study regarding this issue are different from the research carried out by Hargreaves et al., (2003) who found that a large number of pupils in England participated in extra-curricular music activities.

Gymnasium pupils responded that having music lessons once a week for only 45 minutes was not satisfactory, due to the limited time devoted to the subject. In addition, pupils in both the Gymnasium and the Lyceum show evidence of limited knowledge with regard to some important music issues, such as the description of their voice (soprano, alto, tenor, bass). Another finding of the study was that the majority of the participants played a musical instrument, and the results also indicated that more females' pupils play a musical instrument than male pupils. Yet, the majority of the pupils learned to play an instrument with a private tutor, outside school. In addition, pupils responded that they felt they learned music better outside of school with their private tutor because they received lessons in one-to-one contexts.

With regard to the curriculum, pupils felt that the music module should be optional in both the Gymnasium and the Lyceum because not everyone was interested in the subject. Pupils expressed preferences towards pop music, although this area was not covered within the curriculum. Moreover, despite the fact that music technology and the use of computer software is suggested within the curriculum of the Lyceum, pupils responded that they were not exposed to any kind of music technology and they did not use computer software in their music classes. Nevertheless, pupils in the lyceum felt that the music module could be carried out in a more interesting way with the use of computer music programs. Thus, pupils' attitudes towards music education were positive in some ways and negative in others.

Conclusion

This pilot study explored pupils' attitudes towards music education in the Gymnasium and Lyceum and focused on a variety of key issues, including curriculum provision and extra-curricular learning. It should be noted that the findings of this study could not be generalized as being representative for all pupils of Cyprus. Nevertheless this study was unique in exploring the attitudes of pupils towards music education in secondary schools of Cyprus and is a topic that has not been investigated before. There are various points which need further and wider exploration. A larger survey will be carried out henceforth with wider issues incorporated as part of a PhD project in order to include more pupils from a range of Gymnasium and Lyceum schools. It is hoped that wider evidence about pupils' attitudes towards music education in Cypriot secondary schools will enable deeper insight into the topic.

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Part B
Quantitative Studies

11

Students' Perspectives on Themselves and on School Work – Contributing to the Construction of Evaluation Scales

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This study accounts for the construction of two evaluative scales meant to gather the students' perspectives on some dimensions of their functioning, thus providing useful information for the pedagogical intervention. Because these scales are still being constructed, readjustments may take place before their final version. In this presentation, we identify these scales and their goals, comment on their construction process and present their areas of incidence. We also clarify aspects of the construction of their items and debate the procedures and the results of the tests they were submitted to. Finally, we point out the upcoming works, based on the results we have obtained.

Goals, Process of Creation and Characteristics of the Scales

Goals and Origin of the Scales

Both Scales are meant to characterize children, between the age of 8 and 13/14, on different aspects of their daily life, mainly their learning difficulties and their preferences; in other words, to acknowledge what they think about their preferences and what they can or cannot do. These aspects are particularly important for the pedagogical intervention in the perspective of the significant learning (Ausubel, 2000) and the differentiated instruction (Heacox, 2001; Tomlinson & Allan, 2002).

One of the scales is called the Academic Scale (AS) because it is meant to assess aspects directly linked to the competencies and contents of academic programs; the other scale is called the Pro-Academic Scale (PAS) for it is centered on learning processes and general learning issues, which also have an

impact on school results. The content of these two scales resulted at first from the articulation between a review of the literature in this area and the results of a previous study (Serpa, Caldeira & Gomes, 2008). In it, we analyzed the opinion of students from the 1st to the 6th grade on what they thought and felt were their interests and difficulties or concerns[1] having in mind the official curricula. The studies made in this area were taken under consideration, namely a multiple intelligence perspective (Gardner, 1983, 1999; Nöel, 2007), the linguistic abilities (Halliday, 1973; Miller, 1976; Hayes & Flower, 1980; Crowder, 1982; Crystal, Fletcher & Garman, 1983; Rondal, 1997), the critical processes for the intelligent behavior (Sternberg, 1985) and the non intellectual personal variables, as well as the contextual ones, related to the school situation (Rotter, 1966; Seligman, 1975; Weiner, 1985; Bandura, 1986). All this information contributed to the creation of the dimensions and items of both Scales (Serpa, Caldeira & Gomes, 2009). In this initial phase, it seemed important to consider a higher number of dimensions and items, which will hopefully decrease in the validation process. We will now look in detail at each one of them[2].

Academic Scale (AS)

The Academic Scale is composed by 157 items and by the following dimensions: *Linguistic*, *Logical-Mathematical*, *Naturalist*, *Visuo-Spatial*, *Audio-Musical*, *Motor Coordination and Corporal Expression* and, finally, *Sources of Help*, which corresponds to a single item. Students must choose only one answer for each one of the remaining 156 items, among five possibilities (1 - *never*, 2 - *rarely*, 3 - *sometimes*, 4 - *many times*, 5 - *always*). In *Sources of Help*, the student should state if he asked for support in dealing with the difficulties pointed out in the previous items of the Scale. If so, he is asked to specify to whom he asked for help.

While structuring the dimensions of this Scale, both aspects related to the reception of the information apprehended by the student and aspects related to his production of information and its use in his relationship with the world were taken under consideration. Therefore, we tried to include, in a balanced way, on the one hand, items expressing actions or situations of understanding and, on the other hand, actions or situations of production. We will now analyze the structure of each one of the dimensions.

The *Linguistic* component is extremely important in a child's development and in all school work, particularly in the early school years when children learn to write. The linguistic competencies are very important in a student's profile. In this dimension we looked up for aspects linked to the four basic principles of language structure (phonology, syntax, semantics and pragmatics), either in oral or written communication. Therefore, in oral

[1]While collecting data for this study, children who could not write made some drawings and were interviewed; the other ones gave their answers in a written composition.

[2]We will not treat the dimension of *Motor Coordination and Corporal Expression*, in the AS, and the dimensions of *Health* and *Family*, in the PAS for, as we will see, the statistical results obtained while analyzing each dimension led us to remove them from the scales.

language, some items account for the understanding of the sounds of language (*I easily get the sounds that form a word*), and some for the student's ability to produce language (*I can easily say words starting with the same sound*)[1]. When it comes to syntax, *I understand the teacher's instructions on a task I must do* refers to comprehension and *When I want to talk, I have trouble connecting the words* to oral expression. In the semantic field, we may find items of comprehension (*I know the meaning of the words people use when they talk to me*) and expression (*When I speak, I feel like I don't have the words I need to express what I want*). In the pragmatics of oral language, we included items such as *I understand the purpose of the assignments requested by the teachers*, when it comes to understanding, and *through my speech, I manage to convince others of my point of view*, when it comes to expression.

As for written communication, in the reading field, the items pointed out to phonetics (*While reading, I mingle words with similar sounds*), syntax (*I am able to identify the main idea of a text the teacher assigns me to read*), semantics (*When I read I know the meaning of the written words)* and pragmatics (*I read in order to learn things that I'm not aware of*). When it comes to writing, we used items such as: *While writing words, I mix up letters with similar sounds* (phonetics), *When I write a text, it's difficult for me to create sentences (*syntax), *I feel I lack words to write what I want* (semantics) and *I write having in mind the person who is going to read what I wrote* (pragmatics).

Generally, in this dimension, we explored diversified linguistic abilities which contribute to render knowledge and thinking clearer and more elaborate.

The importance given to the *Logical-Mathematical* dimension is mostly due to the fact that mathematics helps to develop the students' curiosity and their capacity to formulate and solve problems. Mathematical reasoning distinguishes itself from any other for having logical rules, where, for example, the induction, the deduction, the analogy, the proportionality and the use of symbols play an essential role in the construction of concepts. To create the items for this dimension, we explored, once again, aspects connected to understanding, on the one hand, and to the student's production capacity, on the other hand, having in mind that, until the 6th grade, mathematics curricula emphasize the following thematics: i) numbers and calculation, mainly the exploration of numbers and the rules of operations (*I am able to know the result of an exercise without making all the operations* and *I enjoy solving exercises or games with numbers*); ii) geometry, mostly issues on measures and representations in space (*When I look at buildings, I am aware of their geometric forms* and *I can make a cube from a card board*); iii) solving problems/ logic, mainly concerning everyday situations (*If I have a problem, it's hard for me to know how to solve it* and *I enjoy solving difficult or challenging exercises*). A special role was also given to the strategies associated to proportional reasoning (*I enjoy sorting objects by their shape,*

[1]The examples of items given in this text were chosen among others to illustrate the contents of each dimension.

size, color or other characteristics), which give meaning to quantitative relationships and to the comparison of proportions, as well as to abstraction (*It's hard for me to understand proverbs or sayings*), for it allows us to understand if the student perceives himself as being able to generalize and synthesize messages.

We gave special attention to the *Naturalist* dimension, not only for its connection with some areas of the *curricula* related to the natural and urban environment, but also due to children's curiosity in apprehending the world around them. This urge to understand the surrounding environment may be seen in items such as *The life of animals awakens my curiosity* or *I am interested in knowing different jobs*. The protection of nature by children, regarding them or what surrounds them, can be seen in *I like walking on foot* or *I participate in garbage recycling*. When structuring this dimension, different ecological and vital abilities related to people, animals and the urban and natural environment were taken under consideration.

The contents of subjects such as *Plastic Expression and Education* or *Artistic and Technological Education* are closely related, in schools, to what is called the *Visuo-Spatial* dimension. The items of this dimension point out to visual discrimination (for example, *When I look at images, I notice details that other people don't see* and *My drawings have a lot of details*, referring to understanding and expression, respectively), the organization of areas (*It's difficult for me to read graphs, tables or maps*, when it comes to understanding, and *It's hard for me to draw*, when it comes to expression), spatial organization (*It's easier for me to remember faces than names* and *I can fold and glue very easily* are an example of items related to the ability of understanding and expressing, respectively) and visuo-spatial creation (*I enjoy looking at images that might seem nonsense*, when it comes to understanding, and *I enjoy creating schemes, tables or drawings related to the school contents that I'm studying*, when it comes to expression). The main subject is the students' ability to orient themselves in space, to visualize and to graphically represent visual or spatial ideas, having in mind the visual perception, whether objectively describing reality, or transforming these perceptions to accomplish some goals (Armstrong, 1994).

The Audio-Musical dimension is related with the contents of the subjects *Musical Expression and Education* or just *Musical Education*. While constructing its items, we took under consideration the comprehension of sounds, as well as their production and recreation in musical plays, which depends on audio-musical sensitivity and the knowledge of audio-musical techniques and implies mastering concepts such as pitch, rhythm and beat. These principles led to the creation of items such as *I can sing along a song when I hear it*, *I can notice when songs have different rhythms* or *It's difficult to understand the final part of words* (understanding), and *I enjoy imitating nature sounds* or *I like making musical sounds using parts of my body* (expression). The understanding of sounds can thus be global, if they are based on an intuitive appreciation, or analytic, when a more formal, segmented or technical approach is done to a certain melody (Armstrong, 1994). On the other

hand, we shouldn't forget that the ability of audio discrimination is particularly relevant for the acquisition of spoken and written language. The existence of similar sounds in some words may make it harder to grasp the messages.

Pro-Academic Scale (PAS)

Initially constituted of 157 items related to three major areas and their dimensions, the Pro-Academic Scale is focused on the identification of instrumental aspects of intelligence, as well as variables of individual and interpersonal level; these aspects may influence student results as well as the child's behavior at school. The areas and dimensions of PAS are: *Attention and Memory*, *Interpersonal* (*Aggression, Victimization, Acceptance*), *Intrapersonal* (*Motivation, Self-concept* and *Self-discipline*), *Health* and *Family*. Children answer according to the previously described *Likert*-type scale. Similarly to the AS, the PAS also questions students on whether or not they ask for help in case of difficulties or problems. This is done in the dimension *Sources of Help*, consisting of a single item, the last one, raising the total of items to 158.

The main principle of the PAS is the possibility of acknowledging the students' perspectives on an eventual influence of non-cognitive variables in their accomplishments and their school behavior. Researchers have been stating that this group of variables complements intellectual variables, when it comes to students' performances and their educational experiences.

In this case, the approach to each one of the dimensions (when it comes to formulating their items), is not as closely connected to school contents, due to the transversal nature of its possible area of influence. Let us now provide a brief exemplification.

On what the dimensions of *Attention* and *Memory* are concerned, educational literature (Almeida, 1993) mentions three moments when solving a problem: receiving and decoding the information (in-put), relating the information (processing), and answering (out-put). In order to assure the success of the first moment, students should, among other aspects, learn how to control their attention and be conscious of whether or not they are able to attend for different activities/events simultaneously; they should also be aware of the disturbance caused by interferences or distractions to the situation, among others. In order to acknowledge the ideas children have about the way they function in this domain, we created items such as *I notice details that are important to understand the subject that is being studied*, *As the teacher explains the subject of the lesson, I write these explanations on my notebook* and *I manage to be focused and study anywhere*.

Retaining knowledge and being able to use it are both essential conditions to any learning process. Learning implies durable acquisitions, which will have to remain in one of the systems of the human being. Educational research on school learning leads to the idea that 'students who get better results in their initial performances also retain the acquired knowledge longer and show less decline of this knowledge'[1] (Marques, 2005: 184). Although this situation

[1]Translated from the original quotation, in Portuguese [Translator's note]

depends on the original level of acquisition of the information, it also depends on long term retention. The spacing effect must equally be taken under consideration. Even if authors may disagree with some of the given explanations, many consider that if the study or the practice of information is spaced rather than studied in a shorter period of time (e.g. Bahrick & Phelps, 1987) there is a higher level of retention. In order to acknowledge the way children work on this level we created items such as these: *I prefer studying a subject throughout some days, instead of doing it all in the same day*, *Homework helps me remember what I've studied in class* or *After classes, I can easily recall the main ideas*.

The *Interpersonal* dimension emphasizes, generically, the perception children have of the relationship between them and their interpersonal school world. It points out to situations that tend to be considered of *Aggression*, *Victimization* or *Acceptance*. It tries to assess how a child feels in school (as well as in other interactive contexts), for this kind of variables is believed to influence how students get involved in the educational institution. This participation in the school world has been seen as a way to undermine and prevent weak academic performances as well as school dropouts (Gest, Welsh, Domitrovich, 2005). Like João Lopes and his collaborators (2006), we believe that school is mostly a place for academic learning, which explains the importance academic performance has in school popularity. We must thus point out the importance of providing for the necessary conditions so that students may highlight their social abilities in school or overcome their insufficiencies. This can only occur if we manage to know the potentialities and difficulties students have in the relational domain. To exemplify how this dimension has been handled, here are some of the items we created: *I think people at school fear me*, *People say bad things about me or my body (fat person, stammerer, dummy, etc.), I am one of the first ones to be chosen to play*.

Finally, through the *Intrapersonal* dimension, we mean to asses how children tend to react to school and school tasks, when it comes to their wish and their will to learn, their self-confidence and their curiosity or interest. We try to acknowledge how the student describes and evaluates himself, and how he talks about himself and his life story. We also intend to understand how children perceive and interpret their social environment and how they handle the need to make efforts to reach goals. All of these aspects can be considered non-intellectual personal variables (on *Motivation*, Self-discipline and Self-concept), and they have an important influence on the performance levels and the educational experiences (Barros & Almeida, 1991; Veiga, 1995). Some items that can illustrate these aspects are: *I enjoy studying, in order to make me feel proud and satisfied with myself*, *I am a nice person* or *I have better grades in subjects I am good at*.

Methodological Procedures

The exploratory study of the metrological characteristics of the Scales was made, for the AS, with 154 students of both sexes, aged between eight and thirteen, in two different educational levels (Table 1).

Table 1. AS – *Sample Distribution by Age, Educational Levels and Sex*

Age	1st level (3rd and 4th Grades)		2nd level (5th and 6th Grades)		Total
	Female	Male	Female	Male	
8	16	11	0	0	27 (18%)
9	22	21	0	0	43 (28%)
10	5	10	12	13	40 (26%)
11	1	0	13	8	22 (14%)
12	0	0	5	5	10 (7%)
13	0	0	2	3	5 (3%)
14	0	0	3	3	6 (4%)
Total	44 (51%)	42 (50%)	35 (52%)	32 (48%)	153(100%)
	86 (56%)		67 (44%)		

In this Table, we notice that most students are 9 to10 years old, with a residual percentage of thirteen year old students. There is an incidence of pupils in the 1st educational level (3rd and 4th grades).

The distribution of the sample of the PAS is presented on Table 2.

Table 2. *PAS – Sample Distribution by Age, Educational Levels and Sex*

Age	1st level (3rd and 4th Grades)		2nd level (5th and 6th Grades)		Total
	Female	Male	Female	Male	
8	15	11	0	0	26 (17%)
9	22	22	0	0	44 (30%)
10	5	10	10	12	37 (25%)
11	1	0	20	6	27 (18%)
12	0	0	1	9	10 (7%)
13	0	0	0	4	4 (3%)
Total	43 (50%)	43 (50%)	31(50%)	31(50%)	148 (100%)
	86 (58%)		62 (42%)		

In this Table, the characteristics of the sample are similar to the ones used for the AS.

The collection of data was made in a classroom and lasted approximately 50 minutes for each Scale. All doubts related to the formulation of the items were clarified and registered, since they will be accounted for in the construction of the new version of the Scales.

A database was built in the SPSS, version 16.0, from which the study of the internal consistency of the dimensions of each Scale was made. The statistical procedure followed for this type of analysis was the Alpha of Cronbach (1971),

due to its reliability when it comes to the treatment of instruments with Likert-type items. There are a certain number of factors that must be taken under consideration when interpreting reliability coefficients. These are important indicators of the consistency of a measurement instrument. The interpretation of the reliability coefficient depends on the degree of variability of the scores amongst the subjects who more or less possess the characteristic or dimension which is being measured.

Results & Discussion

This version of the Academic Scale presented acceptable values of internal consistency for almost all of its dimensions or sub-scales (Table 3).

Table 3. *Study of the Internal Consistency of the Dimensions of the AS*

Academic Scale			
Dimension	**Initial number of items**	**Final number of items**	**Cronbach's Alfa**
Linguistic	55	55	0.889
Logical-Mathematical	28	28	0.840
Naturalist	16	16	0.829
Visuo-spatial	23	23	0.817
Audio-musical	19	16	0.774
Motor Coordination and Corporal Expression	15	13	0.637

The *Linguistic* dimension is the one with the highest value of internal consistency, followed by the *Logical-Mathematical*, the *Naturalist* and the *Visuo-spatial*. All the values of these dimensions, according to Nunaly's table (1978), can be interpreted as *Good*. According to the same author, the value for the *Audio-musical* dimension is *Reasonable*; the one for *Motor Coordination and Corporal Expression* is *Weak*. Thus, we come to the conclusion that the items used to measure each one of the dimensions or sub-scales are well adjusted to their nature, fit for a more generalized application, excepting the dimension of *Motor Coordination* and *Corporal Expression*, which will be excluded. However, we mean to include some of its items in other similar dimensions, since the psychomotor dimension is an area of the child's development that mustn't be neglected by the school. On the other hand, even after the removal of this dimension, this Scale remains too extensive, considering the age of the children to whom it will be applied, and it also requires too much time for its application; it is therefore important to do a close study of its more consistent items.

The results of the Pro-Academic Scale (Table 4) were also interpreted according to the Nunaly's table (1978) and the values obtained from the reliability analysis were acceptable for the majority of the dimensions being studied.

Table 4. *Study of the Internal Consistency of the Dimensions of the PAS*

Pro-Academic Scale			
Dimension	**Initial number of items**	**Final number of items**	**Cronbach's Alfa**
Attention	22	22	0.706
Memory	13	7	0.703
Interpersonal - Aggression	24	24	0.878
Interpersonal - Victimization	10	9	0.715
Interpersonal - Acceptance	14	14	0.754
Intrapersonal - Motivation	18	16	0.719
Intrapersonal – Self-concept	11	11	0.708
Intrapersonal – Self-discipline	31	28	0.774
Health	8	7	0.649
Family	6	6	0.163

Aggression is the dimension with the highest Cronbach's Alpha, it has a consistency level of *Good*. According to the same author, the following dimensions were rated as *Reasonable*: *Attention* and *Memory*, which depend on instrumental aspects of intelligence; *Acceptance* and *Victimization*, included in the *Interpersonal* domain; *Self-discipline*, *Motivation* and *Self-concept*, on the *Intrapersonal* level. The levels obtained by *Health* and *Family* were, respectively, *Weak* and *Bad*; they will therefore be removed from the PAS. Similarly to what happened to the dimension removed from the AS, some of the items from the dimension Health and Family may be included in similar dimensions of the PAS, specifically when it comes to aspects emphasized by children in the first exploratory study that led to the initial structure of these Scales.

The results from this Scale also indicate that it is possible to move on to a more extensive application of the dimensions presenting a higher internal consistency. However, the number of items that compose this Scale needs to be reviewed, since the reduction of only thirteen items is insufficient, mainly if this Scale is meant to be highly used (Gronlund, 1976).

Conclusion

With these Scales we tried to embrace the most diverse areas of the student's functioning. Therefore, we started out with a significant number of dimensions (a total of sixteen) and items to assure a global vision of the student's perspective on his strong and weak areas. However, after its experimental application, we realize that three dimensions will be removed and that the remaining items, although being consistent in their dimensions, are still in an excessive number. It is, therefore, important to continue an exploratory analysis of the data, using *univaried*, *bivaried* and/or multivaried data *analysis'*

methods, in order to get useful knowledge from the data, enhancing the use of Factorial Analysis and Classificatory Analysis.

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12

Relationship between High School Students' Self (Ego) Identity Status and Aggression Behaviors

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Aggression is behavior which intends to harm physically or psychologically others and it is a very old phenomenon (Tuzgöl, 2000). Aggression concept is a multi dimensional concept like concepts used in behavioral sciences. For that reason this concept has different meanings in psychiatry, neurology, social psychology and psychology's different sub branches. The concept which is used with aggression is violence and these two can be used for each other. Violence is described as using physical power or force in an injustice way for depriving others from some rights (Morrison & Morrison, 1994).

When related literature is examined it is seen that anger and aggression are usually used together too. According to Özmen (2004) using these two concepts together causes some misunderstandings such as messing them up and perceiving them as synonymous concepts (Özmen, 2004). However the developments in psychology and other social sciences ought to be observed these two concepts separately. Anger which is the most natural emotion constitutes of emotional base of aggression. Struggles and problems in human relations cause temper, anger and aggression (Bilge, 1997). However this situation changes person to person because showing anger depends on learning. Besides because of differences in showing anger, individual is more open to attack and critics.

Aggression is not tolerated morally because of its harmful nature to common life of human beings (Mitscherlich, 2000). However, anger is a natural and legitimate feeling with other feelings which individual has. Especially stress which occurs when organism feels threat constitutes a chain reaction for protecting itself (Atkinson, Atkinson, Smith, Ben & Hoeksama, 1994). For that reason aggression generally occurs as a direct expression of anger (Köknel, 1995). When literature about aggression is examined there is classification of aggression such as physical, verbal, symbolic, emotional, sexual, political, destructive etc. (Fromm, 1982; Özgüven, 2001).

There are several approaches which try to explain the reasons of aggression and its sources. These approaches observe the reasons of aggression as personal factors and factors independent from persons. Theoretical analyses depending on personal reasons try to explain the reasons with biological, instinctive and psycho-social causes. Individual is aggressive because s/he was genetically coded like that or structural abnormalities (hormonal disorders or brain damage) cause aggression. Theories focused on factors independent from persons developed a discourse which depends on social and cultural variables.

Based on Erik Erikson's groundbreaking work on identity and psychosocial development in the 1960s, Canadian developmental psychologist James Marcia refined and extended Erikson's model, primarily focusing on adolescent development. Addressing Erikson's notion of identity crisis, Marcia posited that the adolescent stage consists neither of identity resolution nor identity confusion, but rather the degree to which one has explored and committed to an identity in a variety of life domains from vocation, religion, relational choices, gender roles, and so on (Marcia, 1966). Marcia's theory of identity achievement argues that two distinct parts form an adolescent's identity: crisis (i.e. a time when one's values and choices are being reevaluated) and commitment. He defined a crisis as a time of upheaval where old values or choices are being reexamined. The end outcome of a crisis leads to a commitment made to a certain role or value (Marcia, 1989, 1994).

Upon developing a semi-structured interview for identity research, Marcia proposed Identity Status of psychological identity development:

- **Identity Diffusion** - the status in which the adolescent does not have a sense of having choices; he or she has not yet made (nor is attempting/willing to make) a commitment.
- **Identity Foreclosure** - the status in which the adolescent seems willing to commit to some relevant roles, values, or goals for the future. Adolescents in this stage have not experienced an identity crisis. They tend to conform to the expectations of others regarding their future (e.g. allowing a parent to determine a career direction) As such, these individuals have not explored a range of options.
- **Identity Moratorium** - the status in which the adolescent is currently in a crisis, exploring various commitments and is ready to make choices, but has not made a commitment to these choices yet.
- **Identity Achievement** - the status in which adolescent has gone through a identity crisis and has made a commitment to a sense of identity (i.e. certain role or value) that he or she has chosen.

Note that the above statuses are *not* stages and should not viewed as a sequential process. The core idea is that one's sense of identity is determined largely by the choices and commitments made regarding certain personal and social traits. The work done in this paradigm considers how much one has

made certain choices, and how much he or she displays a commitment to those choices. Identity involves the adoption of 1) a sexual orientation, 2) a set of values and ideals and 3) a vocational direction. A well-developed identity gives on a sense of one's strengths, weaknesses, and individual uniqueness. A person with a less well-developed identity is not able to define his or her personal strengths and weaknesses, and does not have a well articulated sense of self. To better understand the identity formation process, Marcia conducted interviews with young people. He asked whether the participants in his study (1) had established a commitment to an occupation and ideology and (2) had experienced, or were presently experiencing, a decision making period (adolescent identity crisis). Marcia developed a framework for thinking about identity in terms of four identity statuses.

In this research it was tried to observe the relationship between self (ego) identity status and aggression behavior levels. It is seemingly important that whether self (ego) identity status and aggression have relationship between each other, when previous researches which are about mentioned variables are considered. This research's aim is to determine the relationship of self (ego) identity status and aggression by considering character qualities of Turkish high school students.

Methodology

This research uses a survey method. Relational survey with comparison between dependent and independent variable was conducted. The data were collected in order to observe the relationship between self (ego) identity status and aggression behavior levels.

Participants

The research scope was constituted of 435 high school students whose ages differed from 15 to 18. "Self (ego) Identity Status Scale" and "Aggression Questionnaire" were used in order to collect the data. Research indicated that there was a significant relationship between the students' (successful, uncertain, dependent and confused) aggression levels and their self (ego) identity status.

Procedure

The time when the questionnaires would be conducted to sample classes was determined. The sample classes were determined by random sampling method. The participant information form, Self (ego) Identity Status Scale (SISS) and Aggression Questionnaire (AQ) were conducted together. Before the gathering data process started the directions had been read to the students. The questionnaires were collected according to the classes and they were classified. Statistical analyses were made on data gathered from 435 participants.

Instruments

Participant information form, Self (ego) Identity Status Scale (SISS) and Aggression Questionnaire (AQ) were the instruments used in this study.

Participant information Form: was constituted of 16 close ended items in order to determine the demographic features of the respondents such as gender, socio economic level etc. this form was developed by the researcher.

Self (Ego) Identity Status Scale (SISS Extended version of the Objective Measure of Ego Identity Status (EOMEIS-2; Bennion & Adams, 1986): Bennion and Adams (1986) developed the extended version of the Objective Measure of Ego Identity Status (EOMEIS-2) from earlier efforts begun by Adams, Shea, and Fitch (1979). The aim was to provide a self-report alternative to the semi-structured interview as a means of determining identity status. The scale consists of 64 items to which participants respond on a 6-point alphabetical Likert scale (A-Strongly agree to F-Strongly disagree). These items represent the two principal domains in identity formation: ideological and interpersonal. Sample items include: (1) (ideological Achievement) "I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe" and (2) (interpersonal Diffusion) "I haven't really thought about a 'dating style'. I'm not too concerned whether I date or not." Of the 64 items on the EOMEIS-2, there are eight for each of the identity status-by-domain level (e.g. ideological Achievement, interpersonal Moratorium, etc.) The scores on the statuses can be collapsed across the ideological and interpersonal domains to yield a score for each participant on each of the four statuses, measuring their degree of endorsement of statements relating to each status. Adams (1998) reports correlations of .38–.92 for the two domains. In our sample, correlations had a median value of .45 (Diffusion, .27, Foreclosure, .60, Moratorium, .52, Achievement, .39). After finding very similar results with respect to procrastination for both ideological and interpersonal status scores, and in consultation with the EOMEIS-2 scale developer (G.R. Adams, personal communication, January 24, 2007), we collapsed the ideological and interpersonal domains for the purposes of this study. Adams (1998) reports reliability estimates for the EOMEIS-2 from two large samples (n = 317, n = 274) Internal consistency of the subscales ranged between .67 and .77. Split-half reliabilities ranged from .37 to .64. Test–retest reliabilities ranged over a four week period from .63 to .83. Adams (1998) reports Cronbach's alphas for the eight different status-by-domain subscales range from .58 to .80, with a median of .63. In the current study, Cronbach's alpha for the four status scores ranged from .67 to .87, with a median value of .74. Adams (1998) reports that a team of 10 graduate students established face validity for the EOMEIS-1 by mapping the identity status items into the appropriate status categories with 96.5% agreement. In a review of numerous studies, Adams (1998) provides good evidence of predictive, concurrent, discriminant, and constructs validity. For example, predictive and concurrent validity was confirmed by the correspondence to theoretical prediction of the correlation of identity subscales with measures of self-acceptance, intimacy, and authoritarianism. Discriminant validity was indicated by negative or non-

significant correlations between identity scores and other scores that are not predicted to correlate (nine indices of academic achievement, vocabulary and social desirability) which ranged from −.25 to .22 and accounted for 6.25% of the variance. Construct validity evidence was drawn, among other sources, from six factor analysis studies which demonstrated theoretically consistent results. However, in five of these studies, Moratorium and Diffusion were shown to share common variance and could be judged to load on a common factor. Finally, the EOMEIS-2 was found to have convergent validity with the interview methods of assessing identity status (Adams, 1998; Schwartz, 2001).

Aggression Questionnaire (AQ): which was developed by Buss and Perry (1992) was used in order to measure the aggression levels of the respondent students [20]. The questionnaire is an updated questionnaire which is used to evaluate anger and aggression. This questionnaire has 34 items and 5 sub dimensions which are "Physical Aggression", "Verbal Aggression", "Anger", "Hostility" and "Indirect Aggression". While the lowest score from this questionnaire is 34, the highest score is 170. The evaluation of the scores is according to factor, the scores taken from whole questionnaire are not used. The highest score which was taken from every single sub dimension determines that individual has aggression behavior according to that factor. The test again test scores which were made by Buss and Perry differ from .72 to .80. Cronbach alpha coefficient is for total measurement for first test is r=0.913, for retest is r=0,915; for sub dimensions are physical aggression r=0.832-0.854, verbal aggression r=0.599-0.361, anger r=0.728-0.740, hostility r=0.740-0.757, indirect aggression r=0.539-0.361. The gathered findings for this study in reliability procedure are r=0.843 for physical aggression, r=0.651 for verbal aggression, r=0.712 for anger, r=0.765 for hostility and r=0.523 for indirect aggression. These findings were accepted as an indicator of having high interior validity and reliability of the questionnaire.

Findings

Independent Samples t test was applied in order to determine the differentiation of students' aggression levels according to gender. The findings are given in Table 1.

Table 1. *Mean, Std. Dev. and t Values about Differentiation Levels according to Gender*

	Gender	N	Mean	Std. Deviation	t	p
Physical	Female	203	18.21	7.08	**2.487***	.013
	Male	232	19.85	6.66		
Verbal	Female	203	12.17	3.50	1.116	.265
	Male	232	12.57	3.91		
Anger	Female	203	19.83	5.83	1.010	.313
	Male	232	20.37	5.35		
Hostility	Female	203	17.16	4.91	.367	.714
	Male	232	17.34	5.15		
Indirect	Female	203	14.41	5.16	1.882	.060
	Male	231	15.31	4.75		

*p<.05

Table 2. *ANOVA, Means, and Standard Deviations Values related self (ego) Identity Status on the Aggression Scale Sub Dimensions*

Aggression	Identity Status	N	Mean	Std. Deviation	f	p
Physical	Achievement	73	15.93	6.88	**9.802***	.001
	Forclosure	131	19.13	6.26		
	Moratorium	99	18.59	6.18		
	Diffusion	132	21.16	7.37		
Verbal	Achievement	73	11.98	4.03	.420	.739
	Forclosure	131	12.35	3.53		
	Moratorium	99	12.59	3.42		
	Diffusion	132	12.49	3.99		
Anger	Achievement	73	20.05	6.49	.200	.897
	Forclosure	131	20.39	5.22		
	Moratorium	99	19.82	5.15		
	Diffusion	132	20.12	5.73		
Hostility	Achievement	73	17.41	6.01	.062	.980
	Forclosure	131	17.22	4.83		
	Moratorium	99	17.10	4.26		
	Diffusion	132	17.31	5.23		
Indirect	Achievement	73	15.02	5.32	**5.121***	.002
	Forclosure	131	16.20	5.23		
	Moratorium	99	14.07	4.48		
	Diffusion	131	14.13	4.61		

*p<.05

When Table 1 is examined, the average score of female students is X=18.21 and male students' average score is X=19.85. t value, which was

calculated in order to test the significance of difference between score average, is 2.484. This value shows that there is a significant difference between average scores in .05 level. According to this result male students' aggression levels are significantly higher than female students' aggression levels.

On the other hand there is no significant difference in verbal aggression, anger, hostility and indirect aggression sub dimensions of AQ, when t values were calculated in order to test whether there is a significant difference or not.

ANOVA was applied in order to determine aggression levels of students' differentiation situation according self (ego) identity status. The findings were given in Table 2.

When the findings related aggression levels according to identity status of students are examined, the highest average in physical aggression sub dimension is belonged to students who have diffusion identity status and foreclosure, moratorium and achievement identity status follow respectively. There is a significant difference between groups in .05 level ($f=9.802$; $p<.05$). When the findings in Table 2 are examined, there is a significant difference in indirect aggression sub dimension. In this sub dimension foreclosure identity status individuals have the highest average score ($X=16.20$) and achievement, diffusion and moratorium identity status follow respectively. In indirect aggression sub dimension there is a significant difference between groups' average scores in .05 level ($f=5.121$, $p<.05$). When the findings in verbal aggression, anger and hostility sub dimensions are examined, there is no significant difference between groups.

TUKEY test results were given in Table 3 in order to determine the source of the difference in physical aggression and indirect aggression sub dimensions.

Table 3. *Tukey Test Results related Aggression Scale Sub Dimensions according to Identity (ego) Status*

Dependent Variable	(I) Identity	(J) Identity	Mean Difference (I-J)	Sig.
Physical	Achievement	Foreclosure	**-3.20590***	.006
		Moratorium	-2.66445	.060
		Diffusion	**-5.23516***	.000
	Foreclosure	Moratorium	.54144	.930
		Diffusion	-2.02926	.069
	Moratorium	Diffusion	**-2.57071***	.021
Indirect	Achievement	Foreclosure	-1.17871	.353
		Moratorium	.95669	.585
		Diffusion	.88999	.599
	Moratorium	Moratorium	**2.13540***	.006
		Diffusion	**2.06870***	.004
	Moratorium	Diffusion	-.06670	1.000

The source of the difference in physical aggression sub dimension comes from the average scores of individuals with achievement identity status with foreclosure and diffusion identity statuses. According to findings physical aggression average scores of individuals, who have achievement identity status, are significantly lower than physical aggression average scores of individuals, who have foreclosure and diffusion identity status when a comparison made. In other words, individuals, who have foreclosure and diffusion identity status, are more physically aggressive than individuals, who have achievement identity status.

The source of the difference in indirect aggression sub dimension comes from the average scores of individuals with foreclosure identity status. According to findings indirect aggression average scores of individuals, who have foreclosure identity status, are significantly higher than indirect aggression average scores of individuals, who have moratorium and diffusion identity status when a comparison made. In other words, individuals, who have foreclosure identity status, are more indirectly aggressive than individuals, who have moratorium and diffusion achievement identity status.

Pearson correlation coefficients were calculated in order to determine the level of relationship between students' self (ego) identity status and aggression behavior. The findings were given in Table 4.

Table 4. *Pearson Correlations between Self (ego) Identity Status and Aggression*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Physical	-	.443**	.471**	.426**	.321**	**-.163****	-.063	**-.101***	.083
2. Verbal		-	.491**	.476**	.273**	-.035	-.053	-.020	.020
3. Anger			-	.684**	.526**	.021	.021	-.063	**-.098***
4. Hostility				-	.428**	.043	-.028	-.059	-.057
5. Indirect					-	.083	**.166****	-.071	**-.133****
6. Achievement						-	.175**	.188**	-.295**
7. Foreclosure							-	-.005	-.129**
8. Moratorium								-	.000
9. Diffusion									-

When findings in Table 4 were examined, there is a negative significant relationship between achievement identity status and physical aggression. According to this finding if average score of achievement identity status increases, average score of physical aggression decreases. On the other hand there is a positive significant relationship between foreclosure identity status and indirect aggression. According to this finding, if average score of foreclosure identity status increases, average score of indirect aggression also increases. Another finding about relationship between self (ego) identity status and levels of aggression states that there is a negative significant relationship between moratorium identity status and physical aggression. There is also a

negative significant relationship between diffusion identity status and anger and indirect aggression. According to these findings while average score of moratorium identity status increases, average score of physical aggression decreases in a significant way. Average score of moratorium identity status increases, whereas average scores of anger and indirect aggression decrease in a significant way.

Discussion

In this study it was found that there is a significant difference between gender's average scores in .05 level. According to this result male students' aggression levels are significantly higher than female students' aggression levels. Males are more likely to effect from exterior factors than females. In current research when the differentiation of respondents' behaviors were observed according to gender, there was a significant difference in physical aggression, verbal aggression, anger and hostility sub dimensions except indirect aggression. This differentiation is in the favor of male respondents. The male university and high school students' physical aggression levels are significantly higher than female students. The difference in verbal aggression, anger and hostility sub dimensions is because of the average scores of male students. It can be said that this difference was caused by the different attitudes in raising child strategies. In other words there are different behaviors either in social environment or in family in Turkish culture. The behavior including aggressive behaviors from males are approved unlikely, the females cannot behave like that. This situation causes that the males are more physical aggressive than females. It can be said that males are physically aggressive, whereas females are verbally aggressive (Soykan, 1993; Çobanoğlu Güner, 2006). Findings of Bjorkquist (1994) and Bettencourt and Miller (1996) support this research result (Bjorkquist, 1994; Bettencourt and Miller, 1996). These researches determined that males are more aggressive than females. All of the research findings which observed the differences between male and female aggression determined that males were aggressive at least physically compared to females. The reasons for this result are teaching gender roles and hormonal variables. Individuals in development process take the same sex as role model. However this process reaches a particular level with age. Scharf (2000) found that verbal aggression does not differentiate according to gender but physical aggression is acted by males (Scharf, 2000).

In current study there is a negative significant relationship between achievement identity status and physical aggression. Moreover there is a positive significant relationship between foreclosure identity status and indirect aggression. Also there is a negative significant relationship between moratorium identity status and physical aggression. There is also a negative significant relationship between diffusion identity status and anger and indirect aggression. One of the studies about self (ego) identity (Benda, 2004) study

supported the relation between self (ego) identity and aggression behaviors, because it was found that there were transforming experiences for individuals with a co-occurring aggression that attenuated the potency of certain predictors of readmission, The transforming experiences also reduced the prediction effects of aggression. A major transforming experience in this study was found to be enhanced self (ego) identity. Erikson (1968) described self (ego) identity as serving a variety of functions, including inner continuity, coherence and synthesis of successive identifications, and protection against experiences of sudden discontinuities that are caused by adversities, such as those discussed in this study. Identity formation involves exploration and commitment. This study suggests that cognitive and psychodynamic treatments and services should be directly aimed at exploration of and commitment to a specific set of goals, values, beliefs, and behavioral patterns (Marcia, 1966). Services that improve family and other relationships, spiritual well-being, and work satisfaction will strengthen the elements of social bonding, which, in turn, reinforce identity formation. Vocational and psychiatric services are essential as well as those supporting ego identity (Galanter, 2002). Findings of this study suggest that women benefit from improved relationships, perhaps because they are generally more social. The data also suggest that men benefit from improvements in society, because the men in this study had low scores on these measures initially. In conclusion, the inferences drawn from this study are limited by a lack of longitudinal data, self-reports from persons who may have problems with recall, and investigation of only one site. However, this study offers preliminary findings that transforming experiences may increase tenure in the community and could reduce recidivism if services directly target these experiences (Benda ,2004).

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13

The Prevalence and Nature of Bullying in Primary Schools: A Sample of Turkey

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In contrast to the traditional educational systems that focus on students' academic achievement, contemporary educational systems also give an importance to improving the physical, emotional and social skills of students. Moreover, schools have one of the most important functions to train people as happy, productive and adapted to the community. Therefore, schools have been seen not only as teaching institutions but also institutions that contribute to the personality development of students.

Negative experiences in schools can cause students to become alienated from schools, and the most important reason of this alienation is bullying. Mostly, schools that have almost no bullying behaviour are perceived as safe and happy places by students.

When compared to other social areas, schools have been seen as the most safe places. But lately, the negative situations happening in schools have begun to threaten the school managers. Thus, some preventive measures should be taken in schools to prevent bullying.

Studies on bullying began in the 1970's primarily in Norway, Sweden and Finland. Especially, the Norwegian researcher, Dan Olweus's book *Bullying in Schools* published in 1978 has an important role in the study of bullying. More recent research has been conducted in the United Kingdom, Australia, and United States. There are several definitions of bullying. Some researchers include within the classification of bullying any and all intentionally aggressive behaviour toward others, whereas other researchers specify that aggressive behaviour directed toward others must be carried out repeatedly in order to be classified as bullying (Griffin & Gross, 2004).

Olweus is one of the scientists who defined and studied the concept of bullying. Olweus (1993) noted that individuals and groups can be either the aggressor or the target in a bullying relationship and that bullying can include teasing, exclusion, physical aggression, threats, or gestures. One example of group aggression is the special case of ''mobbing,'' in which a group of

children demonstrate repeated aggression towards one or more of the same victims. In the 1980's, he changed the term of "mobbing" and began to use "bullying" and also began to use the term "individual aggression."

Olweus (1999) defined school bullying or victimization in the following general way: A student is being bullied or victimized when he or she is exposed, repeatedly and over time to negative actions on the part of one or more other students. In this definition, he underlines the two dimensions of bullying (Direct/Physical and Indirect/Verbal). In Olweus's definition (1996), the phenomenon of bullying is thus characterized by the following criteria:

1. It is aggressive behaviour or intentional "harm doing,"
2. It is carried out "repeatedly and over time," and
3. It is in an interpersonal relationship characterized by an imbalance of power.

Rigby and Slee (1991) defined bullying as a systematic power abuse. Bullying can emerge in different contexts. In the school context, we can see different bullying behaviour forms as student-to-student, teacher-to-student, student-to-teacher, and indeed teacher-to-teacher. But the form of teacher-to-teacher is a kind of workplace bullying.

The psychological and social effects of bullying are not only limited to school years but also an important risk factor for children during the rest of their lives. Bullying also affects both the bully and victim. Students who are bullied have problems such as anxiety, anger, helplessness, depression, low academic achievement, hopelessness, isolation, loneliness. Also, bullies most probably face the same problems along with increasing age. With regard to the negative effects of bullying, victims who were exposed to bullying during school years mostly have depression and low self-esteem, and this situation can affect their adulthood negatively. Victims therefore can face some problems to get in touch with others because of their low social skills (Batsche & Knoff, 1994; Hazler, Hoover & Oliver, 1991; Olweus, 1993).

Types of Bullying

Bullying behaviour, like aggression, can assume several different forms and functions. Salmivalli et al. (1996) emphasized that bullies are the people who organize and start the bullying or reinforce by watching the act of bullying.

Crothers and Levinson (2004) described three types of bullying with regard to the literature. Olweus (1993) defined two types of bullying, "direct and indirect." Direct bullying involves relatively opens attacks on a victim. Indirect bullying is in the form of social isolation and intentional exclusion from a group. Later, he added one more type of bullying, which consists of direct verbal aggression.

Piskin (2005) distinguished bullying into five categories: physical bullying, verbal bullying, exclusion, rumour, and damages to ones goods (tears one's book, etc.).

Frequency of Bullying

Research on bullying indicates that bullying is widespread in every part of the world. For example, almost 10% children in Norway, Ireland, and Australia reported that they were bullied at least one or two times in a year (Boulton & Underwood, 1992; Whitney, Nabuzoka & Smith, 1992). Also, 20% of children in England and Canada reported that they were victims of bullying at school in a year (Charach, Pepler & Zegler, 1995).

A cross sectional study among 35 countries indicated that 35% of adolescents reported that they were bullied at school at least once in a few months, and 34% of them reported they were exposed to bullying at school at least one time in a few months (Currie, et al., 2004). A study among high school students in Istanbul showed that 9.2% of adolescents bully at least one time during the second term, 22% of adolescents were exposed to bullying, and 9.4% of adolescents both bullied others and were exposed to bullying (Alikasifoglu et al., 2007).

The Age of the Bully and Victim

Bullies generally bully their peer groups who are in the same age and grade group. Victims are generally well known by the bullies (Bidwell, 1997). Moreover, victims are less bullied with increasing age (Smith, Madsen & Moody, 1999). The levels of physical bullying in high schools are less than in primary schools. The students' social skills development can be the reason of this finding. Thus, researchers hypothesized that bullying is a developmental process. Hazler (1996) claimed that bullying reaches the top level between ages 9 to 15. Eslea and Rees (2001) pointed out that 73% of students in their sample reported that they were frequently bullied between ages 11 and 13. Also, they found that there was a tendency for bullying to decrease with increasing age, and verbal bullying was not called bullying during this period.

Gender of the Bully and Victim

Carney and Merrell (2001) reported that male students are both bullies and victims more than female students. O'Moore and Hillery (1989) emphasized that 12.5% of male students and 5-6% of female students are frequently exposed to bullying. Olweus (1993) found that more than 60% of bullied girls (in grades 5-7) reported being bullied mainly by boys. In

addition, 15-20% said that they were bullied by both boys and girls. The great majority of boys, on the other hand, more than 80%, were bullied chiefly by boys. Hazler et al. (1991) reported that 73% boys and 27% girls were bullied. The nature of bullying behaviour among primary Greek school children was investigated in a study of 1312 pupils. The study shows that most of the bully and bully victims are males. Also, boy bullies engaged in more direct physical bullying, while girls bullied indirectly. There was a tendency for bullying to decrease with increasing age and take a more indirect form (Paterika & Hounoumadi, 2001). The study, totally 845 students from Turkish High Schools, pointed out that 29.7% boys and 11.8% girls were victims; 38.9% boys and 18% girls are bullies. Also, bullies are mostly upper grade students, and victims are mostly composed of younger students (Piskin & Ayas 2005).

Places Bullying Occurs

A great deal of researchers reported that bullying occurs in school more than out of school (Olweus, 1978; Ziegler & Rosenstein-Manner, 1991). School gardens are the typical places where bullying occurs, followed by general, corridors, classes, canteen and toilets (Bidwell, 1997). Buchanon and Winzer (2001) emphasized that students reported bullying mostly occurred in school gardens because of the absence of teachers. In another study, teachers reported bullying mostly occurred in the school garden, followed by general, corridors, classes and canteen (Ziegler & Rosenstein-Manner, 1991). Zindi (1994) pointed out that bullying occurs mostly in dormitories, then school gardens, toilet and classes at boarding schools. The study of 1,154 primary school students shows that bullying mostly appears in class (58.20%) and in school gardens (41.70%) (Piskin, 2003).

Studies on bullying are limited in Turkey, although it has been increasing recently. The consequences of bullying are important in primary schools in favour of educational and psychological aspects as how size and what type of bullying students are exposed. This study was carried out to investigate how bullying differentiate with gender, grade level and demographic variables.

Method

Participants

Participants of this study were the students attending 6^{th}, 7^{th}, and 8^{th} grades, totalling 914, at public primary schools in Ankara. The students of this study were composed of 335 girls (47.6%) and 479 boys (52.4%), attending 6^{th} grades (301, 32.9%), 7^{th} grades (345, 37.7%) and 8^{th} grades (268, 29.3%) at primary schools in Ankara.

The survey model employed for this study was a questionnaire distributed to the students and returned by them to the teachers.

Measure

"Peer Bullying Questionnaire," developed by Pişkin (2003) was distributed to the students to determine bully and victim situations. The questionnaire can be used by 4th grade and upper grades. Academicians, teachers' and students' thoughts were taken into the process of developing the questionnaire. In the light of these aspects and suggestions, the necessity adjustments were undertaken, and some pilot applications applied in selected schools that represented low, medium and high socio-economic levels to control with respect to language, statement and clarity.

Findings

The aim of this study was to investigate what types of bullying students face and how it affects them so that the frequency of bullying can be determined. Frequency and percentage analysis were employed to analyze the data.

Results show us in favour of where the bullying behaviours occur as follows: "Physical bullying" occurs in class 39.9%, in corridors 19.5%, in school gardens 14.9% and in canteens 10.2%. "Verbal bullying" occurs in class 50.5%, in corridors 17%, in school gardens 17.8% and in canteens 7.9%. "Exclusion" occurs in class 13.2%, in school gardens 8.2%, "usurpation" occurs in class 13%, "slander" occurs in class 26.1%, in corridors 4.6% and in school gardens 5.5%.

When students were asked what they do when they are bullied, 29.6% of students said they want help from adults, 27% of students said they react, 16.5% said they want help from their friends, 16.4% said they tell them to stop bullying, and 16.3% said they cry when they are bullied.

Also, when students were asked who did the bullying, 35.7% of students said "a boy," 17.5% of students said "a group of boys," and 11.4% of students said "a girl." The results show that boys tend to express more bullying behaviour than girls.

Besides, 30.3% students said their classmates bully them, 21.9% of students said upper grade students bully them, and 13.7% of students said students in different classes bully them. According to these results, students mostly face bullying behaviour by their classmates.

Students were also asked when they face bullying, and 40.8% of students said during "recess," 21.9% of students said out of school, and 11.9% of students said before the beginning of the lesson. The results show that bullying behaviour occurs mostly during recess.

When asked who helps them, 39.2% of students said their friends, 22.5% of students said their family, and 21.6% of students told their teachers help them when they face bullying. So, we can say that students' friends mostly help them when they are bullied.

Students were also asked how much bullying does matter in schools, 37.5% students said "it's quite a major problem," and 25.3% said "it's just a problem." Thus, bullying is seen as a big problem at schools.

Discussion

In this study, it was found that boys tend to bully more than girls. The studies on bullying behaviours among peer groups indicate that gender is an important factor in favour of bullying behaviours and found that boys tend to show more bullying behaviour than girls (Carney and Merrell, 2001; Olweus, 1993; O'Moore and Hillery, 1989; Pişkin and Ayas, 2005).

Also, verbal bullying occurs more than the other types of bullying. Our finding is supported by previous studies on bullying (Baldry and Farrington, 1999; Perreira et al., 2004; Kepenekci and Cınkır, 2006).

Results show that most of the bullying behaviour occurred in "class," next in "corridors," and lastly in "school gardens" at school. Furthermore, there are some studies indicating the same findings (Olweus, 1978; Ziegler and Rosenstein-Manner, 1991).

With respect to bullying time, research findings indicated that bullying took place during "recess". Also, Gökler (2007) found that bullying also took place during "recess",

The findings of this study indicate that bullying is a common problem at schools. It can manifest itself in different types, places and times. Bullying occurs in classes, in corridors and in school gardens. Moreover boys tend to demonstrate more bullying behaviour than girls. Schools should therefore take the necessary preventions to reduce the overall effects of bullying within the school environment. Furthermore, schools should revise and rearrange the places where students spend their spare time, to make them safe and enjoyable.

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14

Values Education Program and its Outcomes

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Values are elements most effective in guiding people's behaviors and shaping their lives throughout a lifetime. In the process of education, the acquisition of cognitive behaviors is emphasized most, whereas affective characteristics are ignored as their acquisition takes a long time and it is relatively hard to make children acquire and observe such characteristics. This study therefore aims to determine the effects of the values education curriculum designed to equip primary pupils with the pre-specified values on pupils' values-related affective characteristics.

People who do not have values clear to themselves are not clear with their aims, what they support and stand against, where they are headed in the future and why. When people's values are not clear, they become insufficient in controlling their lives and identifying criteria for selecting what to do with their time and energy. Thus, the ability to uphold values is a precious gift given to them. However, very few people have real, clear and open values (Raths et al, 1966).

According to Rokeach (1973), the concept of value may be used to refer to a person's values or an object's worth. A value is enduring belief that a specific mode of conduct or end-state of existence is personally or socially prefereable to an opposite or converse mode of conduct or end-state of existence. And also values serve as standards or criteria to guide not only action but also judgment, choice, attitude, evaluation, argument, exhortation, rationalization, and ... attribution of causality.

Schwartz (1992) has defined the concept of value as cognitive representations used for arranging people's behaviors as well as their biological needs, and needs related to social interaction or social institutions. According to Schwartz's theory, values define as conceptions of the desirable that guide the way social actors (e.g. organisational leaders, policy-makers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations. In this view, values as desirable, transsituational goals, varying in importance, that serve as guiding principles in people's lives.

The main assumption in Schwartz's theory, the most important characteristic distinguishing values from one another is the *type of motivational goal* they express (Schwartz, 1992). The distinguishing characteristic of values is their motivational content. Values are the cognitive representatives of motivations related to the fact that people need to communicate with others to coordinate their important goals or behaviors (Bilsky&Schwartz, 1994).

Schwartz has grouped value types within themselves on two orthogonal dimensions. The first one contains the two polars. *Openness to change vs. conservation:* On this dimension, "self-direction" and "stimulation" values oppose "security", "conformity" and "tradition" values. Both of the former emphasize independent action, thought and feeling and readiness for new experience, whereas all of the latter emphasize self-restriction, order and resistance to change. Hedonism shares elements of both openness and self-enhancement. *Self-enhancement vs. self-transcendence:* On this dimension, "power" and "achievement" values oppose "universalism" and "benevolence" values. Both of the former emphasize pursuit of self-interests, whereas both of the latter involve concern for the welfare and interests of others (Schwartz, 1992).

The values emphasized in the values education curriculum designed for this study were *"open-mindedness, honesty, helpfulness, responsibility"*, which are within the scope of the *"universalism"* and *"benevolence"* value types.

Young people in the modern world suffer increasingly more from factors such as violence, social problems or lack of respect. Many parents and educators believe that the teaching of values may be an important part of the solution to these problems. Accordingly, children and young people should not only be taught knowledge but also how to be a better person and how to live together with differences. A quality education perceives humans as a whole and supports education that feeds the affective domain as well as the cognitive domain (UNESCO&Association for Living Values Education International, 2005).

Children start to learn values early in life. This starts in the family and continues with the effects of the media, friends, caregivers, teachers, the community and so on (Halstead&Taylor, 2000). As children grow up, the values of homes and communities, interests and the media become major influences on their personal development, especially in early adolescence. They have such an effect on adolescents that they may even outweigh the influences of the school, operate discordantly from or in parallel to it. This is not surprising given the fact that young people are engaged in a continuous process of exploring, making sense of, and arriving at their own beliefs, attitudes and values, testing them against the views and actions of peers, parents and TV (Taylor, 1996).

Values education is an open initiative for instruction in values, value development or value actualization. The real issue in values education is "Should the students be given social values to distinguish right from wrong, or should they be allowed to shape their own values?". Some educators emphasize values clarification, moral judgment and reaching consensus, thus giving the

students a central role in forming values and making decisions. The question at this point is whether virtues and proper behaviors should be taught or whether students should be allowed to decide for themselves what is right and what is wrong (Dale, 1994; Lickona, 1993; Superka et al, 1976). There is no universal answer to the question "Which values?". The right values will change from one society to another. Many educators therefore suggest communities to become involved in identifying and defining the virtues to be included in curricula. It has been stated that the identification of character traits that need to be developed at school needs to be done with the involvement and consensus of students, teachers, families, and school-parent association (Brynildssen, 2002; Vess&Halbur, 2003).

If we wish to make the world a better place for all, we need to place positive values at the heart of any education. Through activities aimed at raising awareness, good students may adopt behaviors based on values; and counseling through the exploration of values, education can offer more benefits (UNESCO &Association for Living Values Education International, 2005).

Different approaches exist to values education. The typology of values education was formulated for the first time in 1973 in a doctoral dissertation by Superka. He outlined five basic approaches to teaching values: Inculcation, moral development, analysis, values clarification and action learning (Superka et al, 1976). In this study, *"values clarification"* and *"moral development"* approaches have been used in the values education curriculum designed for 4th graders.

According to Kirschenbaum (2000), the best way to reach aims in values education is to use all approaches. The values clarification approach is in line with and supports universal values; on the other hand, students can be given traditional moral values such as respecting social values, patriotism or citizenship by using the inculcation or modeling approaches. Thus the values clarification approach helps the teaching and reinforcement of universal values.

The current study aims to identify the effects of a primary school level values education curriculum designed to equip students with the values of "universalism" and "benevolence" on students value-related cognitive behaviors, affective characteristics and performances. *In this paper* pupils' affective characteristics related to the values emphasized in the program and identify the level of values effects are presented.

The development of values and the importance given to a value by individuals may change through a lifetime. However, it is important to equip students with certain values starting from basic education, thus giving them a solid background in these values. The student can then use this solid background to further develop and internalize these values, and reflect them in his/her behaviors. The primary level values education curriculum designed for this study is also expected to bring about these benefits.

Schools and families try to socialize children, the fit between them is likely to be related to family socialization processes (Knafo, 2003). And also socialization processes and family relationships are interrelated. The effectiveness of socialization may be related to the talent of the child to adopt

someone else's perspective, to interpret parents' statements and behaviors, and the type and intensity of the effect triggered in the child (Grusec&Goodnow, 1994).

One of the classic issues in socialization has been the relation between compliance (in the presence of a socialization agent) and internalization (autonomous, internally regulated, rule-compatible conduct not requiring the presence of surveillance) (Kochanska, 2002).

According to Kelman (1958), social influence may occur at different levels. It is proposed that these differences in the nature or level of changes that take place correspond to differences in the process whereby the individual accepts influence. Three different processes of influence can be distinguished: compliance, identification, and internalization (Kelman, 1958).

People adopt the induced behavior not because he believes in its content but because he/she expects to gain specific rewards or approval and avoid specific punishments or disapproval by conforming. Identification can be said to occur when an individual accepts influence because he/she wants to establish or maintain a satisfying self-defining relationship to another person or a group. And internalization can be said to occur when individual adopts the induced behavior because it is congruent with his value system. He/she may consider it useful fort he solution of a problem or find it congenial to his needs. Behavior adopted in this fashion tends to be integrated with the individual's existing values. When an individual adopts an induced response through compliance, he/she tends to perform it only under conditions of surveillance by the influencing agent. When an individual adopts an induced response through identification, he/she tends to perform it only under conditions of salience of his relationship to the agent. When an individual adopts an induced response through internalization, he/she tends to perform it under conditions of relevance of the issue, regardless of surveillance or salience.

The values students attain and develop during the values education process will eventually affect their families, surrounding people and the whole society. Succeeding in this type of education, namely internalizing the values, reflecting the values to behaviors, will thus have positive effects on the interactions within the society as well as its future.

Method

This study aims to investigate the effects of the primary level integrated values education curriculum on the values-related affective characteristics students who participated in the program, and to identify the level of values effects. The study makes use of both qualitative and quantitative research design, known as the mixed method. Patton states that (1990) understanding this design is easier if the research methods, data collection and analysis elements of qualitative and quantitative approaches are distinguished. The study conducted interviews and observations to record the opinions and behaviors of participants, thus making the experimental research design

completely in harmony with qualitative definitions. The experimental design known as the "pretest-posttest control model" has been employed in the study. In both groups, pre and post-experimental measurements have been conducted.

Participants

The study was conducted in a state school attended by the children of families from lower and middle socio-economic backgrounds. The class 4-A was assigned as the experimental group, and the class 4-B as control group. Before identifying these classes as experimental and control groups, their equivalence was ensured through the following studies.

The pupils' academic success levels, their cognitive behaviors and affective characteristics with respect to the values emphasized in the program were tested. In order to examine the equivalence of students' academic success levels, the difference between their GPAs at the end of Grade 3 was tested.

The Mann Whitney U-test did not yield a difference between the 3rd grade scores of the experimental and control pupils in Life Studies, Math and Turkish courses (U=262,000 p=0,710>0,050; U=250,500 p=0,551>0,050; U=272,500; p=0,925>0,050).

In order to see their equivalence between the experimental and control students with respect to their cognitive behaviors and affective characteristics, an Open Ended Written Examination and a Multiple Choice Affective Characteristics Form was used.

According to Mann Whitney U-test, prior to the implementation of the program, no difference was found between the experimental and control students with respect to their scores assessing their values-related cognitive and affective levels (For cognitive behaviors; experimental group $\bar{X}$ = 2,88; control group $\bar{X}$ = 2,72 U=281,000 p=0,380>0,050; affective characteristics experimental group $\bar{X}$ = 26,23; control group $\bar{X}$ = 25,76 U=319; p=0,909>0,050).

Independent Variables

The independent variable of the study was the values education curriculum. A review of the literature shows that values education takes place either as a separate course or a project or integrated into other courses. It has been stated that values education is a part of life and thus needs to be integrated into other courses (Weber, 1998; Sinclair 2005). As a result, the values education curriculum in this study was decided to be integrated with primary school 4th grade Turkish, Social Studies and Science and Technology courses.

Following this, the primary level for this values education curriculum was chosen. This was done through following moral development rules and taking

the opinions of experts such as developmental psychologists and curriculum development experts, and as a result primary school 4th graders were chosen.

In the values education curriculum used in this study, the values of "open-mindedness, helpfulness, being responsible and honest" from the values types of "universalism" and "benevolence" were treated. These values were chosen following the opinions of experts and teachers. The resulting values education curriculum was designed by examining the values education literature and consulting experts and teachers. During this process, the *values clarification* and *moral development approaches* were followed.

In *values clarification* approach, the aim was to help pupils become aware of and identify their own values and those of other people; to enable open and honest communication about values between pupils and others; to assist the use of rational thinking and emotional awareness so that pupils would examine their personal feelings, values and behavior patterns (Superka et al, 1976).

While using the values clarification approach in the study, the following stages were taken into consideration: Allowing pupils to choose between alternatives: helping them discover, examine and choose from among available alternatives; making them ponder and then choose a value: assisting them in pondering the results of each alternative; choosing freely: identifying how choices were made in the past; encouraging pupils to prize their choices: encouraging them to think about what they prize and cherish; enabling pupils to express their choices to others; assisting them in acting and living in accordance with their choices; helping them to examine and establish repeated behivors or patterns of actions based on their choices.

The questions that are asked of the children are important in studies based on values clarification. These questions do not have right or wrong answers; the important thing is that children react in accordance with their personalities. They are basically assisted in finding the answer to the question: "why".

Another approach used in the study was the moral development approach. This approach aims to help pupils in developing complex moral judgment based on high-level sets of values, not only enabling them to share their reasons with others but also supporting the change in their judgment levels (Superka et al, 1976).

In line with this approach, the study used moral conflict stories consisting of the following stages. First, pupils were faced with a dilemma and presented with the content of the story, offering them assistance whenever necessary. Then pupils were asked to paraphrase the dilemma (to help them construct their individual stance and reasons), and they were given the opportunity to test their judgment of the dilemma. They were asked additional questions in order to reveal additional judgments about the moral issue and these were examined. Following this, pupils were made to express their judgment related to the issue. To be able to do this, they were asked to choose the best answer to the dilemma that reflected their feelings. They were then asked whether they believed that they chose the best answer for the issue/dilemma, and encouraged to precisely express their reasons about the dilemma.

No value was imposed on the pupils at any time during the study. The aim was to enable pupils to choose a way to make complex judgments, give them the freedom to choose from among the existing alternatives and to act accordingly, thus ensuring values development. In values education, values can only develop when pupils are allowed to speak out and explore their own values.

Dependent Variables

Tools prepared before and after the implementation of values education program have been applied for *affective characteristics* mentioned above in both experimental and control groups.

Affective Characteristics: In order to determine pupils' affective characteristics related to the values in the values education program, a Multiple Choice Affective Characteristics Form was designed. It was made of 8 items, each 2 of which were related to the same value. Each item contains short stories on the values in the program. After reading the stories, the pupils were expected to initially choose one of the three alternatives related to the story, and then one of the five alternatives in the same item. Pupils' answers to the form were not evaluated as right or wrong. The aim here was for the pupils to identify answers appropriate to themselves about the story. The form, which was designed by making use of the literature, was submitted for expert review (curriculum development experts, measurement and evaluation experts, developmental psychology experts, social psychology experts working in the field of values). The form was revised after expert review. The intelligibility of the form was tested by applying it on a pilot group. Final adjustments were made to the forms by considering the questions asked by the pilot group, the problems they reported about the questions and their answers. The form was tested once again another pilot group, and finalized when the test-givers did not report any negative opinion about the intelligibility of the form.

In order to test the reliability of the form, it was given to the same group twice under similar conditions and with a spacing of 3 weeks, and the relationship between the values obtained by the same people was considered. The test-retest method was used to make a reliability estimate (implemented on 150 pupils). The test-retest coefficient was 0,715 and concluded to be meaningful ($p=0,000<0,050$). For a tool of measurement to be used in studies, a reliability coefficient between .70-.80 is considered enough. And also may be well satisfied with a solid .70 (Özgüven, 1999; Popham, 2000). Especially for forms without one single answer such as the one used here, this can be interpreted as an indicator of a positive and strong relationship between the pretest and posttest. As a result, a high level of test reliability is revealed by a reliability estimate correlation close to 1.00. For research purposes, a useful rule of thumb is that reliability should be at least .70 and preferably higher (Özçelik, 1989; Fraenkel&Wallen 1993).

The consistency of the findings was tested by an interview form in addition to the tools mentioned above. The interview form was composed of 8 short stories and open-ended questions in order to determine the affective characteristics of pupils about the values in the program and to compare to the multiple choice affective characteristics form used in the study.

Effects of Values: In order to determine the effects of values on pupils, they were asked questions starting with "why" during the interviews and the data was used from the observations. In determining the level of the effects, Kelman's definition was used. According to Kelman (1958), influence occurs in three different processes: compliance, identification and internalization. These have been explained in the introduction of this article.

As has been mentioned before, quantitative data was collected prior to and following the study, while qualitative data was obtained before, during and after it. The two kinds of data thus complemented each other to make the study more detailed, realistic, concrete and holistic.

Before and after the study, the value-related affective characteristics of both groups were measured. Additionally, individual interviews were held with both groups before, during and after the study. And also observation were conducted before and during the study both groups. During the observations, student performances related to the values in the program were noted down. Camera recordings were also made in addition to writing down notes.

Data Analysis

In the study, the affective characteristics scores were analyzed within and across experimental and control groups. As the normality assumption was not met and the number of pupils in both experimental and control groups was below 30 (experimental group: 26 pupils, control group: 25 pupils), "non-parametric statistics" were used in the analyses. In comparisons within groups, "Wilcoxon Signed Rank Test for Paired Samples" was used and in comparisons across groups "Mann Whitney U-Test for Independent Samples" was used. Qualitative data from interviews and observations were analyzed by using content analysis.

Results

The value-related affective characteristics-related scores and qualitative data of the experimental and control group pupils are presented in this section.

In the group that received the integrated values education program, pupils' pre and posttest scores related to affective characteristics were considered. In the control group that did not receive the values education program, the pre and posttest results of the group were considered. Table 1 presents data analysis pertaining to the affective characteristics of experimental and control pupils.

Table 1. *U-Test Results of Posttest Scores of the Two Groups*

	Group	n	Mean Rank	Rank Sum	U	p
Story Assessment Posttest	**Experimental**	26	28,92	752,00	249,000	0,149
	Control	25	22,96	574,00		
	Total	51				

The Mann Whitney U-test revealed that no meaningful difference existed between the affective characteristics posttest scores of pupils who did and did not receive the integrated values education program (U=249,000; p=0, 149>0,050).

On the other hand, pupils who participated in the values education program chose more positive statements about values after the final implementation than they did before it. There was also consistency between the answers of these pupils to the parallel items in the form.

Apart from these, interviews focusing on the values treated in the program were held with both experimental and control group pupils. Pupils who participated in the values education program yielded rich and diverse qualitative data about values during the interviews.

When compared to pupils who did not participate in the program, those who did used more statements about values both during and following the program.

> **EG-ME:** *I think Ayla should tell the shop-owner that Seda stole his chocolates, she should tell her name and address (being truthful).*
> **EG-HKA:** *I think Kaan should tell the truth about Berk's composition. I don't think his friend will get upset, on the contrary he'll be happy; becuase his errors will be corrected (telling the truth for other people's wellbeing).*
> **EG-EBU:** *If Mehmet and Kemal stopped fighting and Mehmet tried to help Kemal, they might have a better relationship (helping someone even though they are not on good terms).*
> **EG-EBU:** *If a friend has not understood a subject and we don't help him, he will not be able to answer questions about that subject in future exams (helping others for their wellbeing).*
> **EG-ME:** *I think Esra should firstly fulfill the task given by the teacher, meet her responsibility, and if she has time she can go out to play with her friends (fulfiling a task without getting distracted).*
> **EG-H:** *Esra should meet her responsibilities towards her friends and teacher, she should do her homework (completing tasks).*
> **EG-İ:** *When his friends criticize his presentation, Murat should revise his work (reviewing one's own thoughts/actions when faced with criticism).*

EG-G: *Berk may have liked his own composition but if his friend has seen errors in it, he shouldn't get upset but think about these comments (reviewing one's own thoughts/actions when faced with criticism).*

Those who did not participate in the program, on the other hand, used more statements reflecting the opposites of values.

CG-MN: *Cenk promised to help his mom but he must play with his friends because he's missed them (not being true to one's word).*
CG-ME: *I wouldn't tell all the errors in Berk's composition to the teacher, I would just say there are few minor errors (lying).*
CG-Ş: *If Mehmet helps Kemal, then Kemal may help him when he needs it. He may also help Mehmet in classes and Mehmet may take better grades (helping in return to obtain a benefit).*
CG-M: *Mehmet should help Kemal because he may find himself in a difficult position one day and then Kemal may help him (helping in return to obtain a benefit).*
CG-ME: *Esra can go out with her friends instead of preparing for her presentation, she can do that the following week (not meeting deadlines for tasks).*
CG-K: *Esra can procrastinate her presentation assignment, she can play with her friends. If she doesn't, they may stop talking to her (getting distracted and not fulfilling tasks).*
CG-M: *Neslihan gets upset with her friend for not liking her drawing. Her friends get upset with Neslihan and shout at her, Neslihan retaliates by doing the same (not respecting other people's thoughts and emotions).*
CG-Ş: *Murat has studied hard for his presentation for two weeks, and sought information. Even though his friends may say negative things, Murat should add his work to his portfolio (not reviewing one's own thoughts/actions when faced with criticism).*

Experimental group pupils used 123 statements related to the values treated in the program in the interviews held during the program. After the program, they used 83 statements. The most commonly mentioned value was *being responsible*.

EG-H: *Esra should meet her responsibilities towards her friends and teacher, she should do her homework (completing tasks).*
EG-ME: *I think Esra should firstly fulfill the task given by the teacher, meet her responsibility, and if she has time she can go out to play with her friends (fulfilling a task without getting distracted).*
EG-G: *The entire group was responsible for preparing the invitation cards, when their own work was complete, those in the*

group could have helped Zeynep and Cenk (all members making an effort in groupwork).

Experimental group pupils commonly and consistently made values-related statements during and after the program, thus suggesting a positive change in values-related affective area.

The Effects of the Values in the Program on Experimental and Control Pupils

Experimental and control pupils were asked "Why" questions related to the values mentioned in the program prior to, during and after its implementation. The answers to these questions were analyzed together with the data from the observations prior to and during the program in order to determine the effects of the selected values on pupils. Here, Kelman's three influence processes were considered: compliance, identification and internalization (Kelman, 1958).

The data coming from the pre-program interviews and observations revealed the following about the effects of the selected values on the experimental pupils: One statement was identified on the compliance level and 10 on the identification level. On the latter level, statements seemed to focus mostly on *being honest* and *helpful*. In the control group, the pre-program data revealed 3 statements on the identification level about the values of *being helpful* and *responsible*. Prior to the program, data on the identification level was obtained from both experimental and control pupils. Such data obtained from the experimental group was more than that obtained from the control group. Pupils accept the influence because they want to form or maintain satisfactory self-defining relationships. Pupils who reveal identification believe in the opinions and behaviors they adopt. They are not interested in what others want but other's expectations for their own role performance. Therefore, the opinions adopted through identification are related to external resources and social support, and they do not integrate with the pupil's value system.

Data from the observations during the program and an examination of the work produced by pupils revealed the following about the level of effect that the values had on *experimental pupils*: A total 101 behaviors were displayed on the compliance level, 135 on the identification level, and 75 on the internalization level. The statements on the compliance level focused on *being honest*, whereas those on the identification and internalization levels they focused on *being responsible*. When the data obtained from interviews and observations prior to the program was compared with those obtained throughout the program, a significant increase was seen on all levels.

Data obtained from the observation of experimental pupils during the study and that obtained from the interview of experimental pupils during and after the program is consistent with each other. In all three groups of data, the statements on the identification level were generally high. However, the number of statements on the internalization level obtained from interviews during the program was higher than other levels. Internalization appears when pupils accept the influence as the conceptual and behavioral content of the

encouraged behavior is rewarded internally. Pupils internalize the rules, norms and values of the society because they view them as harmonious with their systems, can integrate them with their own value systems and use them to increase their values. In the control group, data on the compliance level was obtained once during the program. One pupil said that his fondness of classes relied on getting good marks or praise from the teacher.

In the control group, observation data during the program was rather shallow when compared to the pre-program data. While no data was found on the compliance level before the program, it was observed once during the program. Naturally, the data observed throughout the program related to the effects of values on pupils was much more diverse and rich in the experimental group than in the control group. This can be attributed to the implementation of the values education program in the experimental group. It was seen in the interviews and observations before, during and after the program that the experimental pupils mostly used statements on the identification level. The pupils identify the rules, norms and values of the society as they help them get to know themselves, and maintain and preserve their relationships. Naturally, the duration this study may have been inadequate to obtain data on the internalization level. In order to accept a value as internalized, one needs to conduct long-term observations of all elements related to that value and identify the consistency of the value throughout the process. In this study, the interviews and observations did not lead to the result that pupils had certainly internalized any of the values. Only clues were obtained about internalization through interviews and observations.

Discussion

No statistical difference was found in the study between experimental and control pupils, with respect to their posttest scores on story assessment related to values-related affective characteristics. However, particularly in the affective area, obtaining meaningful differences in a limited timeframe is rather difficult.

In order to identify pupils' affective characteristics related to the values in the program, quantitative data was collected by using forms, and at the same time, interviews based on stories were held with both experimental and control pupils before, during and after the program. Even though a statistical difference may not exist between the experimental and control pupils' values-related affective characteristic scores, interviews with pupils yielded rich data in favor of the experimental group.

In a study by Akar Vural et al (2006), it has been mentioned that with the use of drama in education, students may become aware of moral issues; and with the help of various problem situations conjured in the classroom with the guidance of the teacher, higher level thinking skills may be used to establish empathy with others and understand their moral values. Bulach (2002) states that success on such educational programs means a decrease in bullying and violence as these programs makes students more tolerant, polite,

compassionate and forgiving. In a different study by Duer et al (2002), a similar program has led to positive changes in students' respect and responsibility levels. Records kept by administrators show a decrease in unacceptable behavior.

Feedback from various countries to the Living Values Education Program designed with the help of UNESCO reported the following: An experienced 1st grade teacher in Iceland reported in her pupils an outstanding development in getting interested, showing respect and engaging in collaboration. A 2nd grade teacher from Lebanon stated that her pupils could now resolve their conflicts with friends. A 9-year-old pupil from Australia said that the course about values changed the way he felt about values and he discovered new things about himself, so the course was well worth his effort. In South Africa, secondary students who resorted to violence previously were reported to guide life values programs for their friends and displayed leadership for peace (UNESCO&Association for Living Values Education International, 2005).

It has been argued that in values education external pressures slow down value internalization while judgment triggers it. In this study too, pupils were encouraged to make judgments during the program. This is how they were encouraged to internalize the selected values.

In line with the findings obtained in our study, it can be said with confidence that programs that encourage the acquisition and internalization of socially beneficial skills, values and behaviors need to be integrated with the other disciplines in the curriculum. To this end, these programs need to be designed around skills and values, not subject-area content. Additionally, participants need to be in a consensus about the implementation of values education programs and these programs must be sincerely supported. In values education programs, no value should be imposed on students. They need to be able to choose freely, express and value their own choices, act accordingly and internalize the values. Course books need to be reviewed and, if need be, replaced. Also positive rol modelling should be presented in a learning process. Systematic work about values education should be made in all stages of education gradually and across all curricula.

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15

How Good is the Teaching of 'China' in Scotland's Secondary Schools?

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Scotland, like many other countries, is striving to expand its engagement at every level with the People's Republic of China (PRC). In seeking to establish deep and bilateral links, education clearly has a vital role to play. In August, 2006 the Scottish Government announced its "Strategy for stronger engagement with China" and set, as its first strategic objective "to raise understanding of Chinese language and culture in Scotland", (Scottish Government web-site). Mandarin has been introduced as an examinable subject, every local authority now has an 'International Education Development Co-ordinator' and 'Confucius Hubs' have been established in 8 Scottish Schools to disseminate information about Chinese language and culture.

Significant changes to national curriculum policy have added to the momentum. Introduced in 2004, and echoing principles found in many other countries that are introducing new educational policies generally aimed at preparing young people for the 21st Century, Curriculum for Excellence (CfE) seeks to encourage "successful learners, confident individuals, responsible citizens and effective contributors" (LTS, 2009). In 2008, the study of China was officially highlighted by Her Majesties Inspectorate (HMIe) as a key element in the skill development of pupils sought by CfE learning outcomes:

> "By comparing the lifestyle and culture of citizens in another country with those of Scotland, pupils will be able to discuss similarities and differences and be able to present conclusions about the effect of ideology on the lives of people".(1)

Assessing the extent to which the study of China has developed in Scottish curricular provision since 2004 is difficult to resolve. The new curricular initiatives are still being developed. They are specific in nature and the onset of the global recession may restrict the development spending of both local and national authorities.

There is, however, one long established mainstream subject taught in more than 80% of Scottish schools which can include China, as an optional theme of study, at every stage of its curricular provision, S1-S6. Introduced in 1962 Modern Studies is a multi-disciplinary subject, which includes elements of Economics, Politics, Sociology and International Relations, It "aims to give pupils and students the tools to analyse complex societal questions" across a wide range of local, national and international issues (Maitles, 2008). At the discretion of the Modern Studies classroom teacher, China as an option can be offered across the full range of the Modern Studies curriculum:

- to pupils in S1/S2 who study Modern Studies (more than 80% of the national cohort of children aged 12-14);
- to those thousands of students who choose Modern Studies as an examinable subject at Standard Grade (S3-S4 aged 14-16) Higher (S5-S6 aged 16-18) and Intermediate (S3-S6).

At a time when efforts are being made to increase engagement with China, this paper seeks to assess the responsiveness of this subject specific community of teachers to that call. It does so by critically assessing their willingness to engage with this optional curriculum change in regard to three key criteria: Provision, Pedagogy and Progression.

Methodology

An initial postal survey of every Scottish secondary school, public and independent, was conducted between November, 2007 – April, 2008. Sent to all 392 schools, it requested the 'person responsible for the delivery of Modern Studies' to provide both quantitative and qualitative information, with regard to the 3 criteria.

The quantitative information requested concerned the extent of Modern Studies provision in each school; the nature and extent of the teaching of China in the Modern Studies Curriculum through years 1 – 6 in those departments 'teaching China', and the identification of those departments 'not teaching' China.

Qualitative information was sought through structured and open-ended questions on issues affecting their curricular choice with regard to workload and resource concerns, exam performance, pedagogy and the professional development available at school, local and national levels. Responding teachers were advised that they could participate anonymously or provide their name and/or school in confidence. Only 3 of the 229 participating teachers chose to remain anonymous.

Provision

The national survey results offer the most reliable figures available on the extent to which Scottish pupils are being given the opportunity to undertake the study of contemporary developments in the PRC. Analysis of the data from the 229 responding schools teaching Modern Studies (74 schools indicated that they did not offer Modern Studies while 89 schools did not reply) reveal that while 109 taught 'China', more than half (120) did not offer the topic at any stage in any of their courses.

The narrative response of these 120 teachers reveals a common core of concern around practical issues. Inadequate materials, a shortage of time, unfamiliarity with the subject and the cost of acquiring new resources were cited by almost two-thirds of respondents (75) to justify their resistance to the idea of introducing China into their curricular provision. A Departmental Head represented the views of many when she replied that: "our Departmental plan does recognise the need to pay greater attention to China and to its increasing power and influence. However, we are just too busy meeting existing targets and don't have the time – or, frankly, the inclination – to replace our existing courses on the USA, with the China option". One colleague, reflected the general view of those 15 Schools who indicated that they had stopped teaching 'China' in the previous 4 years: "I did teach China at Standard Grade and Higher until 2005. It is much easier to get contemporary information and materials on the USA – and I can take much more for granted about my pupil's background knowledge".

The concept of the teacher as a 'resister to change' has received considerable attention in recent years as educational policies limit teacher autonomy by setting curriculum standards, establish systems of monitoring and accountability and focus pedagogical strategies on achieving examination success, (Rowan and Miskel, 1999). Within the context of mandated curriculum change, studies indicate that teachers can react negatively for a wide variety of reasons, including a fear of diminution of their teaching (McNeil, 2000) and a weakening of their roles as professionals (Apple, 1995). These Modern Studies teachers, however, were responding to optional curriculum change. They presented their 'rejection' of the Chinese option in measured professional terms. For some, the lack of properly produced materials would impact directly on their desire to offer a quality service: "I would like to teach China. Our kids are excited about the Olympics, but I have excellent resources on the USA and am loath to replace them with substandard materials, no matter how topical the theme". The dominant tone of these 120 responses presents a picture of a rational, rather than a principled rejection of the China option.

Working within a common educational system, subject to the same cultural and policy norms as their 120 colleagues, 109 Modern Studies teachers did choose to include the teaching of China at some stage in their curriculum. For those who seek evidence of an expansion in curricular provision, however, the quantitative data offers little reassurance.

- less than 15% of young Scots in S1/S2 study any aspect of contemporary China (available in 42 Schools);
- less than 10% of Modern Studies students in S3/S4 study the topic (23 centres);
- where China is taught in Modern Studies, it tends to be in S5 and S6 at Higher and Intermediate levels (63:61), often in bi-level classes.(2)

A key finding of this research is that the overwhelming majority of young Scots, probably in excess of 80%, lack any opportunity at school level to become knowledgeable about, or more aware of, the growing impact of China on their lives. Indeed, the situation is even more concerning than the figures suggest. A significant minority of these youngsters engaged with China do so only in the context of S1/S2 Modern Studies. Yet only 17 of the 42 schools active in S1/S2 present a course with integrity, spending more than six hours examining political, social and cultural aspects of contemporary China. The rest offer only a partial approach spending a period or so highlighting Human Rights in China which can be "… rather negative – we need information on the political changes taking place to add a balanced context to our teaching". Furthermore, SQA data suggests that the number of students being taught 'China' in Modern Studies has been in decline for several years. (2) Less than 10% of Standard Grade students now tackle the China questions (the rest answer the USA: Russia, even more unpopular than China, was removed from the syllabus in 2008) with the number of centres presenting in China remaining 'static' in 2006, 2007 and 2008. Latest available figures (for 2007) indicate that, at Higher, 548 candidates (7.5% of the total) presented by 37 Schools (11% of total) answered the question on China (Scottish Government paper, 2007). Curricular changes at Intermediate level best exemplify the decline. In 2006, China was the most popular topic. In 2007, the USA was introduced as an exam topic and by 2008 it had already become the most popular theme though 'reasonable numbers were still choosing China', (SQA, 2008). The research findings support this empirical data. While 15 schools had stopped teaching China since 2005 only 3 schools indicated that they had introduced it into their curriculum.

The substantive finding arising from an analysis of these research findings, and the SQA data, is clear. With regard to curricular provision in 2008, the only group of young Scots who study China in a balanced, informative way are those Modern Studies students who study the topic at Standard Grade, Intermediate and Higher levels. Based on SQA presentation figures from 2008, less than 3% of young Scots in the S3-S6 cohort, fall into this category.

Pedagogy

Though their relationship is often presented as linear (Doyle, 1992) it would be misleading to treat curriculum and pedagogy as separate domains.

While, institutionally, curriculum defines the knowledge to be taught (Beauchamp, 1961; Foshay and Foshay, 1980), pedagogy can be understood as the delivery system "the human interactions which occur during actual teaching episodes," (Doyle and Carter, 1984). The research data confirms this close inter-relationship. In justifying their curricular choice, 27 teachers highlighted the particular advantages of teaching China as a measure of encouraging skill development amongst their students. China offered "a radically different society with a radically different set of social and cultural values" which "… takes my students out of their comfort zone". Some saw the topic as a natural strategy to encourage their pupils to be more literate, critical, socially aware and with a pro-active sense of their own civic responsibility. As a topic "China forces my students to evaluate their own social norms and values", it offered "much more challenging ideas and concepts, issues and debate". In this they reflect a view held amongst teachers in many countries that "curriculum planning cannot be divorced from its human, social, economic and political context", (Macdonald and Purpel, 1987).

As with their 120 non-China teaching colleagues, practical difficulties related to workload and material availability elicited much critical comment. The widely acknowledged need for "more student friendly resources and up-to-date materials, preferably free and on-line" was allied to a call for more development time to keep on top of the dramatic changes taking place in the P.R.C.: "I constantly need to seek out new resources. It's a bit like living on the curricular edge".

While such practical difficulties were a disincentive to the 120, survey evidence suggests that such obstacles had been overcome in many of the 109 schools because of in-school and Headteacher support. In voicing their experiences a significant number commented on the existence of open and collegiate systems of power and decision-making in their school. "My headteacher is really supportive. She leaves us alone to get on with our work". This comment, representative of a variety of responses, does give additional weight to the view that curricular change is more likely to be introduced in the short-term – and sustained in the long-term – when senior management have a sense of identification with their classroom colleagues, (Hargreaves, 2003). In remarking on the "leap of faith shown by my Headteacher in supporting our change from the USA to China" a newly promoted Departmental Head exemplified the importance given in recent debate to "distributive leadership" in which "leadership is not done to police us. Headteachers and classroom teachers together, are themselves part of the leadership practice", (Harris, 2004).

Relatively few responses (18) referred to the issue of exam attainment. That may be the result of better than average exam performance in this topic. It could arise from school managers recognising the professionalism of their teachers by "putting teaching first, before achievement and testing" (Hargreaves, 2004), or it could reflect the working dynamic of teachers, working in more open school systems, where they are actively trusted and are thus more open to risk taking, (Misztal, 1996). The survey responses highlight

this link between the development of trust and an openness to risk-taking. Like colleagues in many other countries Modern Studies teachers have been subject to continuous change for the past 20 years. Indeed, in Scotland, the 21st Century has already seen 3 major curricular initiatives viz: Standards in Scotland: A Curriculum for Excellence (2004); Schools Act (2005); Determined to Succeed (2007). The dangers of teaching becoming a delivery system not a negotiated activity, characterised by the imposition of long-term targets and short-term goals which lead to teacher resistance to change and a sense of professional isolation, have been identified across the teaching world. Writing in the context of his experiences in Ontario, Michael Fullan described the 'crisis' in curriculum change, (2003):

> "The overall environment must improve for all schools to continually improve. The environment cannot be improved only from the top. The top can provide a vision, policy incentives, co-ordination and monitoring but to realise this union there must be lateral development – that is, people giving and receiving help, building capacity and shared commitment across schools".

In an investigation, conducted for the OECD into the relationship between leadership and school improvement in Finland, Hargreaves commented on "… a strong and inclusive welfare state that supports and steers, but does not micro-manage the education system", (OECD, 2007). The Scottish Government responded to similar concerns when it commissioned the OECD to conduct a national review of educational provision. Published in December, 2007, the report criticised aspects of curricular provision which it regarded as too rigid, with an over-emphasis on assessment which "focuses teaching and learning on examinations and puts off indefinitely the need for contextual and pedagogical adaptation on which all good learning depends".

The perceived risk that the replacement of existing courses, such as the USA, with a course on China would adversely impact on exam results was a major influence on the thinking of the group of teachers not teaching China. The perception that "China is too difficult and unfamiliar for my students" resonated the response of many for whom the change "would jeopardise the good results we are getting with the USA". This influential view is contradicted by SQA official statistics. In 2008, 13,777 young Scots were presented for Standard Grade Modern Studies, while 6,802 sat Higher. Where candidates tackled the China question, they did well. According to the Standard Grade Principal Examiner's Report for 2007, "candidates who answered China coped well with all aspects of the question", while at Higher level "there was a highly commendable response by candidates with respect to contemporary exemplification of social and economic reform in China", (SQA, 2008). These reports indicate that students tackling the China question perform better than those answering questions on other international topics such as the USA.

Where China is offered in the Modern Studies curriculum, therefore, the evidence would suggest that it is taught to a high standard and supported by successful pedagogical strategies.

Progression

This paper critically evaluates the collective response of a particular group of Scottish teachers to the challenge of optional curriculum change. It is not a chronological study of the development of particular national curricular policies which attempts to assess the extent to which policy objectives have been implemented by classroom teachers (Tyack and Robin, 1994). Nor is it an historical study which uses longitudinal methodology to examine a particular curricular initiative. It is a snapshot, at a specific time, of a small group of teachers. Against a background of growing public interest in China, and recognising that a defining characteristic of Modern Studies as a subject lies in its ability to adapt curricular provision to reflect the dynamic of contemporary events, the responses of these 229 teachers identify two key issues which have to be addressed if the study of China is to progress and be more widely available to Scottish pupils.

Firstly, the findings suggest a need to develop strategies and interventions to support teachers in widening curricular provision, and to extend professional communication. There is little evidence, in the research, of the development of partnerships between schools. The important role played by appropriate systems of support at local and national level in effecting curricular change seem self evident and have been highlighted in much published literature, e.g. Fullan and Stiegelbauer, 1991; Fernandez et al, 2008. The survey results expose a sense of isolation among individual teachers, articulated for many by one teacher for whom: "teaching China is difficult – I work on my own, I am responsible for providing all my resources yet I have to keep pushing forward to keep up-to-date with everything that's happening". Nearly 20 years ago, Carson asked "Where is the teacher in curricular talk?" (Carson, 1990). In seeking to address the issue of today's teachers "busier than even, so they seldom have the chance to talk informally in the ways they once did", Hargreaves (2004) highlighted the important role which could be played by professional learning communities – organised outside existing formal structures by teachers themselves on a voluntary basis. This research did undercover evidence of one such network. Established in 2002, its informal membership in 2008 consisted of 9 teachers of China covering 4 local authorities. Originally established to exchange materials and good practice, it had evolved to a point where its members had sub-divided the curriculum and each took responsibility for a specific curricular or pedagogical area – updating information on economic, political and social issues, compiling school-based assessment, evaluating web-sites of interest, etc. Communication was by e-mail and internet. No formal meeting had ever been held. New members were only admitted if they could provide new materials or bring in a particular expertise.

Though small in size, its effectiveness would suggest that the quality of collaboration between its members was a crucial factor in its longevity. For one member "in collaborating together we save time, money – and reduce our stress levels" while for another it was a "win-win situation. It makes it so much easier for me to access new knowledge and new ideas about my teaching".

The findings highlight the majority call of 142 Modern Studies teachers for the establishment of systems to facilitate meaningful and regular dialogue with each other – across all aspects of curriculum provision, including China. Most teachers working in isolation, irrespective of subject or topic, will find it difficult to maximise their curricular expertise and pedagogical technique without sustained intellectual and emotional support (Muijs and Harris, 2003). In identifying the shared personal and professional desire for teamwork across roles this research adds to the growing evidence supporting the importance of networks during times of change in the UK (Black and William, 1998) and in Canada (Earl, 2003). In the past most school systems have operated almost exclusively through individual units – be they teachers, departments, schools or local agencies. The research suggests the need to increase collaboration and to establish more fluid and responsive structures, (Hopkins and Jackson, 2002).

It is obvious, from the survey narrative, that this group of subject specific teachers receive little support, at either national or local level, in curriculum delivery. If they wish to exchange good practice, it seems likely that more active involvement and collaboration has to be initiated at the grassroots. In spite of the developmental resources allocated to support national policy (such as CfE) or specific China initiatives (such as the Confucius Hubs) little public support is extended to Modern Studies teachers teaching China.

Secondly the research suggests that, at local and national levels, a significant obstacle to the expansion of curricular provision of 'China' is a lack of professional development. The range of comments relating to the general need for "regular and appropriate CPD" suggested a paucity of national or local programmes designed to help teachers address their learning needs. These general concerns, expressed by 48 Modern Studies teachers across 27 of the 32 local authorities, again present a national picture of Scottish teachers working in isolation.

When prompted to 'Name one thing which could be done which could encourage you to introduce China', 42 non-China teachers specifically identified well-funded and regular CPD to disseminate good practice. Some research suggests that "professional development, involving workshops, courses, programmes and related activities that are designed to provide teachers with the ideas, skills and competences necessary for improvement in the classroom" is deeply flawed, (Fullan, 2006). This perspective maintains that such provision, while not useless, can never be powerful enough to affect the culture of the classroom and school, (Cuban, 1993). While there can be little doubt that inappropriate or irrelevant programmes of professional support can infuriate teachers, and are expensive, there is strong evidence in the survey responses of the need for both targeted subject specific programmes to provide appropriate materials, and for the opportunity to exchange good practice. It is

not that CPD programmes are unavailable. As the responses indicate, however, there is a lack of subject specific support for practising teachers in terms of curricular, pedagogical and assessment issues. No Scottish Local Authority had a comprehensive programme of CPD in place for Modern Studies teachers which encouraged either a regular and systematic sharing of classroom experience and practice or an opportunity for self-reflection. There was no reference in the 229 responses, to any instance of practitioner research other than 3 responses which lamented the lack of support from the considerable number of Scottish academics specialising in contemporary China.

Concluding Discussion

If the teaching of China in Scotland continues to be confined to the diminishing number of Modern Studies teachers who chose to include it at some stage in their curriculum provision, a declining number of Scottish pupils will gain an increased awareness of the growing importance of China in the world today – and on their lives.

To an extent, this reduction may be offset by the success of initiatives designed to increase awareness of Chinese language and culture, such as the introduction of Mandarin and the consolidation of the 'Confucius Hubs'. It may not. Before Scotland's First Minister, flew out to China in April 2009 to further consolidate Sino-Scottish engagement, a meeting of Scotland's Headteachers outlined their growing concerns about the biggest educational reform in a generation. Their greatest concern over CfE, to be introduced after a years delay in August 2010, concerns the resources available to serve the high ambitions for curriculum change – at a time of tight financial constraints.

> "Against a backdrop of headteachers' concerns about assessment, lack of clarity, tight timescales and scarce resources, the Education Secretary and her officials sought to reassure their audience that they were in 'listening mode'", (TESS, March, 2009).

This quote crystallises the enduring dilemma faced by Scottish classroom teachers and the Modern Studies community. The ecological reality for many teachers is to implement curricular change, with few resources – but in a highly professional manner which maintains their integrity and maximises the quality of their pupils learning experiences. Colleagues far beyond Scotland, coping with the challenge of introducing new policies for the 21st Century, may well identify this reality as their own. They may well see in CfE philosophical and practical concerns which characterise their own policies on curriculum development.

Notes

1. HMIe monitor the extent and effectiveness of curriculum provision in Scotland. Their reports and inspections inform government policy. On 27th November, 2008, the First National Conference on the Teaching of China in Scotland's Schools was held in Glasgow. The introductory speech 'Teaching China in a Curriculum for Excellence' was given by a member of HMIe.

2. The SQA is the agency responsible for administering all aspects of external accreditation at Standard Grade, Higher and Intermediate levels. Their statistical data and Principal Examiner Reports are the most authoritative sources for subject uptake, presentations and trends.

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16

A Study on Turkish Elementary School Students' Career Development according to Perceived Social Support, Socioeconomic Status and Gender

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Career development is a dynamic process starting with childhood and continuing to later developmental periods; in other words it is a life-long process (Ginzberg, Ginsburg, Alexrad & Herma,1951; Gottfredson, 2002 & Super, 1953; 1990). According to Hall (1996), complicated career development, which includes every dimension of an individual's life, is affected by attitudes, interest domains, behaviors, environment, resources, limitations, needs and opportunities. According to Super (1990), career development consists of 5 phases, namely Growing (3-13 years), Exploration (14-25 years), Settling (25-44 years), Sustaining (45-65 years) and Collapse (65-after). Super (1990) determined vocational attitude and behaviors, which are called career development tasks. These tasks should be gained during the developmental period in which the individual is; however, lots of theorists (Erikson, 1964, 1968; Ginsberg, Ginsburg, Axelrad, & Herma, 1951; Havighurst, 1964; Super, Savickas, & Super, 1996; Vondracek, 2001) agreed on the childhood period as one of the most important phases in the career development process. According to these theorists, childhood is a period in which an individual gains some behaviors about career development.

The first theoretical model about career development during childhood was developed by Super (1990). Super developed this model by enduring studies of Buehler (1935) and Jodaan (1963) about children's curiosity and exploration behaviors. This model consists of nine dimensions: Curiosity, Exploration, Knowledge, Key Figures, Interests, Locus of Control, Time Perspective, Self-Concept, and Scheming. According to Super (1990), children's successful gaining of these behaviors in these dimensions causes them to learn efficient problem solving and decision-making behaviors. Super states that the behaviors determined in these nine dimensions are not limited to job life, but especially behaviors in the curiosity and exploration dimensions are gained in the school setting. Thus, the content of Super's career development during

childhood model consists of behaviors gained during school years, which contribute their career developments.

The level of fulfillment of career development tasks during childhood has a great role in the development of vocational identity, self-conception (Schmitt-Rodermund & Vondracek, 1999), values (Porfeli, 2004, 2007) and interests (Holland, 1997). Researchers think that career development during childhood is an important process in educational and vocational planning and decision-making (Archer, 1989; Blustein & Noumair, 1996; Havighurst, 1964; Holland, 1997; Kroger, 1993; Porfeli, 2004; Savickas, 2002; Super et al., 1996; Vondracek, 1995; Vondracek, et al., 1995).

Despite some theoretical studies related to career development during childhood, most studies related to career development focus on adolescents and young adults. The most important reason for this is that the researchers accept childhood period as a game and fantasy period in career development process (Trice, et al., 1995). For that reason, the role of the childhood period and related factors is important for overall career development.

In this research, 8th grade elementary school students' fulfillment of career development tasks level in childhood will be observed. According to gender and socio economic status (SES)., the prediction levels of perceived social support from family, friends and parents will be observed. The following questions try to be answered:

1. Do levels of students' career development differentiate according to gender?
2. Do students' career developments differentiate significantly according to their SES?
3. Do students' perceived social support levels from family, friends and teachers predict their career development in a significant way?

Methodology

Participants

Participants for this study were 564 eight-grade students (235 female, 329 male) in central Konya. The mean age for participants was 13.5 years. The researchers used the strategy of clustering participants' occupations, income and educational levels into lower, middle and upper socioeconomic groups. In this research, SES of participants were stratified by considering the variables such as educational levels of parents, occupational situations of parents and income which were gathered by questions in the participant information form. According to this classification, 28% (158 persons) of the participants were considered lower SES, 51.6% (291 persons) of participants were considered middle SES, and 20.4% (115 persons) were considered upper SES.

Instruments

The instruments used in this study are as follows: participant information form, the Childhood Career Development Scale (Schultheiss & Stead, 2004), and the Social Support Perception Questionnaire (Yıldırım, 2004).

Participant information Form: Respondents indicated their age, sex, parents' educational level, parents' occupation, family's total income and persons living in the household (mother, father, grandparents, and brothers). Students were asked to check the highest level of education each parent had completed in order to assess parents' educational level.

Career Development Scale for Children (CDSC): In this study, the Career Development Scale for Children (CDSC), developed by Schultheiss and Stead (2004), was adapted to Turkey by Bacanlı, Sürücü and Özer (2006). The theoretical base of the CDSC was taken from Super's (1990) childhood career development model. The CDSC consisted of 52 items and a three-degree Likert scale (1- "Does not suit me," 2- "Undecided," and 3- "Suits me"). The CDSC has eight sub-dimensions. "Planning" (Factor I) consists of 11 items which includes the importance of children's future planning. "Self-Conception" (Factor II) consists of six items, which evaluate one's awareness of self-concept. "Knowledge" (Factor III) consists of six items, which include using information about careers and being aware of the importance of career. "Interests" (Factor IV) consists of six items, which include being aware of activities which children like. "Locus of Control" (Factor V) consists of seven items, which evaluate interior controls related to events in life. "Curiosity/ Exploration" (Factor VI) consists of seven items, which include behaviors of curiosity in games and exploration in school. "Key Figures" (Factor VII) consists of five items, which include role models of children. "Time Perspective" (Factor VIII) consists of four items, which include the projection of the present to the future. The Cronbach Alpha reliability for the whole Turkish version of the CDSC was acceptable (α= .78), and the following are the values for its sub-dimensions: Planning (α= .81), Self-Conception (α= .73), Knowledge (α= .64), Interests (α= .64), Locus of Control (α= .76), Curiosity/ Exploration (α= .60), Key Figures (α= .49), and Time Perspective (α= .65).

Social Support Perception Questionnaire - Revision (SSPQ-R): is a questionnaire which was developed in order to determine the level of social support from family, friends and teachers in Turkish culture by Yıldırım (1997), and its revision was made by Yıldırım in 2004. There are three sub-dimensions: Family Support (20 items), Friend Support (13 items) and Teacher Support (17 items) in the SSPQ-R. The SSPQ-R has 50 total items. Family Support includes trusting and understanding the child, fixing mistakes gently, emphasizing powerful features, and appreciation. Friend Support includes supporting and sharing academic knowledge. Teacher Support includes answering questions about lessons, fixing mistakes gently, emphasizing powerful features, and behaving fairly. Items are scored using a three-degree scale ("Noneligible"= 1, "Partially eligible"= 2, "Quite eligible"= 3); thus the total score taken from every sub-dimension of SSPQ-R ranges from 39 to 60.

The scores from each sub-dimension are added, and this total score represents an individual's general social support level. The SSPQ-R sub dimensions' validity was observed by a factor analysis and other questionnaires' validity. Family Support, Friend Support and Teacher Support sub dimensions' validity was tested by factor analysis and significant relationships determined between SSPQ-R and Beck Depression Inventory and Casual Problems Questionnaire. Alpha reliability coefficient was calculated for reliability of SSPQ-R and sub dimensions and pre-test/post-test reliability (r_{xx}) previously observed are as follows: the whole SSPQ-R (α= .93; r_{xx}= .91); Family Support (α= .94; r_{xx}= .89); Friend Support (α= .91; r_{xx}= .85); Teacher Support (α= .93; r_{xx}= .86) (Yıldırım, 2004). For the present study, the following Cronbach's alpha for reliability was observed: the whole questionnaire (α= .91), Family Support (α= .89), Friend Support (α= .90), and Teacher Support (α= .83).

Findings

An independent samples t-test was applied in order to determine the differentiation of fulfillment of career development tasks according to gender (Table 1). When Table 1 is examined, there are significant differences in Locus of Control (t= 2.728, p< .005) and Time Perspective sub-dimensions according to gender. There is no significant difference in the other sub dimensions. It can easily be seen that the difference is because of male students' average scores in both sub-dimensions. In other words, the average scores taken by male students in Locus of Control and Time Perspective are significantly higher than female students' average scores. According to this finding, the inner controls of male students and their future perceptions now are significantly higher than female students' inner controls and future perceptions.

Table 1. *The t Values, Means, and Standard Deviations for Males and Females on the Childhood Career Development Scale Sub-Dimensions*

Career Dev.	Gender	n	Mean	Std. Dev.	t	*p*
Curiosity/Exploration	Female	235	17.27	3.07	.165	.870
	Male	329	17.32	3.17		
Information	Female	235	15.97	1.85	1.305	.192
	Male	329	16.19	2.16		
Interests	Female	235	16.27	1.87	.312	.755
	Male	329	16.33	2.05		
Locus of Control	Female	235	17.94	2.94	2.728*	.007
	Male	329	18.60	2.81		
Key Figures	Female	235	12.53	2.36	.639	.523
	Male	329	12.65	2.22		
Time Perspective	Female	235	10.70	1.70	2.364*	.018
	Male	329	11.03	1.54		
Self-Concept	Female	235	15.82	2.53	1.499	.134
	Male	329	16.14	2.54		
Planning	Female	235	28.05	4.41	1.234	.218
	Male	329	28.54	4.84		

* p< .005

ANOVA was used in order to determine differentiation of career development task levels according to SES, and the results are given in Table 2.

There is a significant difference in the CDSC's sub dimensions with fulfillment of career development task levels according to SES at the $p < .005$ level. Tukey tests results, which were applied in order to distribute the source of differentiation, are given in Table 3.

Table 2. *ANOVA, Mean, and Standard Deviation Values Regarding SES on the Childhood Career Development Scale Sub-Dimensions*

Career Dev.	SES	n	Mean	Std. Dev.	f	*p*
Curiosity/Exploration	**Lower**	158	16.44	3.21	**8.660***	.001
	Middle	291	17.69	3.06		
	Upper	115	17.46	2.97		
Information	**Lower**	158	15.16	1.65	**25.579***	.001
	Middle	291	16.52	2.24		
	Upper	115	16.34	1.49		
Interests	**Lower**	158	15.92	1.87	**4.827***	.008
	Middle	291	16.38	2.20		
	Upper	115	16.63	1.48		
Locus Of Control	**Lower**	158	17.28	2.65	**16.927***	.001
	Middle	291	18.56	3.11		
	Upper	115	19.15	2.12		
Key Figures	**Lower**	158	12.21	2.49	**3.946***	.020
	Middle	291	12.68	2.29		
	Upper	115	12.95	1.85		
Time Perspective	**Lower**	158	10.47	1.67	**11.577***	.001
	Middle	291	10.91	1.71		
	Upper	115	11.41	1.07		
Self-Concept	**Lower**	158	14.71	2.77	**32.801***	.001
	Middle	291	16.60	2.24		
	Upper	115	16.29	2.24		
Planning	**Lower**	158	27.38	3.83	**5.921***	.003
	Middle	291	28.94	4.91		
	Upper	115	28.16	4.88		

* $p < .005$

When Table 3 is examined, it can be seen that middle and upper class students' average scores are significantly higher than lower class students' scores in curiosity, information, interest, locus of control, time perspective and self-conception sub-dimensions.

The differentiation in the Key Figures sub-dimension is because of the average scores of students in lower and upper SES. According to this finding, the average scores of upper SES students were significantly higher than lower SES students in key figures sub dimension but there was no significant differentiation between scores of upper and middle SES students. On the other

hand, the differentiation in the Planning sub-dimension was because of the average scores of lower and middle SES students. When the difference between average scores was examined, the average scores of middle SES students were significantly higher than lower SES students' average scores. There was no significant difference between lower and upper SES students' average scores in the Planning sub-dimension.

Table 3. *Tukey Test Results Regarding Childhood Career Development Scale Sub-Dimensions According to SES*

Career Development	SES (I)	SES (J)	Mean Differences (I-J)	*p*
Curiosity/Exploration	Lower	Middle	**-1.25456(*)**	.000
		Upper	**-1.01783(*)**	.020
	Middle	Upper	.23672	.766
Information	Lower	Middle	**-1.35434(*)**	.000
		Upper	**-1.17457(*)**	.000
	Middle	Upper	.17977	.682
Interests	Lower	Middle	**-.46716(*)**	.044
		Upper	**-.70837(*)**	.010
	Middle	Upper	-.24121	.507
Locus Of Control	Lower	Middle	**-1.27876(*)**	.000
		Upper	**-1.87171(*)**	.000
	Middle	Upper	-.59295	.135
Key Figures	Lower	Middle	-.47155	.090
		Upper	**-.74766(*)**	.020
	Middle	Upper	-.27611	.512
Time Perspective	Lower	Middle	**-.43941(*)**	.015
		Upper	**-.93401(*)**	.000
	Middle	Upper	**-.49461(*)**	.013
Self-Concept	Lower	Middle	**-1.89595(*)**	.000
		Upper	**-1.58679(*)**	.000
	Middle	Upper	.30916	.474
Planning	Lower	Middle	**-1.55840(*)**	.002
		Upper	-.77677	.358
	Middle	Upper	.78162	.276

* $p < .005$

Multiple Linear Regression Results of the predictions of CDSC sub-dimensions by family, friends and teachers by 8th grade elementary school students are given in Tables 4 through 10.

Table 4. *The Results of Multiple Regression Analysis of the CDSC Curiosity Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	P
(constant)	10.479	1.132		9.253	.000
Family	.070	.020	.164	3.447	.001
Friend	-.006	.029	-.010	-.194	.846
Teacher	.074	.021	.158	3.446	.001
R= 0.259	R^2= 0.067	$F_{(3-560)}$= 13.419	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between variables (family, friend and teacher) in the CDSC Curiosity sub-dimension (R=0.259, R^2=0.067, $p<.01$). The mentioned variables predicted 6.7% of the total variance in the Curiosity sub-dimension. According to standardized regression coefficient (β), the relative importance rank of predictive variables on the CDSC Curiosity sub-dimension was family support, teacher support, and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family and teacher variables were significantly predictive on the Curiosity sub-dimension. The friend variable did not show a significant effect in this sub-dimension.

Table 5. *The Results of Multiple Regression Analysis of the CDSC Information Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	10.387	.722		14.392	.000
Family	.069	.013	.249	5.372	.000
Friend	.001	.019	.002	.034	.973
Teacher	.044	.014	.145	3.250	.001
R= 0.331	R^2= 0.109	$F_{(3-560)}$= 22.907	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Information sub-dimension (R= 0.331, R^2= 0.109, $p< .01$). The mentioned variables predicted 10.9% of the total variance in the Information sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on the CDSC Information sub-dimension was family support, teacher support, and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family and teacher variables were significantly predictive on the Information sub-dimension. The Friend variable did not show a significant effect on this sub-dimension.

Table 6. *The Results of Multiple Regression Analysis of the CDSC Interest Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	10.293	.696		14.784	.000
Family	.063	.012	.233	5.055	.000
Friend	.020	.018	.052	1.100	.272
Teacher	.044	.013	.148	3.329	.001
R= 0.348	R^2=0.121	$F_{(3\text{-}560)}$= 25.777	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Interest sub-dimension (R= 0.348, R^2= 0.121, $p< .01$). The mentioned variables predicted 12.1% of the total variance in the Information sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on the CDSC Interest sub-dimension was family support, teacher support, and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family and teacher variables were significantly predictive on the Interest sub-dimension. The Friend variable did not have a significant effect on this sub-dimension.

Table 7. *The Results of Multiple Regression Analysis of CDSC-Locus of Control Sub Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	10.262	1.005		10.212	.000
Family	.111	.018	.282	6.178	.000
Friend	-.068	.026	-.123	-2.617	.009
Teacher	.100	.019	.233	5.290	.000
R= 0.371	R^2= 0.137	$F_{(3\text{-}560)}$= 29.705	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Locus of Control sub-dimension (R= 0.371, R^2= 0.137, $p< .01$). The mentioned variables predicted 12.1% of the total variance in locus of control sub dimension. According to standardized regression coefficient (β), the relative importance ranking of predictive variables on CDSC-locus of control sub dimension is family support, teacher support and friend support respectively. When examining t-test results relating the significance of regression coefficients, family, friend and teacher variables were significantly predictive on Locus of Control sub-dimension.

Table 8. *The Results of Multiple Regression Analysis of the CDSC Key Figures Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	6.792	.816		8.324	.000
Family	.052	.015	.166	3.546	.000
Friend	.005	.021	.011	.229	.819
Teacher	.065	.015	.190	4.198	.000
R= 0.299	R^2= 0.089	$F_{(3-560)}$= 18,347	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Key Figures sub-dimension (R= 0.299, R^2= 0.089, $p<.01$). The mentioned variables predicted 8.9% of the total variance in the Key Figures sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on CDSC-key figures sub dimension was teacher support, family support and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family and teacher variables were significantly predictive on the Key Figures sub-dimension. The Friend variable did not have a significant effect on this sub-dimension.

Table 9. *The Results of Multiple Regression Analysis of the CDSC Time Perspective Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	4.744	.541		8.764	.000
Family	.079	.010	.359	8.163	.000
Friend	.007	.014	.022	.485	.628
Teacher	.037	.010	.155	3.667	.000
R= 0.450	R^2= 0.203	$F_{(3-560)}$= 47.420	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Time Perspective sub-dimension (R= 0.450, R^2= 0.203, $p<.01$). The mentioned variables predicted 20.3% of the total variance in the Time Perspective sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on the CDSC Time Perspective sub-dimension was teacher support, family support and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family and teacher variables were significantly predictive of the Time Perspective sub-dimension. The Friend variable did not have a significant effect on this sub-dimension.

Table 10. *The Results of Multiple Regression Analysis of the CDSC Self Sub-Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	5.874	,847		6.937	.000
Family	.099	,015	.286	6.540	.000
Friend	.044	,022	.092	2.032	.043
Teacher	.074	,016	.194	4.615	.000
R= 0.456	R^2= 0.208	$F_{(3-560)}$= 48.937	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Self sub-dimension (R= 0.456, R^2= 0.208, *p*< .01). The mentioned variables predicted 20.82% of the total variance in the Time Perspective sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on the CDSC Self sub-dimension was teacher support, family support and friend support, respectively. When examining t-test results relating the significance of regression coefficients, family, teacher and friend variables were significantly predictive on the Self sub-dimension.

Table 11. *The Results of Multiple Regression Analysis of CDSC- Planning Sub Dimension Prediction*

Variable	B	Std. Error	β	t	*p*
(constant)	15.309	1.626		9.415	.000
Family	.055	.029	.086	1.887	.060
Friend	-.006	.042	-.007	-.138	.890
Teacher	.233	.031	.333	7.580	.000
R= 0.369	R^2= 0.137	$F_{(3-560)}$= 29.511	*p*= .001		

According to multiple regression analysis results, there was a significant relationship between the variables (family, friend and teacher) and the CDSC Planning sub-dimension (R= 0.369, R^2= 0.137, *p*<.01). The mentioned variables predicted 13.7% of the total variance in the Planning sub-dimension. According to the standardized regression coefficient (β), the relative importance ranking of predictive variables on the CDSC Planning sub-dimension was teacher support, family support and friend support, respectively. When examining t-test results relating the significance of regression coefficients, the teacher variable was significantly predictive of the Planning sub-dimension. The friend and family variables did not have a significant effect on this sub-dimension.

Discussion

There are differences in the research findings on levels of fulfillment of career development tasks according to gender. Some of these research studies (Luzzo, 1995; Rojewski, Wicklein, & Schell, 1995) report girls' levels of fulfillment of career development tasks were higher than boys', whereas other studies (Watson, 1984, Achebe, 1982) report that boys are in a higher level of development compared with girls. On the other hand, there is research that reported no differentiation according to gender (Kelly & Colangelo, 1990; Watson, Stead & De Jager, 1995). In this study, it was found that male students' average scores are significantly higher than female students, but only in the Locus of Control and Time Perspective sub-dimensions. There was no significant difference in the other sub-dimensions.

An individual's skills determine the where a person will go in education; however, skills can be improved by environmental support, so SES plays a great role in determining an individual's educational goals. The present study determined that in every sub-dimension of career development the average scores of students, who are in middle and upper SES levels, are significantly higher than those of lower SES students. This finding shows consistency with Holland's study in 1981 with 300 6^{th} grade elementary school students. Holland (1981) found that higher SES is an important predictor in fulfillment career development tasks.

According to Phillips, Christopher, and Gravino (2001), the career decision-making process is formed by the interaction between the decision-maker and her/his social environment. Blustein and colleagues (2001) emphasized that social support was an important factor in handling obstacles during the career decision-making process. According to this study, emotional and instrumental support from one's family, friends, or significant others play a critical role in the fulfillment of career development tasks during the career development process. When studies about the effects of social support during the career development process (Blustein et al. 2001; Farmer, 1980; Gianakos, 2001) are taken into consideration, it can easily be seen that social support is an important factor that affects career development. The findings gained from the current study show that social support levels, perceived from family and teachers, significantly predict every dimension of career development. Specifically, family support demonstrated as an important factor during the career development process in fulfilling the tasks about career development. On the other hand social support, which was perceived by teachers, was the most effective factor in fulfilling tasks about the future. Family and teachers should support 8^{th} grade elementary school students in the emotional and instrumental level for providing them a healthy career development process.

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17

An Analysis of the Role of Didactic Material for Teaching and Learning of Mathematical Concepts

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In professional literature a variety of terms can be found that are used in the analysis of teaching and learning technology resources, for example didactic teaching device, teaching material, teaching aid, didactic material and concrete representation. The inconsistent terminology is not only an unintentional consequence of arbitrary criteria and classifications by individual experts but also a relatively clear signal of the role which individual authors ascribe to such material and what position it has in the educational practice of their time. The changing terminology also shows us, to some extent, the evolution of didactic thought and practice (Jug and Jereb 1987, 17).

Using the term 'didactic material', Markovac (1990) designates a variety of concrete material employed in both teaching and learning a certain subject.

Teaching material encompasses various objects, models, collections and other resources that are used in class as a means of direct knowledge acquisition. Teaching aids, on the other hand, are objects that represent an indirect source of new information and help children acquire knowledge in an indirect way (Lužnik 1973).

Blažič (1986) sees teaching material as didactically formed objective reality. This includes various objects, pictures, models… that are used during lessons as a means of direct knowledge acquisition and the material basis for children's thinking activity.

Koletič (1984, in Blažič 1986) defines teaching material as objects used in children's knowledge acquisition.

Jug and Jereb (1987) point out two major opposing views of teaching material and its role in the educational process:

- The developmentally older group – sensualists – see teaching material as a means towards the realization of the explicitness principle and thereby limit the use of learning resources merely to

the first phase of learning, i.e. the acquisition of notions and perceptions; they see no reason to use teaching material in the later phases of the educational process.

- The developmentally younger group has a substantially broader view of the role and meaning of teaching material: its members do not limit their use merely to the perceptual level of concrete explicitness but emphasize their use in the transition to the level of concept formation; strengthening of knowledge; and use and assessment of skills and habits (Jug and Jereb 1987, 20-1).

In the continuation, we will explore teaching material in the broader sense, i.e. as an aid useful in different phases of the learning process (in the initial phase during the acquisition of mathematical concepts, in the phase when knowledge is strengthened and as a means of motivation). Moreover, we will also emphasize its role in the introduction of modern approaches to the learning process.

Classification of Didactic Material

Didactic material in mathematics classes can be classified as natural and artificial (Markovac 1990). Natural didactic material comprises objects from our immediate surroundings that have a certain meaning or role outside the mathematical classroom. For example, in the acquisition of the concept of number, children can count beans, pebbles, clips and such. But we can also use didactic material that is made specifically to be used in teaching mathematics and has no particular applicative function in everyday life, for example link cubes, the Dienes blocks, the positional abacus, the 100-square and the number line. Natural didactic material can be referred to as unstructured, while artificial didactic material is also described as structured. This classification is based on the fact that the specially constructed teaching material has an inbuilt structure which directs children to the desired teaching aim. For example, in the process of teaching natural numbers up to 100, the structure of our decimal system is already a part of the structure of representations such as the positional abacus and the Dienes blocks. This internal structure can also be achieved by miniscule alterations of unstructured material: when counting a large number of everyday objects, it is much more sensible to organize them in groups of ten. Straws, for example, can be arranged in bundles of ten and tied by a rubber band, while beans can be placed in egg cartons that have exactly ten compartments helping us to form tens.

Achieving our teaching aims is therefore not primarily dependent on the type of didactic material used. More important than using either structured or unstructured material is using it in an appropriate way – so that it makes sense to children. Children should be aware of what we are trying to achieve by using the chosen material and what can be gained by using it. They are the ones who give our external representation (in this case didactic material) meaning or, to

put it in other words, translate implicit representations to explicit ones (Hodnik Čadež 2004)

Characteristics of Didactic Material

Markovac (1990) points out the following methodological requirements that didactic material has to fulfil:

- Didactic material has to be qualitatively neutral. It should contain the smallest possible amount of qualitative properties (colour, form, size, material) which would distract children's attention from quantitative relations. The basic function of didactic material for arithmetic, for example, is to concretize quantitative relations. The most appropriate for early teaching of mathematics are objects similar to one another, for example, link cubes, plastic shapes, tokens, sticks, straws and such, where the differences in their qualitative properties are minimal.
- Didactic material should be easily accessible to children, i.e. it should allow simple and obvious manipulation. Objects used as didactic material should not be too big or too small but appropriate to children's motor skills.
- The appropriate amount of didactic material: children should be provided with an amount of material which is reasonable for the achievement of the chosen learning aims. If the amount of material is excessive, the relations become difficult to distinguish, which hinders the learning process.
- There are different ways of using didactic material. Children should use it in a way that leads towards the acquisition of the concept or subject matter that is being addressed in class.
- The use of didactic material should not be reduced to its physical manipulation. Such physical activity becomes a means of learning only when it is followed by intellectual activity (more in the continuation).

The Role of Didactic Material in Teaching and Learning Mathematics

In this section we will attempt to answer some questions related to the role of didactic material in teaching mathematics: Why should it be used? What is its purpose? How long should it be used?

The use of didactic material in teaching is based on the supposition that learning is more successful if it includes different information processing components. Studies have shown (Markovac 1990) that in the process of learning, the visual and aural components are the most important, and that the

predominant part of information flow is still received through the visual component (80%). The association of information to different types of representations is mainly important in teaching the subject matter that is fundamentally abstract in nature. Indubitably, mathematical concepts belong to this category and one of the most important tasks for early teaching of mathematics is to translate the abstract nature of mathematical concepts into representations that are accessible to children in the stage of concrete-operational thinking.

What is the main purpose of using didactic material in teaching mathematics? What do we gain by using it? Of course, it is important that didactic material and its manipulation influence children's thinking processes. The input data that children acquire via physical activity and manipulation of concrete objects should result in a certain deduction, i.e. a mental activity required to understand an abstract mathematical concept. Nevertheless, we should avoid making didactic material a substitute for the desired mental activity. If didactic material does not encourage a certain mental effort, it is, according to Markovac (1990), didactically unsuitable. This brings up a new question: how long should didactic material be used?

Example: When teaching addition of numbers up to 20, children gradually develop and amend their problem solving strategies. First they count their fingers or use some concrete material to do so. In time, and based on their experience, they are able to determine the sum by simply retrieving an arithmetical fact. Is it then necessary to encourage children who are able to add up numbers on the basis of memory recall to use concrete representations? Markovac (1990) believes that the use of didactic material only makes sense when children are unable to solve a problem without using it. Once they achieve this level, the didactic material used can be discarded.

Didactic material has the function of a mediator between the teaching aims that drive the teaching process and the results of this teaching process – mathematically educated children (Gellert 2004). Here we should also ask ourselves whether children are aware of the didactic value of teaching material; whether they use it in a way that is expected from them by the teacher; and whether this material really leads to the desired mathematical aims. The teacher sees a certain mathematical structure in the didactic material which is meant to encourage the desired mental activity but this does not guarantee that the same structure is noticed by children and that they use the didactic material in a way that would develop their mathematical thinking. Gellert (2004) poses the following question: 'Is the mathematics which teachers see in didactic material so attractive, powerful, so inescapable that the students have no choice but to deal mathematically when using it?'

If we want to assess the significance of didactic material, it is important to be able to relate to children and anticipate the problems that could occur due to the fact that children still lack a certain abstract concept which adults already have and which makes it possible to view a certain situation from a different point of view. Children can perceive a certain type of didactic material in a desired way – mathematically. In such a case didactic material functions as a

representation of an abstract mathematical concept. However, didactic material can also be perceived non-mathematically, i.e. children may only perceive it as a physical object and may not see the mathematical relations present in the background.

Example 1: Dienes Blocks (Gravemeijer 1991, in Streefland 1991)

- Children who use this material in a mathematical sense know that one bar represents ten ones. They recognize the relations among decimal units that are present among the representations of various sizes.
- Children who use this material in a non-mathematical sense do not recognize the meaning of size relations among the representations for ones, tens, hundreds …, which also determine the number relations among decimal units. For them, a bar for a ten has quantitatively the same value as a cube for a one. They see two physically separate objects but do not grasp the relation between them. In such a case, the decimal bar does not function as a representation of an abstract mathematical concept.

Therefore, physical handling of didactic material does not necessarily encourage the desired mental activity. In the above case the problems arise because children have not yet formed the concept of the number ten and have not recognized its role in the decimal system. They understand working with concrete material literally, i.e. as dealing with material that is given to them and not as dealing with mathematical relations that are a part of this material. Adults find the relations between the structure of decimal unit representations and the structure of the number system so self-evident that they think they are equally obvious to children. But if we did not know how 'numbers work', we would not notice this similarity either (Cobb 1987, in Streefland 1991). And that is exactly what children 'lack': the mental, internal representations which they could construct and use to interpret the external representation more easily.

An interesting dilemma arises here: Do children need the already formed internal representations so that they could use external representations in the desired way or is it the role of external representations to encourage the development of internal representations which have not been formed yet? We believe that a successful handling of didactic material, for example the Dienes blocks or the positional abacus, requires knowledge of number relations which are represented by this material. On the other hand, some didactic material, mainly unstructured material, enables children to develop an understanding of number relations (for example, link cubes can be used to learn about the properties of the decimal system).

Various psychological theories emphasize the significance of inducing mental activity as a fundamental characteristic of didactic material. The representatives of action psychology point out another criterion which enables

them to assess whether suitable didactic material has been chosen. According to them, the key question is: 'Is physical activity isomorphic to the intended mental activity?' (Gravemeijer 1991, in Streefland 1991). Using didactic material can lead to a mental activity that is not necessarily isomorphic to physical activity. The problem of division between physical and mental activity can be observed in the manipulation of various didactic resources.

Example 2: Number Line

If children want to use the number line to calculate the sum of 5 + 3, they will start at 5, count 'one, two, three' and move towards the right of the line. This procedure of counting differs from the one that we perform when we count three steps further in our thoughts. When doing so, we say to ourselves 'six, seven, eight' and the last number represents the sum of five and three.

Example 3: 100-square

If children want to use the 100-square to add together two numbers or subtract them from one another, it is enough that they learn the procedure of moving across the square: when adding up tens, they move downwards; when subtracting tens, they move upwards; when adding together ones, they move to the right; and when subtracting ones, they move to the left. Knowing this algorithm therefore assures success, but that does not necessarily mean that children are also successful when we take the aid away from them. For successful mental arithmetic up to 100, it is necessary to understand why this algorithm of moving across the 100-square works.

In the described cases, didactic material functioned as a technical aid that enabled children to solve a certain problem in an easier way. But we have seen that this aid does not encourage the type of thinking that is required when working on the mental level.

To recapitulate, we can see that the use of didactic material can also lead to undesired results:

- One of them is that it does not encourage the development of mental activity because children do not perceive didactic material in the same way as adults: they do not see it as a representation of a certain mathematical concept. And this is why they use didactic material in a non-mathematical way, which also leads to erroneous problem solving (cf. Example 1).
- The second undesired result is that the didactic material does not trigger the 'right' kind of mental activity. Children can use a certain type of didactic material because it works, but they are unaware of why it works. It is enough for them to know that it will lead them to the right result. We can say that they take didactic material as a type of primitive calculator which leads to the right result but not to actual mental activity (cf. Examples 2 and 3).

Markovac (1990) sees verbal reproduction as a bridge between physical and mental activities. When working with didactic material, it is not the physical components of the manipulated material that matter but our realizations of quantitative relations in the background. These relations become much more accessible if physical activity is accompanied by verbal reproduction. Why?

Markovac (1990) points out two reasons:

1. When verbalized, physical activity is transformed into mental work and thus internalised.
2. In this way, children's thinking is strengthened. If physical activity has to be verbalized, we are forced to experience it and, while doing so, think about its content.

Through verbal reproduction, we move physical activity to a higher level, taking away its concrete characteristics and adding to it mental elements.
According to Markovac (1990), working with didactic material that is not accompanied by verbal reproduction makes no sense since it does not lead children towards a higher level of thinking, which is supposed to be the main requirement for the use of didactic material.

The Influence of Didactic Material on the Teaching Process

U. Gellert (2004) poses an interesting question regarding whether it is possible to improve achievements in teaching mathematics by developing new didactic material and using it in the teaching of mathematics. In connection with this, we should consider the issue of how teachers are supposed to respond to a new type of didactic material. Should they adapt their teaching to the new material or vice versa – should they adapt the material to their teaching style and their existing classroom routines?

Mathematics teachers cannot adopt a newly developed didactic material. They always adapt it to the ends they pursue: they fit the use of didactic material into existing routines for mathematics instruction. (Gellert, 2004)

We might ask ourselves in what circumstances it still makes sense to adapt to the new material. The answer is in the individual teacher and their concept of teaching. When it is teachers who adjust their views and concepts of teaching mathematics, new didactic material can serve to support their new ideas. Adapting the teaching to new didactic material is thus reasonable only when the teacher is the carrier or trigger of such an adaptation: not because of the material itself but because of their new perspectives on the process of teaching (Gellert, 2004).

Both responses to new learning material can be examined on the example of the geoboard.

1st option: the teacher adapts new didactic material to existing circumstances: the geoboard is used to achieve teaching aims specified in the curriculum that were already developed in the past but by using some other didactic material. The teaching aim 'The student forms a triangle' can be achieved by drawing the shape, cutting it out of paper or even using new didactic material – the geoboard. In this way, we do not influence the development of a new, additional teaching aim but strengthen the existing one by introducing new didactic material.
2nd option: the teacher adapts to new didactic material: in such a case, the teacher uses additional possibilities that the new didactic material provides and uses the material for problem solving. Children can explore how many different triangles it is possible to form on the 3 by 3 geoboard. The introduction of the concept polygon is thus enriched by an activity which would not be possible without the use of new didactic material. Such adaptation of teaching to new didactic material is only possible if the teacher is open to new ideas and new, problem-oriented approaches to teaching mathematics.

To sum up, the adaptation to new didactic material only makes sense under certain conditions:

- The teacher should be open to new ways of doing things;
- The new learning material should make it possible for the teacher to enrich the learning process with modern approaches to teaching.

In the continuation we wanted to explore how Slovenian teachers see the role of didactic material in teaching mathematics and what the attitudes of university students – future teachers – towards didactic material are.

Empirical Research

Problem Definition and Methodology

We were interested in comparing teachers' and students' attitudes towards the role of didactic material for teaching mathematics. By comparing their answers to a variety of questions, we set to explore the influence of teachers' practical experience on their attitudes towards the role of didactic material used in the mathematics classroom.

The empirical study was designed on the descriptive and causal nonexperimental method of pedagogical research.

The aim of the study was to answer the following research questions:

1. What is the influence of using didactic material on learning abstract mathematical concepts?

2. What is the role of didactic material for gifted children?
3. What is the role of didactic material for less able children?
4. What is the role of using didactic material in problem solving in mathematics?
5. What is the influence of using didactic material on children's motivation for learning?
6. What kind of impact does didactic material have on teachers' lesson planning?
7. How is specific didactic material useful for teaching different mathematical topics?
8. Which didactic material is most useful for teaching particular mathematical topics?

Description of the Sample

A purposive sample was used in the study. 76 teachers and 94 students (20 3rd year students, 74 4th year students of Primary Teacher Education) completed a questionnaire; 5 of them male (2 teachers and 3 students). All of the investigated teachers work at primary schools. On average they have 19.7 years of work experience (standard deviation is 8.9 years).

50 of the investigated teachers have university degrees, 26 have higher education degrees.

Data Processing

Data acquisition was carried out from March to May 2008.The data from the questionnaires was processed using methods of descriptive and inferential statistics. Teachers' and students' attitudes were evaluated on a five-stage scale where the grade 5 means that they fully agree, 4 – they agree, 3 – cannot decide, 2 – disagree, 1 – fully disagree. The statistical procedures employed were: frequency distribution (f, f %), the basic descriptive statistic of numerical variables (mean, standard deviation), χ^2 – test of hypothesis independence.

Results and Interpretation

The sample of respondents (76 teachers and 94 students) was used to determine the attitudes of teachers and students towards didactic material, and what types of didactic material they use most frequently. The teachers and students were told that didactic material includes any material used in the classroom with the purpose of achieving an educational aim. In addition, they were informed that the purpose of the study is to find out what kind of roles teachers and students ascribe to particular types of didactic material, and in what way the attitudes of teachers differ from the attitudes of students (future teachers), i.e. in what ways do teachers' practical experience and students' theoretical knowledge complement each other or diverge from each other.

The results and analyses are given for each research question separately.

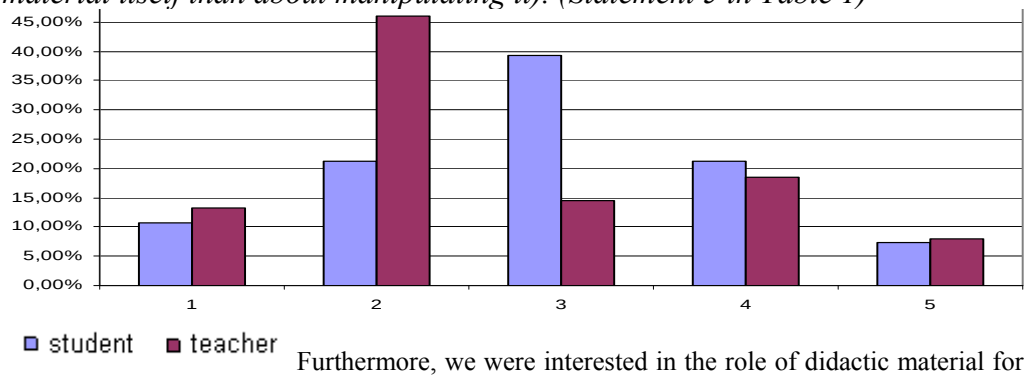
First we were interested in the role of didactic material in the formation of mathematical concepts. The respondents were asked to give their opinions about the following statements:

Table 1. *Research Question - What is the Influence of using Didactic Material on learning Abstract Mathematical Concepts?*

		P-value	Mean teach.	σ_t	Mean stud.	σ_s
1	Using didactic material is essential for learning mathematical concepts.	0.24	4.75	0.59	4.59	0.68
2	Children better understand a mathematical concept if they have opportunities to manipulate the didactic material useful for that concept.	0.46	4.87	0.34	4.84	0.45
3	The use of didactic material does not influence children's understanding of mathematics.	0.13	1.59	1.15	1.49	0.88
4	Too frequent use of didactic material prevents the development of a mathematical concept at an abstract level	0.03	2.46	1.12	2.71	0.92
5	Didactic material could move children's attention away from the mathematical concept to be learned (children are more conscious about the material itself than about manipulating it).	0.00	2.62	1.17	2.94	1.08

The results in Table 1 show that both teachers and students find the use of didactic material in teaching mathematics important; they believe that its use has an impact on learning mathematical concepts, however it is also shown that their views on the relations *frequency of use – formation of abstract concepts* and *didactic material – focusing children's attention* depend on the status of respondents. Figure 1, for example, shows that most of the teachers (46.05%) do not agree with the statement that didactic material can distract children's attention from the mathematical concept dealt with in class. On the other hand, 39.36% of students remain undecided, which may coincide with their lack of teaching experience.

Figure 1. *Didactic Material could move Children's Attention Away from the Mathematical Concept to be learned (children are more conscious about the material itself than about manipulating it). (Statement 5 in Table 1)*



Furthermore, we were interested in the role of didactic material for mathematically gifted children.

Table 2. *Research Question - What is the Role of Didactic Material for gifted Children?*

		P - value	Mean teach.	σ_t	Mean stud.	σ_s
1	Gifted children are more successful in manipulating didactic material.	0.00	3.62	1.05	2.85	0.96
2	Gifted children do not need didactic material for learning mathematical concepts.	0.01	2.14	1.05	1.82	0.89

The results in Table 2 show that the respondents' answers depend on their status. Figure 2 shows that 50 % of teachers believe that gifted children are more successful in manipulating didactic material. On the other hand, most of the students (38.30%) remain undecided about this statement.

Figure 2. *Gifted Children are more successful in Manipulating Didactic Material. (Statement 1 in Table 2)*

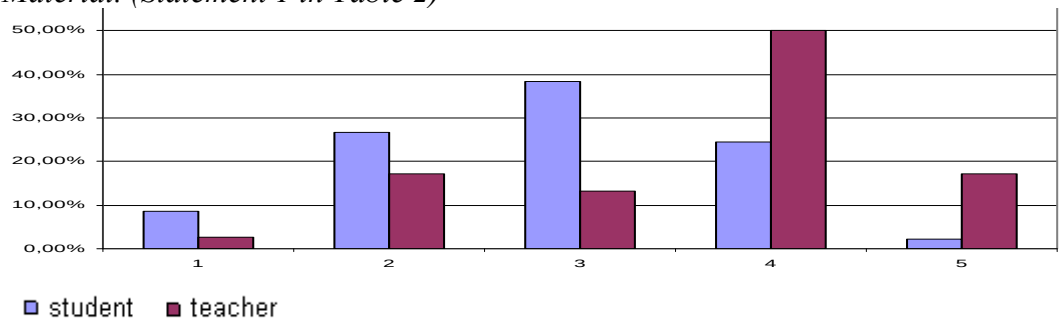


Table 3. *Research Question - What is the Role of Didactic Material for Less able Children?*

		P-value	Mean Teach.	σ_t	Mean Stud.	σ_s
1	Less able children need very self-evident didactic material for mathematical concepts.	0.06	4.70	0.63	4.51	0.64
2	Less able children need different didactic material representing a particular mathematical concept.	0.32	4.26	1.11	4.32	0.93
3	The use of 100-square for calculating up to 100 is helpful for less able children.	0.00	3.84	1.19	3.19	1.07

Both teachers and students find it essential to use didactic material when working with less able children. The respondents' answers depend on their status only in assessing the use of 100-square. Compared to student respondents, teachers find it more useful when working with weaker children (Figure 3). One of the reasons is that the majority of textbook material that the teachers use for teaching mathematics encourage the use of 100-square, while students are taught in the course of their studies at university that this didactic material does not necessarily support cognitive processes that are required in arithmetic to 100.

Figure 3. *The Use of the 100-square for calculating up to 100 is Helpful for Less Able Children. (Statement 3 in Table 3)*

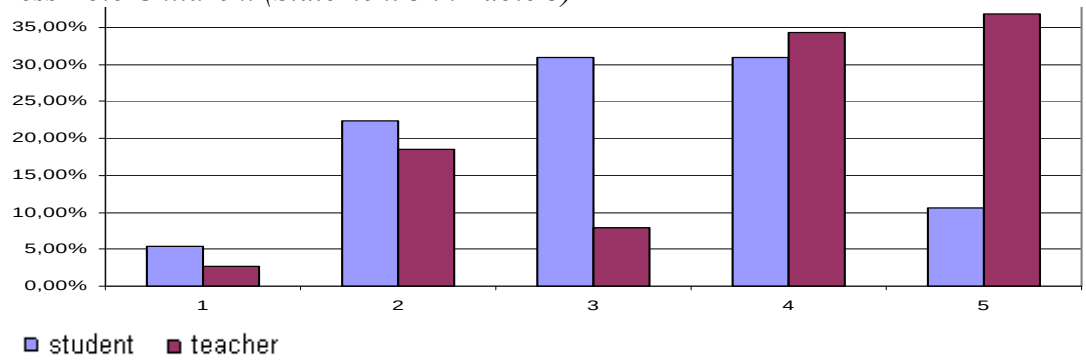


Table 4. *Research Question - What is the Role of using Didactic Material for Problem solving in Mathematics?*

		P-value	Mean teach.	σ_t	Mean stud.	σ_s
1	Didactic material enables problem solving situations in mathematics.	0.17	3.87	1.01	3.74	0.97

We can see that the distribution of answers does not depend on the status of respondents. Based on the mean values, we can conclude that both teachers and students are aware of the significance of didactic material for problem solving in mathematics. In relation to this, we were especially interested to find out which didactic material teachers and students would know how to use in problem solving. The responses are presented in Table 5.

Table 5. *Which Didactic Material should be used in Problem Solving?*

	Teachers		Students		
Didactic material	Number of responses	Share of responses	Number of responses	Share of responses	P - value
Geoboard	35	46%	61	65%	0.01
Link cubes	59	78%	75	80%	0.73
100-square	47	62%	62	66%	0.58
Pocket calculator	34	45%	62	66%	0.00

We can see that the status of respondents has a substantial impact on the use of two types of didactic material – the geoboard and the pocket calculator. The higher share of students who are able to use the above resources in problem solving can be attributed to the fact that the course on didactics of mathematics places emphasis on the use of modern didactic material, mostly from the point of view of solving mathematical problems. Teachers, especially those who have been teaching for a longer period of time, are not really familiar with the use of the geoboard in teaching and still see the calculator as an arithmetic aid and not as a type of cognitive didactic material which can be used to solve problems (Hodnik Čadež, 2000).

Table 6. *Research Question - What is the Influence of using Didactic Material on Children's Motivation for learning?*

		P-value	Mean teach.	σ_t	Mean stud.	σ_s
1	Children are more motivated to learn mathematics if they learn by using didactic material.	0.01	4.14	0.93	4.53	0.62

The table shows that the respondents' opinions on this statement depend on their status. It is surprising, however, that there are as many as 10.4% teachers who doubt the effects of didactic material in the area of motivation for learning mathematics, while there are no such opinions among student respondents (Figure 4). We believe that this does not mean that some teachers do not use didactic material in their classrooms. Nevertheless, the results might suggest

their poor knowledge of didactic material or their children' poor responses to the didactic material chosen …

Figure 4. *Children are More Motivated to learn Mathematics if they learn by using Didactic Material (Statement 1 in Table 6)*

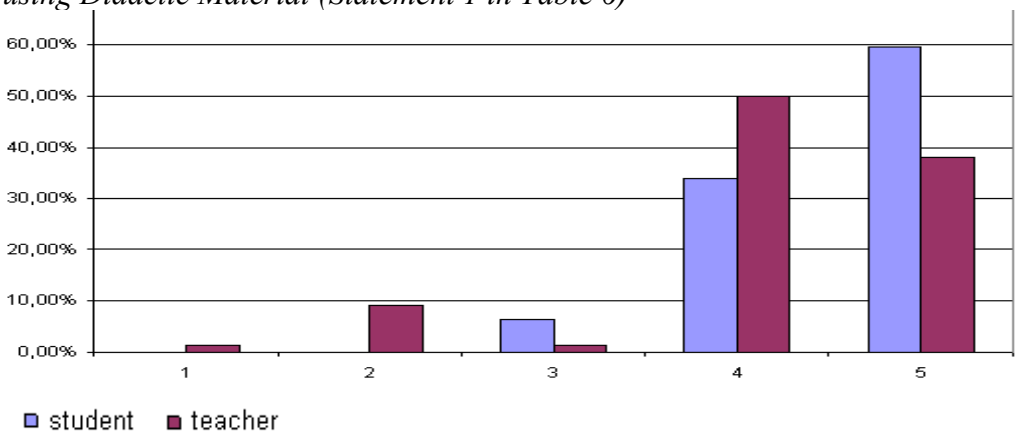


Table 7. *Research Question - What kind of Impact does Didactic Material have on Teachers' Lesson Planning?*

		Mean teach.	σ_t
1	Didactic material does not have any influence on my teaching mathematics (I include it when it fits my teaching style).	3.22	1.34

The chart (Figure 5) shows that most teachers (columns 4 and 5; 56.58%) agree with the statement that didactic material has almost no impact on their teaching style. This finding coincides with the study of U. Gellert (2004) which also finds that teachers adapt didactic material to their teaching and consequently do not fully utilize its potential for a different didactic approach or teaching methods.

Figure 5. *Didactic Material does not have any Influence on my teaching Mathematics (I include it when it fits my teaching style). (Statement 1 in Table 7)*

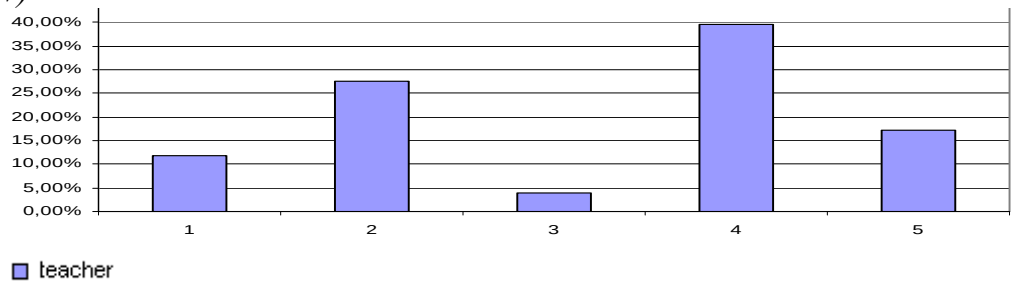


Table 8. *Research Question - How is Specific Didactic Material useful for teaching Different Mathematical Topics?*

		P-value	Mean teach.	σ_t	Mean stud.	σ_s
1	Link cubes are useful for dealing with numbers up to 100.	0.00	4.14	1.04	3.28	1.31
2	The Dienes blocks best represent the numbers up to 1000.	0.00	4.07	0.93	3.21	1.26
3	The geoboard is useful for teaching plane geometry.	0.22	4.38	0.78	4.24	0.79
4	Abacus is useful for dealing with numbers up to 1 000 000.	0.00	4.05	1.09	3.06	1.50
5	Children must know the place-value system in order to be able to manipulate the Dienes blocks.	0.07	4.13	0.91	3.84	0.92
6	The use of the 100-square for calculating up to 100 is helpful for less able children.	0.00	3.84	1.19	3.19	1.07
7	Using didactic material for introducing written algorithms is essential.	0.34	4.49	1.10	3.36	1.01
8	The best didactic material for representing written algorithms is the Dienes blocks and abacus.	0.19	3.79	0.88	3.42	0.94

Table 8 shows that the attitudes towards statements 1, 2, 4 and 6 depend on the status of respondents. Let us take a closer look at the attitudes of teachers and students about the statement saying that link cubes are effective in working with numbers up to 100. The majority of teachers (48.68%) agree with this statement completely (Figure 6). Students' answers still lean towards agreeing with the statement, yet there are many of them (50%) who do not agree completely, do not agree or cannot decide on an answer. It is obvious that practical experience contributes to the use of didactic material in teaching mathematics – link cubes should definitely be used to teach numbers up to 100.

Figure 6. *Link Cubes are useful for Dealing with Numbers up to 100 (Statement 1 in Table 8)*

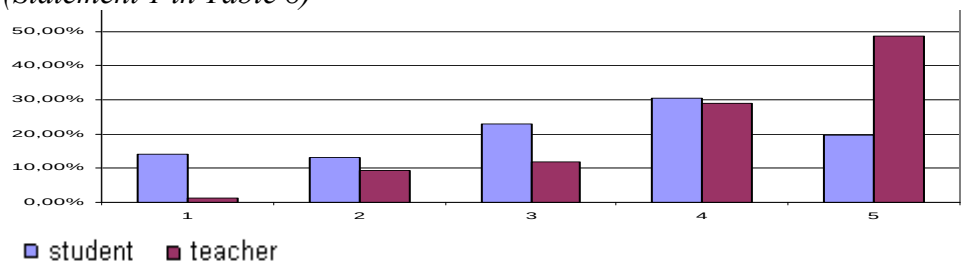


Table 9. *Research Question - Which Didactic Material is most useful for teaching Particular Mathematical Topics?*

	A.		G.		L.		H. D.	
Didactic material	**S** [%]	**T**[%]	**S**[%]	**T**[%]	**S**[%]	**T**[%]	**S**[%]	**T**[%]
Geoboard	0.00	0.00	86.17	39.47	26.60	2.63	0.00	1.32
Link cubes	81.91	55.26	11.70	6.58	36.17	35.53	37.23	47.37
Dienes blocks	44.68	27.63	1.06	0.00	8.51	0.00	12.77	1.32
Abacus	54.26	38.16	0.00	0.00	9.57	2.63	15.96	5.26
100-square	53.19	52.63	1.06	0.00	7.45	6.58	15.96	3.95
Number line	2.13	28.95	0.00	0.00	0.00	5.26	0.00	2.63
Models of shapes	0.00	0.00	28.72	40.79	4.26	0.00	0.00	0.00
Models of solids	0.00	0.00	19.15	67.11	3.19	3.95	0.00	1.32
Calculator	3.19	0.00	0.00	0.00	5.32	0.00	14.89	0.00
Everyday objects	2.13	11.84	14.89	18.42	9.57	26.32	4.26	10.53
Counting material	14.89	19.74	2.13	0.00	6.38	3.95	1.06	2.63
Geom. tools	0.00	0.00	14.89	19.74	0.00	0.00	0.00	0.00
Pictorial material	0.00	2.63	0.00	2.63	8.51	10.53	2.13	10.53
Strings	0.00	0.00	11.70	9.21	1.06	1.32	0.00	1.32
Didactical games	3.19	11.84	1.06	2.63	1.06	2.63	1.06	1.32
Play money	2.13	2.63	2.13	0.00	0.00	1.32	0.00	0.00
Logic blocks	1.06	0.00	32.98	27.63	9.57	11.84	7.45	11.84
Computer	0.00	0.00	0.00	0.00	0.00	3.95	0.00	0.00
Music instruments	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0,00
Toys	2.13	0.00	0.00	2.63	1.06	1.32	1.06	2.63

A- arithmetics, G – geometry, L – logics, H.D. – handling data, S – student, T - teacher

The last question for teachers and students was what material they would use to teach particular mathematical content (logics and language, arithmetic, geometry and data processing). The table above shows the list of materials suggested by teachers and students for various types of content. Our finding is that students are more familiar with the geoboard and its use for teaching geometry and that there are many students (26.6%) who would use it also in teaching logics and language. The differences between them are also evident in the use of link cubes, the Dienes blocks and the positional abacus, since

students chose them for teaching arithmetic more often than teachers. On the other hand, teachers listed the number line as a means of teaching arithmetic more often than students (28.95%), and everyday objects as a means of teaching logics and language (26.3%). Only 2.13% of students gave the number line as a means of teaching arithmetic, and 9.57% of all students would use everyday objects to teach logics and language. A surprising percentage of teachers (27.63%) and students (32.98%) chose logic blocks to teach geometry. Logic blocks can be used to introduce shapes and classifying; however, they should not be used to teach early concepts in geometry. The most frequently listed didactic material was link cubes (in all content groups, for both teachers and students), and among the most infrequent were toys, the computer (we assume they did not see it as a type of didactic material), and the abacus. In Slovenia, the last is not considered as having a positive role in teaching mathematics.

Discussion

Both students and teachers are aware of the importance of using didactic material for learning mathematical concepts. On average they do not see any negative effects using didactic material could have on learning mathematics. Both think that the use of didactic material is helpful for gifted children and for less able children as well.

Teachers think that gifted children are more successful in manipulating didactic material.

Gifted children easily establish relations between different representations of abstract mathematical concepts (they easily transform one representation into another: concrete into symbolic or into graphical …). On the other hand, less able children cannot establish relations between representations of mathematical concepts easily, which is why didactic material is sometimes of no help to them; they have difficulties in recognizing mathematical relations. The choice of didactic material for less able children is of vital importance.

Both students and teachers are aware of the role of didactic material for problem solving and for motivation of children for learning. But they differ in their attitudes towards the role of some specific types of didactic material:

- Teachers are more aware of the role of link cubes, the Dienes blocks, the abacus and the 100-square for the development of number concepts.
- Teachers' knowledge about didactic material is broader than that of students.
- The percentage of students who advocate the use the geoboard is much higher than the percentage of teachers who actually use it.

The attitude of teachers towards the influence of didactic material on their lesson planning is important. The study has revealed that the percentage of teachers who are not prepared to adapt the teaching lesson to didactic material is quite high (shown also in the study of Gellert 2004).

The study has also shown that both teachers and students need to be systematically educated to use didactic material. We can infer that in most cases teachers do not explore the potential didactic material offers, and rather employ textbook material and their teaching methods as key guidelines in dealing with didactic material. We believe that didactic material has an important role in problem solving when it is used in a well-thought-of way, with a suitable synthesis of physical manipulation and mental activity, which should lead, as often as possible, towards generalizations or derivations of mathematical laws. The results have also shown that students have an extensive knowledge in the area of didactic material that can be used in teaching mathematics. Especially pleasing is the fact that they are familiar with modern didactic material (for example, the geoboard and the calculator) and its role in problem solving. Nevertheless, it will be their work in the classroom that really shows the value of our findings.

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18

A Study into the Status of Knowledge, Behaviors and Evaluation of Preschool and Primary School Teachers Teaching at 1-5th Grades over Problem Solving Skills

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Problem can be defined as the cases which organism cannot solve with current responses and individuals are prevented in reaching their target, or a case which cannot be explained at once and needs a solution (Günaydın, 2006; Morgan, 1998; Semerci, 2000; Bingham, 2004; Aksoy, 2003; Dinç Artut et al., 2009). As for problem solving, this type of learning requiring the use of more than one process together is a mental activity carried out to emerge the unknown depending on the known systematically and analytically (Flynn, 1989; Açıkgöz, 1996; Çelen, 1999; Semerci, 2000; Barrouillet et al., 2008). Problem solving is a teachable and improvable skill throughout life (Kneeland, 200; Baykul et al., 2006; Metallidou, 2008).

One of the leading objectives of education is to train individuals to be able to cope with the problems they encounter (Karataş & Güven, 2003; Çalışkan et al., 2006). From the period of preschooling onwards, every individual should be made to attain problem solving skills in order to allow him to discover his own knowledge and skills, to meet his needs easily and use his knowledge and skills (Semerci, 2000; Şahin & Genç, 2001). Teacher is the basic source to support problem solving skills and he has a big role in it, as children spend much of their time at school rather their parents (Gander & Gardiner, 2001: 423; Aydoğan & Ömeroğlu, 2003; Ömeroğlu et al., 2009).

Teachers' behaviors have an impact on social, emotional and mental developments of children in every aspect. In this sense, teacher is responsible for being aware of the fact that every material and case around him could be transferred into teaching position and being a guide for the participation of them into these positions (Katz &Chard, 2000; Şahin & Genç, 2001). Teacher's vision, believes and attitudes concerning the problem solving process are of

vital importance in the growth of children as perfect problem solvers in the future by presenting the children their unique problem solving experience. In addition, the fact that teacher presents his experience to students by integrating the forms of knowledge, skills and thinking they owned beforehand in order to allow them discover new things is quite effective (Conezio & French, 2002; Aydoğan, 2004; Anlıak&Dinçer, 2005; Yaman & Yalçın, 2005; Kandır & Başaran, 2006: 58; Hoffman & Schraw, 2008).

In that way, within the context of the project of "Improving the Skills of Problem Solving of the Children at Preschools and 1-5 Grades of Primary Schools, and Norm Study of Turkey" supported by TUBITAK in order to meet the need over the Problem Solving Scale in Turkey, determining the knowledge, behaviors and evaluation methods over the problem solving skills of preschool and primary school teachers teaching at 1-5 grades were thought significant. It is thought that the educational programs and assessment tools to be prepared within the framework of the needs of teachers will be efficient to support the problem solving skills of children.

Material and Method

In this study, it was aimed to determine the relation between the status of knowledge, behavior and evaluation of the teachers preschooling and teachers teaching at the 1-5th grades of primary schools and their personal characteristics. The working group of the study consisted of 170 preschool teachers working at the schools of the central towns of the city of Ankara chosen randomly and 260 teachers teaching at the first stage of primary education, 430 teachers in total.

In the research, "General Knowledge Form" where personal features of the participants were questioned, and "A Need Analysis Form" in the type of five point likert in which items concerning knowledge, behavior and evaluation of preschool teachers and those teaching at the 1-5th grades of primary schools over their skills of problem solving prepared by the researchers (Ömeroğlu et al., 2009) after the analysis of focus group meetings having been carried out beforehand were used. The participants were asked to mark one of the expressions of 'I totally disagree, I hardly ever agree, I agree, I quite agree and I totally agree'. In the analysis of the data, t test and one way variance analysis were used for the independent sampling. Scheffe test was applied to determine between which variables a significant relation occured.

Findings and Discussion

Knowledge, behaviors and evaluations of teachers over problem solving skills were given in tables depending on their personal details.

In Table 1, it was found that the scores of knowledge [$F_{(4-425)}$=2.318, p>.05], behavior [$F_{(4-425)}$=1.496, p>.05] and evaluation [$F_{(4-425)}$=1.395, p>.05]

of teachers over problem solving skills of teachers according to their ages had no significant difference. However, it was found that knowledge ($\bar{x}$ =132.44) of the teachers in the age group of 36–40 and behaviors ($\bar{x}$ =166.61) and evaluation ($\bar{x}$ =43.63) of teachers in the age group of 26 – 30 were higher than those in other age groups.

Table 1. *Arithmetical Means, Standard Deviation and ANOVA Results of Teachers' Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills*

Age group	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
25 ages and less	45	127.76	9.02	164.13	15.99	42.75	5.63
26-30 ages	76	130.93	12.36	166.61	21.04	43.63	8.24
31-35 ages	78	130.40	12.89	161.53	16.56	41.11	7.29
36-40 ages	84	132.44	11.05	164.62	21.23	41.75	8.60
41 ages and above	147	128.02	12.97	160.34	22.28	42.92	7.35
Variance Analysis Results		F: 2.318 p: .056		F: 1.496 p: .203		F:1.395 p: .235	

According to Table 2, a significant difference was found in the knowledge, behavior and evaluation scores of teachers over problem solving skills according to working areas [$t_{(428)}$=2.890; 3.795; 3.247, P<.01]. It was determined that the scores of knowledge, behavior and evaluation of the teachers working at preschool education institutions over problem solving skills was higher than those of the teachers working at the 1-5th grades of primary schools. Depending on this fact, it is likely to say that preschool teachers had a higher level of knowledge on giving a support to the problem solving skills of children and also their experience of practice and evaluation was better than other groups. With these results, it is also likely to say that educational programs depending on individual improvement and creativity and put into effect in the preschooling in the year of 2006 had been effective.

Table 2. *The Results of Teachers' Evaluation Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills According to the Working Areas*

Teachers' Working Areas	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
Preschool education	170	131.89	10.67	167.44	18.25	43.93	6.91
Primary education	260	128.44	12.95	159.99	21.15	41.51	7.92
		t: 2.890 p: .004*		t: 3.795 p: .000*		t: 3.247 p: .001*	

*p<.01

No significant difference was found, as given in Table 3, between the results of teachers' scores of knowledge, behaviors and evaluations over their problem solving skills according to the duration of working in the profession [$F_{(4-425)}$=.613; 1.711; 1.622,p>.05]. However, the knowledge score of the teachers ($\bar{x}$ =134.42) with an experience of 6-10 years in the profession was found higher compared to the others.

Table 3. *Arithmetical Means, Standard Deviation and ANOVA Results of Teachers' Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills According to the Duration of Working in the Profession*

Teachers' Working Durations	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
5 years and less	84	129.31	12.34	164.68	19.96	43.11	7.78
6-10 years	75	131.33	12.35	165.71	17.72	42.72	7.87
11-15 years	107	130.12	10.85	160.01	22.11	40.86	8.00
16-20 years	66	130.05	11.98	165.67	17.88	43.04	6.68
21 years and more	98	128.54	13.54	160.50	21.82	43.10	7.36
Variance Analysis Results		F: .613 p: .653		F: 1.711 p: .147		F: 1.622 p: .168	

Depending on Table 4, it is likely to say that the results of teachers' scores of knowledge, behaviors and evaluations over their problem solving skills according to their level of education had no significant difference [$F_{(3-426)}$=1.118; 1.281; .591, p>.05]. However the knowledge scores ($\bar{x}$ =130.37) of undergraduate teachers were found higher than the others. Their behavior and evaluation scores were quit lower as their level of education increased.

Table 4. *Arithmetical Means, Standard Deviation and ANOVA Results of Teachers' Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills According to their Level of Education*

Teachers' Education Levels	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
High school	18	128.06	9.61	169.72	13.52	44.38	7.85
Associate Degree	68	127.56	12.60	163.84	17.46	42.61	6.89
Undergraduate	318	130.37	12.14	162.73	21.12	42.43	7.64
Master	26	129.97	13.37	157.77	21.33	41.30	9.18
Variance Analysis Results		F: 1.118 p: .341		F: 1.281 p: .280		F: .591 p: .621	

As was given in Table 5, a significant difference was found between the numbers of the students in the class and the scores of knowledge, behaviors and evaluations of teachers over problem solving skills [$F_{(3-426)}$=3.649, p<.05; 4.147, P<.01]. Depending on the Scheffe test results carried out to determine between which groups there was a difference in the units, the knowledge and behavior scores of the teachers having students fewer than 30 in their classes had a higher score than those of the teachers having students more than 30. According to the number of the students in the classroom, it is likely to say that

the knowledge and behaviors of the teachers dealing with the topic were affected. It has been suggested in the studies that the higher number of the students in the classroom would create a negative impact on the support of problem solving skills and increasing of skills and it would take up much of teachers time to monitor and control everything in large classes (Yaman&Yalçın, 2005; Aydoğan, 2004).

Table 5. *Results of Teachers' Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills According to the Number of the Students in the Class*

Number of the Students in the Class	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
15 children and less	48	129.79	11.15	165.50	17.82	44.43	5.85
16-30 children	219	131.45	11.17	165.59	19.37	42.58	7.85
31-45 children	139	128.07	13.70	158.53	21.98	41.38	7.69
46 children and more	24	124.83	12.08	158.42	20.28	43.79	7.59
Variance Analysis Results		F: 3.649 p: .013*		F: 4.147 p: .006**		F: 2.275 p: .079	

*p<.05, ** p<.01

Scores of knowledge, behaviors and evaluations over their problem solving skills according to their status of having an in-service training beforehand had no significant difference (see Table 6). On the other hand, it was determined that the knowledge, behavior and evaluation scores of the teachers having had an in-service training were higher than those of the teachers not having had an in-service training beforehand. Therefore, it could be said that in-service training affected the knowledge, behavior and evaluation of the teacher in a positive way and that quality of the education to be given to teacher could be improved through a practical education.

Table 6. *t-Test Results of Teachers' Scores of Knowledge, Behaviors and Evaluations over their Problem Solving Skills According to their Status of Having an In-Service Training Beforehand*

Status of in-Service Training Receiving	N	Knowledge		Behavior		Evaluation	
		$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
Taken	34	130.47	11.19	167.59	15.76	44.55	6.15
Not Taken	396	129.64	12.30	162.49	20.68	42.29	7.72
		t: .332 p: .740		t: 1,401 p: .162		t: 1.664 p: .097	

81.4% of teachers were willing to have an in-service training concerning the support to be given to the problem solving skills of children (see Table 7). It is likely to say that a great majority of teachers needed an in-service training in this issue in order to enhance their competence in giving a support to problem solving skills of children.

Table 7. *The Distribution of Teachers According to their Willingness in Having an In-Service Training over Problem Solving Skills*

In-Service Training Retrieval Request	N	%
Demanding	350	81.4
Not demanding	80	18.6
TOTAL	470	100.0

As was shown in Table 8, the activities given a priority by preschool teachers in the classroom to support the problem solving skills of the students are as follows; cognitive activities (29.41%), creative art activities (24.11), language activities (21.77), examination and discovery activities (15.89), and senso-motor activities (7.06). As for primary school teachers, their priorities are; language activities (26.54%), creative art activities (23.85), examination and discovery activities (20.77), cognitive activities (15.00) and senso-motor activities (13.46). So, it could be said that preschool teachers gave priority to cognitive activities, while primary school teachers gave priorities to language activities in giving support to problem solving skills of teachers. It is also likely to say that game, drama, science and mathematical activities were taken places in both groups**.**

Table 8. *The Distribution of the Activities Given Priority in the Classroom by Teachers over Giving a Support to Children on their Problem Solving Skills*

In-Class Activities	Preschool Teachers		Primary School Teachers	
	N	%	N	%
Cognitive Activities	50	29.41	39	15.00
Creative Art Activities	41	24.11	62	23.85
Language Activities	37	21.77	69	26.54
Examination and Discovery Activities	27	15.89	54	20.77
Sensory-Motor activities	12	7.06	35	13.46
Other Activities (game, drama, science and mathematical activities)	3	1.76	1	0.38
TOTAL	170	100.0	260	100.0

Table 9 shows that, preschool teachers expressed primarily that the problem should be easily understandable (46.47%) while primary school teachers said that the problem should be attractive and meaningful for children (41.54%). It is likely to say that easily understandability and meaningfulness of the problem for the children were given importance in both groups.

Conclusion and Recommendations

Within the context of the project of "Improving the Scale of Problem Solving Skills of the Children at Preschools and 1-5th Grades of Primary Schools, and Norm Study of Turkey" by supported by TUBITAK, as a conclusion of the study where the knowledge, behavior and evaluation of preschool teachers and teachers teaching at the 1-5th grades of primary schools; no significant difference was determined between personal characteristics of teachers and the knowledge, behavior and evaluation scores of them over problem solving skills ($p<.05$). A significant difference was found between knowledge, behavior and evaluation scores of teachers over problem solving skills in favor of preschool teachers ($p<.01$). In addition, knowledge and behavior scores of teachers having students fewer than 30 were found higher compared to those of the teachers with 30 and more students in their classrooms ($p<.05$, $p<.01$).

Table 9. *The Distribution of the Expressions Considered by Teachers Concerning Problem and Problem Solving*

The Expressions Considered by Teachers Concerning Problem and Problem Solving	Preschool Teachers		Primary School Teachers	
	N	%	N	%
The problem should be easily understandable	79	46,47	106	40,78
The problem should be attractive and meaningful for children	54	31.77	108	41.54
Children must need to decide for the problem to be selected	17	10.00	16	6.15
The problem must be solved at the level of complexity	10	5.88	16	6.15
Children should be able to exhibit concrete activities to gather data and solve problems	10	5.88	14	5.38
TOTAL	170	100.0	260	100.0

Although there was no difference, knowledge scores of the undergraduate teachers over problem solving skills were found higher than those with lower levels of education. In this study, a small number of teachers had an in-service training concerning the issue, but a great number of them wanted to have an in-service training.

Depending on these results; it can be recommended that the status of knowledge, behavior and evaluation over giving a support to the problem solving skills of children should be studied again with larger sampling group. Regarding that teachers indicated that they needed training over problem solving skills, the fact that children have an education parallel to their development features would create a basis in growing more successful individuals in terms of problem solving skills. In addition, the fact that teachers give priorities to aims, acquisitions and activities more widely and that they

were given support for the necessary assessment tools and materials they need would contribute much in their field.

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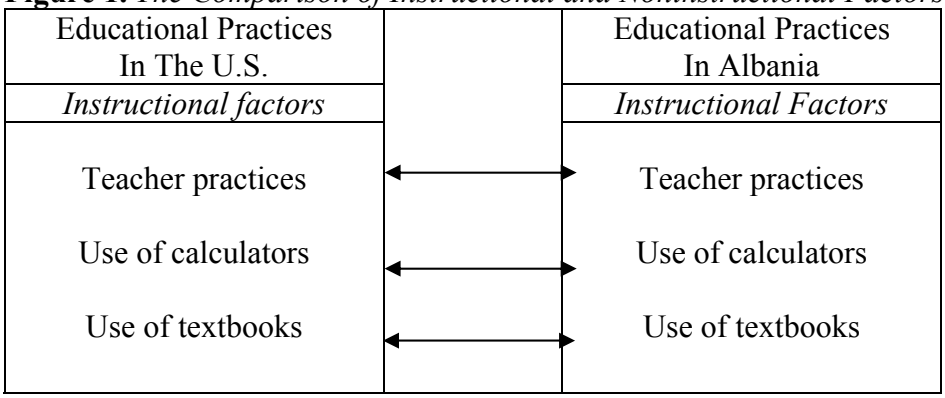
Educational Practices in Albanian and American Cultures

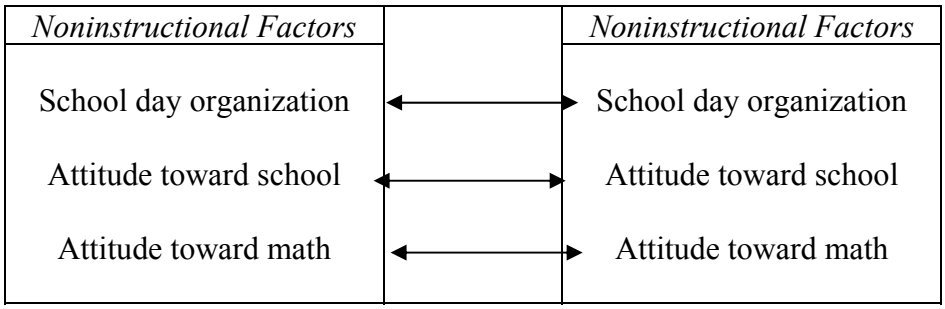
Sofokli Garo, "A. Moisiu" University, Albania

Based on results of international and comparative studies there are many cultural factors that influence learning. These factors are characteristic of a particular culture and are exerted in the communities surrounding schools (Smith, 1997).

In this study, educational practices, that may affect students' learning, are divided into two categories: instructional educational factors and noninstructional educational factors. The first category refers to practices that are related to instruction and may be exerted by teachers and students in-classroom or outside-classroom settings. These practices are clustered into three instructional factors: teachers' instructional practices, students' use of textbooks, and students' use of calculators. The second category refers to noninstructional practices. They are grouped in three other factors, namely, students' organization of their school days, students' attitude toward school and students' attitude toward learning mathematics. The objective of this study was to compare these six educational factors exerted in the cultures of the U.S. and Albania (see Figure 1).

Figure 1. *The Comparison of Instructional and Noninstructional Factors*





Literature Review

In the absence of research involving a direct comparison between the U.S. and Albania, this study focused on other available domestic, international, and multinational comparison studies that involve either the U.S. or Albanian students.

Instructional Practices

Teacher Instructional Practices

In this study the literature review about instructional practices was conducted towards three constructs, namely, management of instruction, assessment of learning, and development of algebraic reasoning.

Management of instruction. American teachers use a variety of teaching strategies. Students may work together as a class or break off into small groups (Stigler & Hiebert, 1999). Results from TIMSS 2003 show two-thirds of American eighth graders report that teachers display an interest in every student' learning (Mullis et al., 2004).

Typically, the Albanian algebra teachers use authoritarian teaching styles rather than facilitative, learner-centered ones. Although, not all teachers in the country use the same teaching methods, in most cases, teachers remain in their traditional 'territory', next to the blackboard (The World Bank, 2005).

Assessment of learning. In the conclusions of their videotape-based study Stigler and Hiebert (1999) assert that written tests represent the most common technique for assessing American students' learning. Most algebra tests consist of a large number of questions and routine exercises, which require students' responses on multiple-choice format. Students expect to be graded only for their provided right or wrong answers to the questions on these tests.

When Albanian teachers grade individual students, often they call students to the board for completing an important theorem or solving a challenging problem given as homework. According to Albanian teachers, a solution completed on the board offers the opportunity for both fair grading and learning how to communicate mathematically (Musai & Boce, 2003).

Development of algebraic reasoning. Even though high school algebra teachers vary substantially in terms of the content they teach, the cognitive approach they pursue, and interactive methods used in classrooms (Farrell &

Farmer, 1998), only one-fifth of American teachers in the TIMSS 2003 sample taught algebra lessons containing developed concepts; the rest, or four-fifth, taught only lessons containing stated concepts (Mullis et. al., 2005). Ma (1999) states that American teachers pose questions to get an answer, no matter what way is used to reach the answer.

Albanian mathematics teachers seem to pay attention to development of algebraic reasoning. However, this attention is more focused on high achievers. The Albanian teaching behavior of paying more attention to high achievers is associated with the tendency for examining, in detail, students' mathematical language and thinking (Musai & Boce, 2003).

Use of Calculators

A number of studies point to some illusions and pitfalls that American students encounter when they work with graphic software. The result is that many secondary students tend to give all authority of doing math to their calculators, equating mathematics learning with calculator manipulation (Doerr & Zangor, 2000).

Despite the presence of simple calculators in Albanian classrooms, teachers do not encourage their students to use them. Students are expected to operate mentally and smoothly with simple integers and seemingly they do, due to their enhanced mental mathematics skills (Musai & Boce, 2003). These expectations are supported by Albanian textbooks problems, which are not related to real-life situations (World Bank, 2005).

Use of Textbooks

American students seem to use a wide range of textbooks. Many of them integrate technology and are application-oriented. Between 67 and 90% of all classroom instruction at any level of school mathematics consists solely of detailed and useful examples and applications provided in the textbooks (Muth & Alvermann, 1992). Yet U.S. students do not use much of this information because these textbooks are heavily loaded with problems and exercises that require complex computations (Heller and Paulukonis, 2000).

The Albanian government publishes all the textbooks used in the schools, thus guaranteeing that their content adheres precisely to the national curriculum. Aligned with this national policy, ninth grade algebra students are issued one Algebra 1 (précised title: Mathematics 1.1) textbook per school year. This book is the main teaching and learning resource for Albania ninth grade teachers and students (The World Bank, 2005).

Noninstructional Practices

School-Day Organization

Watching television and video games, playing, and spending time with friends are the most common activities unrelated to academic learning that occupy the largest portions of secondary school students in the U.S. (Crystal et al., 1994). According to NCES (2002) American students average six hours with their teachers and two study hours at home. The response to the TIMSS

(The Trends in International Mathematics and Science Study) 1995 question on the average time devoted to doing all homework for the day was 2.3 hours.

The Albanian students' preparation for the next day usually includes doing written homework and studying the material in the textbooks. In his recent study, Musai (2007) shows that most high school students in Albania are engaged in preparation for the next school day for two to five hours.

Students' Attitude toward School

The Programme for International Student Assessment (PISA) 2003 measured students' sense of enjoying the school by asking them about their feelings about school as a place. An overwhelming majority of American students like their schools. Thus, 80 percent of American 15-year olds agreed or strongly agreed that they like being in school. Sociologists have found that students in the United States focus more on the social aspects of school than the academic ones; for them school is about friends. (Goodlad, 1982). Stigler and Hiebert (1999) stress that American high school students would like to be remembered as being popular and athletic.

PISA 2000 results show that Albania is among the four countries, which scored lowest on students' sense of enjoying school. More specifically, students' sense of belonging to school in programs designed to provide direct access to the labor market, tends to be lower than in academically oriented programs (Mita, 2001).

Students' Attitude toward Mathematics

Results of PISA 2003 study (as well as PISA 2000), indicate that 15-year olds of OECD countries, including the U.S., expressed less enthusiasm for mathematics than the other eighth graders in the TIMSS studies (OECD, 2004). But, on the other hand, this study found that the U.S. students are among most of OECD students that express a high rate of self-competence.

A recent study in Albania showed that most eighth graders of urban areas believe that they are not doing well in mathematics (Rrapo, 2006). In the previous study of PISA 2000, 55 percent of Albanian ninth graders reported that they do not enjoy mathematics, but sixty-six percent agree or strongly agree that mathematics is an important subject because they need it for what they want to study later (Mita, 2001).

Population, Samples, and the Measurement Instrument

Participants

In this study students' population involves ninth graders that live in Northern Plains of the U.S. and ninth graders that live in the central area of Albania. The sample of American students was chosen from Grand Forks and East Grand Forks counties, respectively in the states of North Dakota and Minnesota. Four schools were selected in consultation with local education

authorities to represent the full range of the counties' high schools. The total number of students included in American sample was 242.

The sample of Albanian students, included by 226 students, was chosen from Durres region. In this area schools are populated not only by the native families of this city, but also by children of families that two decades ago used to live all over Albania. The sample included one outstanding school in the city, two average schools in rural areas, and one school in the countryside. Of the four chosen schools, three were general and one was vocational. This fashion of selecting schools was thought to contribute to the criterion of generalization.

Measurement Instrument

Measurement instrument consisted of a student questionnaire, which included questions about two types of educational practices: instructional practices and noninstructional practices. Instructional practices questions asked students about teacher practices, use of calculators, and use of textbooks. Noninstructional practices questions asked students about their school day organization, attitude toward school and learning, and attitude towards mathematics.

Measurement of Instructional Factors

Teacher practices. Questions related to the factor of "teacher practices" were clustered into 3 constructs: management of instruction, assessment of learning, and development of algebraic reasoning.

The construct of "management of instruction" was measured with items about reteaching a topic when it is not understood from students, using the blackboard as a primary media for teaching a lesson, and spending class time for doing the homework assignment; the items had a thematic relationship among them. Items of this construct were measured on 4-point scale ranging from "never or almost never" to "almost always or always".

The construct of "assessment of learning" was measured with 2 items about the teacher practice for grading students on the board, measured on a 4-point scale, and the teacher practice for grading students with class-work questions, measured on a 5-point scale, ranged from "never" to" almost every day or every day".

The construct of "algebraic reasoning" was measured with 4 items. One item addressed the teacher practice of asking question "why?" and three other items addressed the teacher' preference for the type of test questions: multiple-choice, constructed-response, or a combination of these. Students' answers were measured on a 4-point scale ranging from "never or almost never" to "almost always or always".

Use of calculators. Three items were designed to measure this instructional factor. Students were asked to express their perceptions on the frequency of using calculators during a typical algebra class and during the test hours. Students were also asked on how much they need calculators while studying

mathematics. Answers on these items were measured on a 4-point scale starting from "never or almost never" to "almost always or always".

Use of textbooks. In order to examine the extent to which practices related to use of textbooks are common in both countries, students were asked to indicate the frequency with which they use their textbooks for purposes of understanding, looking for similar examples, or studying for test preparation. Students' answers were measured with the same scale that was used for the "use of calculators" factor.

Measurement of Noninstructional Factors

Organization of school days. The scale intended to measure this construct asked about "students' spending time on activities unrelated to school work". More specifically, students were asked how much time they spend on average with: TV, videos, internet, and computer games, playing sports, talking and playing with friends and reading for enjoyment. Students' answers were measured on a 5-point scale, ranging from 0 hours to 4 or more hours.

The second construct was related to students' working at a paid job whereas the third one represented the latent variable of spending time with studying. Three questions asked students how much time per day they spend for preparing all classes of the next day, doing mathematics homework and how often they attend tutoring.

Attitude toward the school. Two constructs were measured within this factor: students' sense of being comfortable with attending the school and students' beliefs about the value of school. Regarding the first construct, students were asked to express how much they like being in school. Students' responses were measured on a 4-point scale starting with "strongly disagree" and ending with "strongly agree". The scale of the second construct consisted of two items. In response to the first question students were expected to state the importance of school for learning, whereas in the second question they should state the importance of school for socializing with friends. Students' responses on the second construct were measured with the same scale as in the previous one.

Attitude toward mathematics. In this factor, the study included a number of constructs, such as, students' self-competence, enjoyment with learning mathematics, the value of studying mathematics, and the need for studying hard.

In order to measure self-competence students were asked about their beliefs about doing well in mathematics. The enjoyment with mathematics was measured with another item which asked students to state the extent to which they enjoy algebra. In addition, attitude toward mathematics was also measured with two other items related to the value of mathematics for studying other subject matters and the need for studying hard to get into the college. Students' responses to the four questions of this factor were measured on the same 4-point scale ranging from "strongly disagree" to "strongly agree".

Results and Findings

A MANOVA test was used to investigate the significance of differences (when found). The analysis was conducted separately for instructional and noninstructional variables.

Instructional Practices

Most items of the "student questionnaire", intended to measure instructional practices, were scored on a scale, whose highest levels were "most times" and "almost always or always". Students, whose responses were measured with these highest levels, were classified as "agree or strongly agree" students. There were also a few items, where students agreed or strongly agreed on certain numerical values. Table 1 displays percentages of "agree or strongly agree" students on each item.

Table 1. *Percentages of Albanian and American Students Involved in Instructional Activities*

	AL n=211	US n=236
Students who agree or strongly agree that their teacher:		
1. Grades students for their answers presented on the board	59.3	33.1
2. Reteaches the same topic on the next day when it is not understood by students	85.4	65.3
3. Requires students to explain their answers	85.9	64.5
4. Encourages students to take lecture notes from the board	87.1	64.4
5. Allows students to begin homework in class	4.5	89.7
6. Gives a quiz once a week or more often	53.4	47.1
7. Gives often multiple-choice test	13.6	62.9
Students who agree or strongly agree that they:		
1. Use calculators in their math classes	23.9	91.0
2. Use calculators when take tests	36.3	92.2
3. Need calculator	25.3	52.9
Students who agree or strongly agree that they use textbooks to:		
1. Carefully read for understanding	92.0	36.8
2. Look at examples	59.7	53.7
3. Study for exams	91.6	25.6

A one-way MANOVA test was conducted to determine the effect of "country" on the five dependent variables presented on Table 2. MANOVA results indicate that the independent variable of "country" (Wilks' Λ=.370, $F(1,465)=124.986$, $p<.001$) significantly affect the combined dependent variables of management of instruction, assessment of learning, development of algebraic reasoning, use of calculators, use of textbooks, and time spent for algebra homework.

ANOVA results indicate that "management of instruction" [$F(1, 465)=29.66$, $p<.001$], "assessment of learning" [F $(1,465)=31.61$, $p<.001$], "development of algebraic reasoning" [F $(1,465)=134.48$, $p<.001$], "use of calculators" [$F(1,465)=280.11$, $p<.001$], and "use of textbooks"[$F(1,$

465)=197.57, $p<.001$], significantly differ for "country". Some items that represent particular practices were clustered into construct variables. Descriptive statistics of these variables are presented on Table 2.

Table 2. *Descriptive Statistics of Instructional Constructs*

	AL n=211		US n=236	
	M	SD	M	SD
1. Management of instruction	5.53	1.18	6.29	1.69
2. Assessment of learning	4.29	1.81	3.44	1.36
3. Development of algebraic reasoning	4.76	1.07	3.44	1.30
4. Use of calculators	3.77	2.03	6.67	1.62
5. Use of textbooks	6.16	1.56	3.90	1.80

Noninstructional Practices

Noninstructional items of "student questionnaire" were measured on a range from "strongly disagree" to "strongly agree". Table 3 presents the percents of students in the two countries, who responded with "agree" or "strongly agree" for the noninstructional items.

Table 3. *Percentages of Albanian and the U.S. Students who reported High Scores on Noninstructional Activities*

	AL	US
Students who agree or strongly agree that they spend 3 or more hours on the following activities:		
1. Watch TV, video, use Internet, or play with computer games	24.8	40.5
2. Spend time with friends	19.4	49.2
3. Work at a paid job	8.8	14.9
4. Play sports	8.4	27.6
5. Read for enjoyment	22.5	4.6
Students who agree or strongly agree that:		
They spend 2 or more hours on preparing all classes for the next day	95.1	14.0
Students:		
Involved in tutoring	37.0	23.0
Students who agree or strongly agree that:		
1. Do well in mathematics	83.6	84.3
2. Enjoy mathematics	93.8	61.9
3. Need mathematics to learn other subject matters	76.1	88.8
4. Have to study hard in math to go to the university	95.2	89.7
Students who agree or strongly agree that:		
1. They like being in school	98.7	69.0
2. School is important for learning	97.0	85.5
3. School is important for making friends	41.6	73.2

Table 4 presents descriptive statistics of noninstructional constructs. The noninstructional factor of "school day organization" is represented by the constructs of "time spent on non-school related activities", "time spent on working at a paid job" and "time spent on school related activities". The rest of items remained unchanged, representing a particular educational practice or educational factor.

Table 4. *Descriptive Statistics of Noninstructional Constructs*

	AL		US	
	n=214		n=241	
	M	SD	M	SD
1. Time spent on non-school related activities	6.41	2.37	7.09	2.46
2. Time spent on working at a paid job	.25	.90	.63	1.35
3. Time spent on learning	4.18	1.46	1.22	1.26
4. School enjoyment	2.87	.37	1.75	.76
5. Importance of school for learning	2.87	.37	1.74	.75
6. Importance of school for making friends	1.43	.66	1.93	.72
7. Self-competence in mathematics	2.07	.62	2.03	.64
8. Mathematics enjoyment	2.38	.61	1.69	.71
9. Need math for studying other classes	2.02	.77	2.03	.57
10. Need to study hard to get into the college	2.56	.687	2.22	.63

A one-way MANOVA test was conducted to determine the effect of "country" on eleven dependent variables presented on Table 4. MANOVA results indicate that the independent variable of "country" (Wilks' Λ=.304, F (1, 448) =112.959, p<.001) significantly affect the combined eleven dependent variables. ANOVA results indicate that "time spent on non-school related activities" [F (1, 463)=9.07, p<.01], "working at a paid job" [F (1, 463)=12.50, p<.001], "time spent on learning" [F(1,463)=534.47, p<.001], "school enjoyment"[F(1,463)=390.143, p<.001], "importance of school for learning"[F(1,461)=390.13, p<.001], "importance of school for making friends"[F(1,461)=59.33, p<.001], and "mathematics enjoyment" [F(1,452)=122.70, p<.001] significantly differ for "country". Dependent variables of "self competence in mathematics" [F(1,461)=.529, p=.396], "need math for studying other classes" [F(1,460) =.024, p=.876], and "mathematics needs hard work to get into the college" [F(1,451) =7.14, p=.063] did not differ significantly for "country".

Discussion of Findings

Instructional Practices

Discussion of findings related to the category of instructional practices is grouped around constructs of "teacher instructional practices", "use of calculators", and "use of textbooks".

Teacher Instructional Practices

One of the main findings of this study is that the management of instruction in the two countries is significantly different. While American teachers use a variety of teaching styles and techniques, such as work with groups, handouts, projects, etc., Albanian teachers tend to "lecture from the board". While American mathematics teachers seem to show an interest in every student's learning, Albanian teachers tend to focus their attention on high-achievers or students that are called on the blackboard.

The two countries utilize different procedures for assessing students' learning. Table 1 shows that American mathematics teachers rely mostly on written tests for grading students, whereas Albanian teachers rely upon blackboard responses. In addition, teachers of both countries use quizzes and in-class assignment for grading.

The results of statistical analysis show that teachers of both countries significantly differ on the time spent and the ways of developing student algebraic reasoning.

Use of Calculators

Table 1 shows that Albanian and American classrooms differ significantly on the extent of using calculators in class, on the test, and in the attitude toward the need for calculator. The findings that American students over rely on calculators, whereas Albanian students are not encouraged to use them, supports the earlier results found by Doerr & Zangor (2000) and Musai & Boce (2003).

Use of Textbooks

The results of the study show that Albanian students use textbooks more extensively than their American peers. In addition, Table 1 shows that Albanian students scored higher than Americans in using textbooks for each of the three purposes analyzed in this study. These results confirm earlier findings (see, for example, Muth & Alvermann, 1992; The World Bank, 2005), according to which: (1) American students rarely rely on their mathematics textbooks for understanding in depth the lesson of the day or preparing for a test; (2) the textbook is the prime resource that guides Albanian teachers' instruction and students' learning.

Noninstructional Practices

School-Day Organization

American students rate themselves higher than Albanian students in the construct of non-school related activities. This finding is consistent with the results of Table 3, which show that percentages of American students, who spent 3 or more hours per day in non-school related activities was higher than corresponding percentages of Albanian students. These results also support results presented in TIMSS 1995 study according to which, 43 percent of American eighth graders spent the same amount of time with similar activities (Beaton et al., 1996).

Students of the two countries have different attitudes toward out-of-school learning. Learning constitutes the most important activity for Albanian high school students and, therefore, deserves priority on time allocation. This attitude may be explained with the constant pressure set by students' parents, who believe that studying is the only way that helps students get into college, earn a degree and find a proper job (Mita, 2001). Despite their substantial difference in time spent with home learning, American and Albanian ninth graders do not differ much in time spent for doing mathematics homework, and consequently, for studying mathematics.

Students' Attitude toward School

A comparison of percentages of American students, who are satisfied with being in school, shows a small decrease from 80 percent, reported by PISA 2003 study, to 69 percent, found by this study. Despite high rates given by students of both countries to the value of school for learning, these students seem divided about the social aspect of school.

Students' Attitude toward Mathematics

The results about self-competence show that the percentages in both groups are higher than the corresponding figure of 67 percent, reported by American 15-year olds, who participated in PISA 2003 study, and even higher than the corresponding average percentage of OECD countries that participated in this study (Nohara, 2001).

Students of the two countries have different appreciations about the role of high school mathematics for entering a higher education institution. For most Albanian high school students, entering a university and receiving a degree, seems to be a suitable way of surviving the harsh reality of current Albanian socio-economic transition.

Conclusions

The two countries differ in the ways in which teachers approach instruction. More specifically, Albanian teachers are more inclined than their American colleagues to deliver instruction from the blackboard, grade students for their answers on the blackboard or seat-work, ask students to explain their thinking, and administer free-response question tests. On the other hand, American teachers are more disposed than Albanians to use a variety of instructional methods, prompting students to start homework assignment in class, and administer short or multiple-choice question tests.

Students themselves differ in how they experience instructional and noninstructional practices. Albanian students seem more involved than their American peers in practices, such as studying textbooks (for understanding and test taking), reading for enjoyment, and learning for the next day. Compared to Americans, Albanian students seem more satisfied with being in school and learning mathematics, and view mathematics as conducive to entering a college

or university. American students, on the other hand, seem more concerned than Albanians about using and requiring calculators, spending out-of-school time with friends, sport activities, and electronic games; studying mathematics for helping them understand other classes. They also seem more inclined than Albanians in valuing the social aspect of schooling. Despite substantial differences on above educational practices the two countries are characterized by nearly the same rates of self-competence in mathematics.

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20

The Relationship between Problem Solving Skills and In-Class Activities

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Problem is defined as a stimulating situation in which achievement of a goal is prevented by an obstacle against which the individual does not have a ready response (Bingham, 1983; Morgan, 1998; Yildizlar, 1999). As one can understand from the definition, the situation must be a new situation that the individual has not faced before, and the solution must be possible in order to consider the situation as a problem (Tertemiz, 1995; Erden & Akman, 1998). We do not only think of problems in the field of mathematics when the word "problem" is uttered. Life requires the solution of a series of simple problems like scientific, social, mechanical, mental and logical (Bullock, 1988; Tallman et. al., 1993; Cüceloğlu, 2000). Said problems can either be long-term, short-term, simple and complex, and their solutions may vary based on problem type and complexity (Kotovsky, Hayes & Simon, 1985; Zins,1993; Morgan, 1998; Cüceloğlu, 2000).

Problem solving is not unique to adults. The dynamism of the world we live in brings children face-to-face with problems that require attention and solution frequently. For this reason, learning problem solving forms the focal point of early childhood education (Murray, 1990; Casey, 1990; Dinçer, 1995; Özkök, 2005).

It is generally believed that children are born with their problem-solving skills; however, problem-solving is a skill that can be learned just like other skills (Perlmutter et. al., 1989; Kneeland, 2000). Thus, children require new information experiences related to the problem solving process in order to overcome the obstacles they encounter. Deficiency of problem solving children in can be overcome by introducing missing basic concepts and solving qualified solutions in an orderly and frequent manner. Otherwise, they cannot become successful problems solvers (Başaran, 1985; Tertemiz, 1995; Dennistion, 2002).

Not with standing their genetic levels, it is definite that rich and diversified learning experiences that can be presented to children shall develop their cognitive skills and creativity levels (Jacoby, 1978; Ömeroğlu & Turla, 2001; Açıkalın, Summak & Summak, 2003). The school environment, which brings

children of different personalities, skills and needs together and provides numerous materials for their growth and development along with a multipurpose program, constitutes a suitable environment in terms of selection, recognition and solution of problems (Bingham, 1983; Casey, 1990; Honig, 1990; Murray, 1990; Casey ve Lippman, 1991; Erden ve Akman, 1998). Schools provide unique problem solving opportunities according to the chronological age of children. Most of the time, said opportunities are provided through concealed programs. Concealed programs are experience opportunities presented to the children in an ingenious and indirect manner and provide the opportunity of individual learning to children by presenting rich materials to incite the children to think (Ülküer, 1988; Flynn, 1989, Casey & Tucker, 1994).

Although teachers are considered as the main source in supporting the problem solving skills in the school environment, it is known that the problem solving skills of the children are affected by numerous factors. While the studies conducted are presenting information on the impacts of problem solving factors such as personal characteristics, creative thinking, problem solving willingness, self-confidence, motivation, peer interaction, problem solving and interest towards problem situation, ambition for success, communication skills, group work, desire to please the teacher or the parents (Bingham, 1983; Greene and Noice, 1988; Knight, Perlmutter et.al.1989; Waxman and Padron 1989; Freund, 1990; Baykul, 1995; Özusta, 1998; Runco, 1991; Özgüven, 1994; Barron, 2000), studies aiming at determining the effect of characteristics or behaviors of students with high in-class activity level on the problem solving skills could not be found.

In the studies conducted regarding the in-class activity levels of students, it has been determined that students participating in in-class activities are better and faster in learning, appreciate the activities they realize; are more successful in terms of adaptation to the environment, motivation for success, ambition to receive high marks, academic self confidence, observation of rules and task responsibility, and make better use of their teachers and other resources in order to achieve their objectives (Perkins, 1996; Waxman & Huang, 1997; Başal, 2001; Açıkgöz, 2002; Öztürk, Koç & Tezel Şahin, 2003; Gür & Seyhan, 2006). Although all of these studies point to the fact that participation in academic and social activities in the class environment or activity level have an impact on the success level of the students, the in-class activity level has not been evaluated in terms of problem solving skills.

Thus, the study is realized to determine the relationship between the problem-solving skills of students and the in-class activities levels, and to investigate the impacts of certain variables on the problem solving and activity levels of students.

Material and Method

This study is planned to determine whether there is a meaningful relationship between the problem solving skills of fourth grade primary school students and their in-class activity levels. Furthermore, the study also investigates whether the problem solving skill scores and the in-class activity levels of students create a meaningful difference on the basis of age, gender and their education branches.

The study domain consists of 152 primary school students, attending two primary schools in Çankaya Subprovince of Ankara Province. “"*Purdue Elementary Problem Solving Inventory-PEPSI*", prepared by Feldhusen, Houtz ve Ringenbach (1972), of which the Turkish adaptation is realized by Aydoğan (2004) and the “*In-Class Activity Scale*” prepared by Başal (1998) were used in the study to measure the general problem solving skills of the students.

Purdue Elementary Problem Solving Inventory was developed by Feldhusen, Houtz and Ringenbach (1972) in order to assess the general problem-solving skills of children of lower socio-economic levels and different ethnical groups. The inventory consists of 49 illustrations covering certain problem situations of real life and the short stories defined by said problems. The illustrations, covering the problem situations, in the inventory which consists of 12 sub-sections and which can be applied in groups, are shown to the children on slides. Specific periods are allocated based on the characteristics of each problem in order to ensure that children can examine the illustrations thoroughly. At the end of said period, the children are instructed to find a solution for the problem situations shown in the illustrations one by one and to mark their solution in the answer booklet. Answering of the inventory takes approximately 45 minutes considering the periods provided. Four different answer option groups have been used for the total of 49 questions in the inventory. Said options were the yes no option, the three sentence options in boxes A, B, C, three illustration options in boxes A, B, C and the options of “yes, no, I don’t know”. The answers provided by the children are evaluated on the basis of the evaluation key criteria in the inventory with one correct answer for each question (ETS Test Collection).

In-Class Activity Scale for Children; The scale, developed by Başal (1998) for fourth and fifth grade students of primary schools, can be applied individually or in groups. The scale, which does not have an application period limitation, requires selection and marking of one the options of “Never=1”, “Occasionally=2”, “Frequently =3” and “Always=4”. The total points (P) are calculated by summing the points corresponding to the respective points of each item. The total points calculated with the scale vary between a minimum of 39 points and maximum 156 points. The high points indicate a higher level of in-class activity while lower points indicate lower level of in-class activity (Başal, 2001).

Analysis of the data obtained with said measurement tools included Independent Samples t-Test and One-Way Analysis of Variance (One-Way ANOVA) and Pearson Correlation Coefficient.

Findings and Discussion

The data, resulting from the study conducted with the aim of investigating the relationship between problem-solving skills and the in-class activity levels of fourth grade primary school students, have been analyzed and the findings are presented in tables.

Relationship between Problem Solving Skills and In-class Activity Levels of Students

A positive and meaningful ($p<.01$) relationship has been determined between the problem solving skills scores of fourth grade primary school students and their points from the in-class activity scale ($r=0.490$, $r^2=0.24$, $N=152$, $p=.000$). Said finding indicates that 24% the differences observed in the problem solving skills of children can be explained with the points obtained from the in-class activity scale of the students. The fact that this is a positive relationship indicates that the student with a high in-class activity level shall also achieve a high score in problem solving skills.

Table 1. *t-test Results of the Problem Solving Skills and In-Class Activity Level Scores of Students by Gender*

	Gender	N	$\bar{x}$	SD	df	t	p
Problem Solving Skills	Girl	75	31.64	4.24	150	2.23	.027
	Boy	77	29.83	5.60			
In-Class Activity Levels	Girl	75	131.38	14.59	150	2.64	.009
	Boy	77	124.29	18.16			

Examination of Table 1 shows that the mean problem solving skill score of girls is $\bar{x}=31.64$ while the boys have a mean problem solving skill score of $\bar{x}=29.83$. The table shows that there is a meaningful difference between the problem solving skills of students by gender [$t_{(150)=}.27$, $p<.05$]. This finding indicates that there is a meaningful relationship between the problem solving skill scores of students and the gender factor.

Crombia, Gold (1988) and Tharally (1991) have determined in their study investigating the effect of gender and education on the problem solving skills that girls are more successful in this skill compared to boys. In the study realized by Cheyne and Rubin (1983), it has been reported that girls are more successful in selecting correct parts in problem solving compared to boys. Clasen, Middleton and Connel (1994) have examined the gender variable in their study, which evaluated the problem solving skills of students of different ethnic groups, and concluded that girls were more successful compared to boys. Said studies, which report the differences between the genders in problem solving and the conclusion that girls are better problem solvers, are coherent with the findings of this study, indicating that gender is an important factor in problem solving.

Examining the in-class activity levels of students in Table 1, it can be seen that the mean score of the girls is $\bar{x}$=131.38 while the boys have a mean score of $\bar{x}$=124.29. This indicates that girls have an in-class activity level higher than the boys and the analysis results show that the difference between genders is statistically meaningful [$t_{(150)}$ =2.64, p<.01].

Table 2. *t-test Results of the Problem solving Skills and In-Class Activity Level Scores of Students by Age*

	Age Groups	N	$\bar{x}$	SD	df	t	p
Problem Solving Skills	10 age 11 age	128 24	30.35 32.70	5.08 4.39	150	2.12	.035
In-Class Activity Levels	10 age 11 age	128 24	127.25 130.66	17.01 15.79	150	.91	.364

Based on Table 2, the mean problem solving score of 11 year old students is $\bar{x}$=32.70 while the mean problem solving score of 10 year students is $\bar{x}$=30.35. Based on the analysis results, it has been determined that the difference between the problem solving skill scores and age is meaningful [$t_{(150)}$=2.12, p<.05].

Vlietstra (1980) has examined age differences in problem solving and attention in his study. He has concluded that the skill of comprehending the problem situation increases with age and that previous experiences are effective in problem solving. Klahr and Robinson (1981) have measured the problem solving performance of five and six year old children with the tower problem. It was reported in the study that the difficulty of the problem constituted an important factor in problem solving and that problem solving skills increased with age. In a study by Ricco (1997), the impact of age on problem solving has been reported, and it has been determined that although the students in the age group of seven received education, they did not have performance as goods as eight and nine year-old children. In the same study, it was observed that eleven and twelfth year old children found the evidences that facilitated the solution of the problem better than the other age groups. Again in similar studies regarding children, it has been determined that age is an effective factor in problem solving (Barton, 1988; Fabricus, 1988; Richie and Bichard, 1988; Gauvain ve Rogoff, 1989; Thornton, 1999). All of the above conclusions, which indicate that age is an important factor in problem solving, support the findings related with problem solving based on age in this study.

Examining the in-class activity level scores of students in Table 2, it is observed that the mean score of the 11 year old children is $\bar{x}$=130.66 and 10 year old children is $\bar{x}$=127.25. Although said scores point to the fact that the in-class activity levels of 11 year-old students is higher than those of 10 year old students, it was determined that said age difference was not statistically meaningful [$t_{(150)}$ =.91, p>.05].

Table 3. *Arithmetical Average Standard Deviation and ANOVA Results of Problem Solving Skill and In-Class Activity Level Scores of Students by Branches attended by Students*

	Branch	N	$\bar{x}$	SD	df	F	p	Meaningful difference
Problem Solving Skills	A	33	32.18	4.31	4-147	3.784	.006	A-B, B-C
	B	34	28.41	4.72				
	C	33	32.36	4.14				
	D	27	30.62	6.02				
	E	25	29.88	5.23				
In-Class Activity Levels	A	33	129.45	13.85	4-147	.167	.955	---
	B	34	126.38	15.58				
	C	33	128.33	21.51				
	D	27	127.81	14.73				
	E	25	126.80	18.17				

Examining the problem solving skill scores of students in Table 3 based on branches attended, it is seen that students in branch A have a mean score of $\bar{x}$=32.18 while those in Branch C have a score of $\bar{x}$=32.36. Considering the relationship between the in-class activity level scores and branches of children, it is seen that students in branch A have a mean score of $\bar{x}$=129.45 while students in branch C have a score of $\bar{x}$=128.33. The output of the variance analysis has shows that there is a statistically meaningful difference in the problem solving skills of children by branches they attended [$F_{(4.147)}$=3.784, p<.05]. In other words, it has been determined that the problem solving skill scores of students were correlated with the students attending difference branches and having different teachers. Based on the results of the Scheffe test, which was performed to determine which groups differed between the units, it was determined that children in branches A and C had higher problem solving skills compared to those in branch B. However, it was determined that the in-class activity level of children did not have a meaningful difference in terms of branches [$F_{(4-147)}$ =.955, p>.05].

Based on said findings, it is observed that both the problem solving scores and in-class activity level scores of students in branches A and C were higher than those in branch B, and that the children in branch B received the lowest scores among all groups. It may be considered that numerous factors such as teachers, friends in the classroom, the class atmosphere and in-class communication may have an impact on said results.

Conclusion and Suggestions

The study aiming at determining the relationship between problem solving skills and in-class activity levels of fourth grade primary school students has determined the following: there is a positive and meaningful relationship

between the problem solving skills and in-class activity levels of students; that problem solving skills of students displayed a meaningful difference by age, gender and the branch they attended; and in-class activity levels of students displayed a meaningful difference only by the gender variable.

Certain recommendations may be presented to researchers and educators under the light of said outputs.

Studying of the relationship between the problem solving skills of individuals and their in-class activity levels in different age groups with a larger domain and comparison of the outputs thereof shall clarify and contribute to determination of the impact of different variables.

As stipulated in the theoretical section, problem solving is a skill that should be taught as of early childhood because it is required for their whole life. This skill holds an important place in terms achievement of social targets and success in the learning processes. The Elementary School age, in which the foundations of the personality are being set and social values are acquired, constitutes the most productive years for providing education aiming at having problem solving skills acquiring. For this purpose, educators are required to provide enriched problem solving possibilities and to ensure active participation of children in their education.

In conclusion, one must keep in mind that the encouragement of children toward independent behaviors in problem solving shall provide support to them in becoming good problem solvers.

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21

Transparency of Economic Accessibility of Users in Kindergartens in Slovenia

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Organisation of preschool education in Slovenia lies within the competence of municipalities. Slovenia currently has 210 municipalities. Getting an overview of the organisation of preschool education is not easy. The prevalent share of funding is provided by municipalities from their own budgets, but funding for investments can also be acquired from the national budget. The second most important source of funding is parental contributions. Undoubtedly, indicators guarantee transparency of municipality budget spending to a certain extent. However, budget indicators are insufficient in order to fully appreciate the volume of thus acquired funds, financial burden on parents and financial conditions for work in kindergartens. The indicator system should be upgraded so as to make funding transparent for users, providers and sources of funding in preschool education. Nonetheless, this paper aims to analyse the responsiveness of the childcare system to the living and the economic conditions of the population. Moreover, an assessment is drawn of the level of accessibility of this type of education to the economically weaker segments of the population. An assessment is also made of the degree to which the organisation and co-financing of childcare is reconciled with the economic conditions within a particular municipality.

Preschool education system in Slovenia

Legal Framework of Preschool Education in Slovenia

Preschool education in Slovenia is performed primarily in public kindergartens and to a lesser extent also in private kindergartens. Kindergartens are attended by children from one year of age up until their entry in school. Preschool education is not compulsory. Providing preschool education is one of the principal tasks of municipalities (Local Government Act, Financing of Municipalities Act); therefore, kindergartens are founded and financed by municipalities. Preschool education in kindergartens is governed by two acts:

the Organisation and Financing of Education Act and the Kindergarten Act. The Organisation and Financing of Education Act governs the conditions for operation and stipulates the method of management and financing in all segments of education.

The Kindergarten Act governs preschool education in both public and private kindergartens (tasks of kindergartens, goals and principles, types of possible kindergarten programmes, financing, conditions concerning the education of professional staff, professional duties of kindergarten teachers and teacher assistants, personal data collection and protection in kindergartens etc.).

A public kindergarten is founded by a municipality, while a private kindergarten can be founded by Slovene or foreign legal or physical persons. On its founding a kindergarten being a legal entity listed in the Court Register is entered in the register of publicly accredited education programme providers kept by the Ministry of Education and Sport.

Private kindergartens also differ from public ones with regard to the programmes offered. The programme of a private kindergarten is decided by its founder; however, a private kindergarten can also carry out the public kindergarten programme. Before beginning to implement the programme a private kindergarten is required to obtain a positive opinion by the Expert Council for General Education. Private kindergartens implementing the programme according to special pedagogical principles (Steiner, Decroly, Montessori et al.) receive positive opinion of the Expert Council for General Education after it finds that their programme was recognised by the relevant international association. Like a public kindergarten a private kindergarten too can start performing its activities only after being entered in the register kept by the Ministry of Education and Sport. Public kindergartens are organised as autonomous preschool education organisations or as part of elementary schools. In Slovenia there are about 300 public and about 20 private kindergartens. Based on preschool education needs a municipality can grant a concession to a private kindergarten.

Table 1. *Scope of Preschool Education in Slovenia, 2000 - 2007*

Year	Children	Classes	Care and educational staff	No. of children per class	No. of children per kindergarten employee
2000/01	63328	3531	7163	17.93	8.84
2001/02	61803	3477	7099	17.77	8.71
2002/03	58968	3342	6949	17.64	8.49
2003/04	54515	3243	6729	16.81	8.10
2004/05	54815	3232	6762	16.96	8.11
2005/06	57134	3375	7115	16.93	8.03
2006/07	58127	3484	7346	16.68	7.91

Source: http://www.stat.si/letopis/index_letopis.asp

Scope of Preschool Education

The scope of preschool education in Slovenia had been in decline up to 2004 due to the falling birth rate. The rise in the birth rate since 2004 has had an impact on the scope of preschool education. Recently, the number of children in kindergartens has exceeded 58.000 (Table 1); the kindergartens carry out their programmes in 3,500 classes and employ 7,300 teachers and other expert staff. The indicators of the number of children per class and the number of children per employee are exhibiting a downward trend, indicative of improved quality in preschool education in Slovenia.

However, the conditions for enrolling children into preschool education vary between municipalities in Slovenia. On average, over one half of children out of the total number of children in Slovenia are enrolled in kindergartens; still, Table 2 illustrates that the percentage of children enrolled in childcare schemes varies significantly between municipalities. This imparts different conditions of accessibility to this type of service between municipalities. In some municipalities the percentage of children in childcare schemes is less than 30% while in others it is higher than 80%. The present situation, however, is expected to change substantially due to the amendment of the Kindergarten Act (http://www.uradni-list.si/1/objava.jsp?urlid=200825&stevilka=911), which now grants parents with one child already in a kindergarten free care for the second and any following children. The revised act aims to increase the percentage of children in preschool education and, consequently, better prepare them for primary school.

Table 2. *Distribution of Municipalities per Percentage of Children in Kindergartens for 2007*

Percentage of children in kindergartens	Percentage of municipalities (in %)
over 20% less than 30%	3%
over 30% less than 40%	16%
over 40% less than 50%	34%
over 50% less than 60%	30%
over 60% less than 70%	14%
over 70% less than 80%	4%
over 80% less than 90%	1%
TOTAL	100%
AVERAGE	56%

Source: http://www.stat.si/pxweb/Dialog/SaveShow.asp

Preschool Education Funding Model

Revenue and Expenditure in Preschool Education

The Financing of Municipalities Act stipulates two important financial sources for the funding of preschool education in Slovenia, i.e. municipality budget revenues and parental contributions. Table 3 illustrates the framework structure of financing of preschool education, drawn upon the strategy of the City of Ljubljana, which due to its size (approximately 15% of the population)

considerably contributes to the establishment of preschool education financing policies in Slovenia (a more detailed analysis of this kind for Slovenia as a whole is yet to be made).

Table 3. *Structure of Revenue and Expenditure in Preschool Education-Ljubljana*

Revenue	**Structure %**
Municipality budget revenue	**50 -70**
Parental funding	**25- 35**
Public funds – other	**3-7**
Donations and other sources	**2-5**
Expenditure	
Material costs	**10-20**
Salaries, contributions and other costs of labour	**75-85**
Purchase of equipment, toys, other aids, maintenance	**3-5**

Source: Preschool Education Development Strategy in Ljubljana City Municipality

Table 3 allows for the following conclusions to be made:

- in revenues, municipality funds account for 2/3 of kindergarten revenues and parental contributions for the remaining 1/3 ;
- in expenditure, funds for employee salaries account for ¾ of total expenditure, while the remaining ¼ pertains to expenditure related to material and other costs.

An important problem pointed out by municipalities lies in the structure of salaries and classification of employees in payment brackets. In Slovenia classification in payment brackets lies within the competence of the Ministry of Education and Sport, while funds for salaries are provided by municipalities.

Table 4. *Budget Expenditure of Slovene Municipalities on Preschool Education as a Percentage of Total Expenditure, 2000 – 2006*

Year	Total budget expenditure (in million EUR)	Total preschool education (in million EUR)	Share of expenditure on preschool education %
2000	893.4	121.1	13.6%
2001	1,010.5	139.6	13.8%
2002	1,139.7	158.9	13.9%
2003	1,211.7	173.4	14.3%
2004	1,295.1	176.7	13.6%
2005	1,370.0	189.0	13.8%
2006	1,643.9	223.3	13.6%
Average annual growth rate %	10.7%	10.7%	

Source: http:// www.vus-uni.lj/sib/vhod.html

Municipality Funding

On average, municipality budget expenditure on preschool education accounts for 14% of the total budget.

Table 4 shows that:

- municipality budget expenditure is growing at an annual growth rate of close to 10,7%;
- municipal expenditure for preschool education has been growing at an average annual rate of 10.7% and accounted for slightly less than 14% of municipal budgetary expenditure throughout the observed period.

Table 5 shows that under this aspect there is quite a high degree of dissimilarity among municipalities and that only one quarter earmarks less than 10% of their funds on preschool education, while the share of municipalities earmarking more than 15% of their budget on preschool education is almost 30%.

Table 5. *Municipality Structure based on Budget Expenditure Share for Preschool Education in 2000 - 2006*

Budget expenditure share for preschool education	Share of municipalities
up to 5%	3%
from 5% to 10%	22%
from 10% to 15%	46%
from 15% to 20%	23%
from 20% to 25%	5%
from 25% to 30%	1%

Source: www.vus-uni.lj/sib/vhod.html

Parental Funding

The amount of parental contributions for preschool education is based on the financial situation of families whose children are involved in preschool education. Depending on the family income parents contribute from 10% to 80% of the full price (Kindergarten Act). Table 8 is a detailed presentation of contribution shares.

Table 6. *Bracket Scale for Payment of Kindergarten Programmes in 2006*

Payment bracket	Income per family member (EUR)		Payment of kindergarten rates
	from	to	%
1.	0	269	10%
2.	269	390	20%
3.	390	502	30%
4.	502	613	40%
5.	613	780	50%
6.	780	1,003	60%
7.	1,003	1,226	70%
8.		over 1226	80%

Source: http://www.mss.gov.si/index.php?id=82

It is certainly very interesting to see how the level of parental funding of preschool education varies among municipalities. This is a result of different kindergarten prices, which are, however, calculated using a uniform methodology for price setting in public kindergartens (Rules on Methodology for Establishing Prices of Programmes in Kindergartens Performing a Public Service).

Table 8. *Bracket Scale for Payment of Kindergarten Programmes in 2008*

Payment bracket	Income per family member (EUR)		Payment of kindergarten rates
	from	to	%
1.	0	303.20	10%
2.	303.20	424.48	20%
3.	424.48	545.76	30%
4.	545.76	667.04	40%
5.	667.04	848.96	50%
6.	848.96	1,091.00	60%
7.	1,091.52	1,334.08	70%
8.		over 1,334.08	80%

Source: http://www.mss.gov.si/si/delovna_podrocja/predsolska_vzgoja/vpis_in_placilo/

Table 9 shows that prices for preschool education vary quite significantly among municipalities, which leads us to conclude that parental contributions also vary quite significantly. Correlation between kindergarten rates and municipality expenditure on preschool education could not be proven.

Table 9. *2008 Kindergarten Rates for 1-3 Year Programme and 3-6 Year Programme*

Kindergarten rates	Age of children (years)	
(EUR)	1-3 years	3-6 years
230 to 280	0%	17%
280 to 330	1%	73%
330 to 380	20%	10%
380 to 430	50%	0%
430 to 480	25%	0%
480 to 530	4%	0%
Total	100%	100%
Average (EUR)	433	305

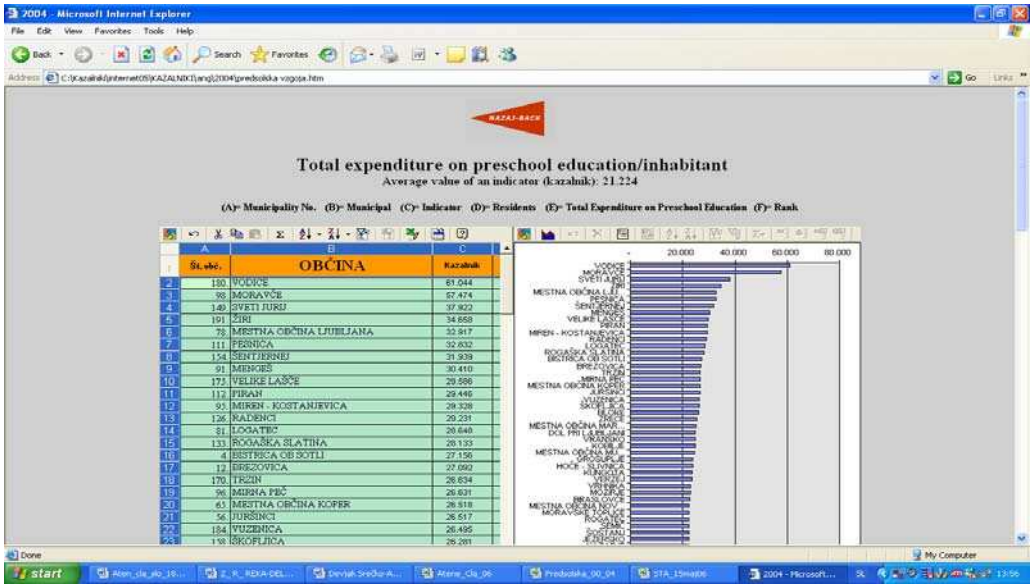
Source: http://www.mss.gov.si/index.php?id=82

Transparency of Public Funding of Preschool Education

An overview of budgetary indicators of Slovene municipalities has been provided by the Faculty of Administration at the University of Ljubljana since 2003 (Devjak, 2004). The indicators (75 per each municipality) are accessible to the public on the website http://www.fu.uni-lj.si/sib/vhod.htm. The indicator system has been developed with a view to guarantee transparency of public expenditure (http://www.imf.org/external/np/fad/trans/code.htm) and ensure

comparability of services lying within the competence of municipalities (http://www.audit-commission.gov.uk/ac2/NRfirst.htm). In particular, the system allows us to study differences and benchmark (Devjak, 2003, Longboton D.2000) on the basis of budget revenues and modality of their spending, both among municipalities and among budget periods. The system comprises data for the periods between 2000 and 2004 (2005 is under preparation). The indicators include those concerning budget expenditure on preschool education: both total and current expenditure on preschool education. The user can find investment expenditure by calculating the difference between the total expenditure and current expenditure on preschool education. All expenditure is per capita, which results in an indicator allowing us to understand basic differences (Cook, S. 1995) among municipalities in terms of allocation of funds on preschool education. The indicator is shown numerically and graphically in Figure 1, where one can immediately notice considerable differences among municipalities as regards the volume of funds allocated on preschool education.

Figure 1. *Website Presentation of Indicator "Total Expenditure on Preschool Education/inhabitant"*



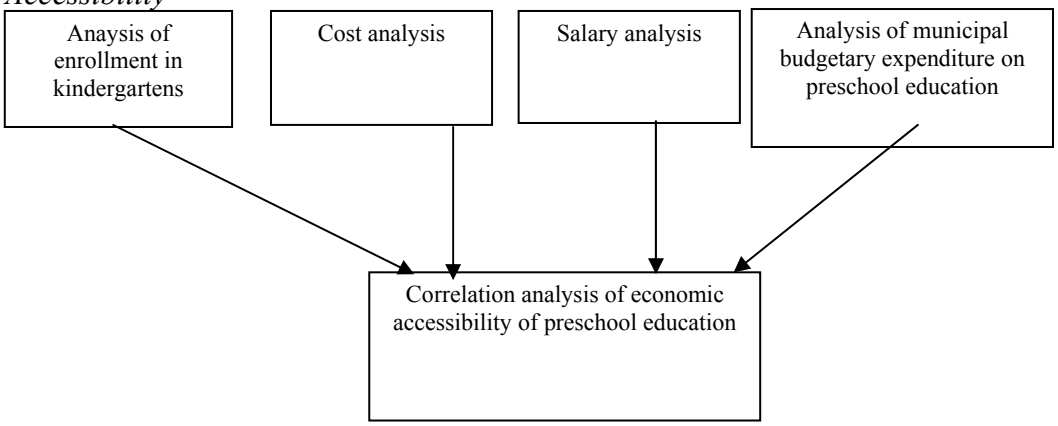
Source: http://www.fu.uni-lj.si/sib/vhod.htm

Such an indicator system enables us to perform budget expenditure analyses (Hilton M., at al., 2000), but is insufficient to determine cost-efficiency of preschool education services in municipalities. Furthermore, it does not allow us to establish under what conditions preschool education services are accessible to inhabitants of different municipalities.

Model for Analysis of Economic Accessibility of Preschool Education

The issue of economic accessibility and transparency of preschool education services must be addressed from several different aspects, taking into account the cost of kindergartens, financial support for preschool education earmarked by municipalities and the economic viability of the families which are the end users of preschool education services. Significant variation has been identified between municipalities in this respect and it has been determined that the analysis must take into account the mentioned factors. Figure 2 illustrates the model which serves as a basis for a correlation analysis of various factors of economic accessibility of preschool education. The analysis is based on 2007 data for Slovenian municipalities, which during that time provided organised preschool education.

Figure 2. *Analysis Model of the Factors of Preschool Education Economic Accessibility*



The model is tailored to the data collected and does not include, in particular, recorded waiting periods, which are an important factor in determining the accessibility of childcare as well as information on the quality of preschool education being provided. The development of preschool education management will certainly introduce transparent monitoring of the parameters of the mentioned areas and, in turn, facilitate the performance of more comprehensive analyses.

Interpretation of the Results of the Analysis of Economic Accessibility of Preschool Education

From Table 10 certain characteristics of the distribution of variables included in the correlation analysis model of economic accessibility of preschool education may be discerned.

Table 10. *Basic Parameters of Variables used in the Correlation Analysis of Economic Accessibility of Preschool Education per Municipalities*

Indicator	Average	Standard deviation	Variability ratio	Source
	1	2	3 (2:1)	4
Percentage of children in preschool education	56.10%	10.70%	19.50%	http://www.stat.si/pxweb/Dialog/SaveShow.asp
Kindergarten rates: age of children 1-3 years	411.3 eur	38.9eur	9.50%	http://www.mss.gov.si/fileadmin/mss.gov.si/pageuploads/podrocje/vrtci/xls/vrtci_cene_2007.xls
Kindergarten rates: age of children 3-6 years	303.1 eur	22.7 eur	7.50%	http://www.mss.gov.si/fileadmin/mss.gov.si/pageuploads/podrocje/vrtci/xls/vrtci_cene_2007.xls
Annual municipal budgetary expenditure per child aged 6 or less	1548.3 eur	381.1 eur	24.6%	http://www.fu.uni-lj.si/sib/vhod.htm
Annual municipal budgetary expenditure per child in childcare	3153.1 eur	686.5 eur	21.8%	http://www.fu.uni-lj.si/sib/vhod.htm
Average monthly salary in municipality	1203.5eur	142.3 eur	11.80%	http://www.stat.si/pxweb/Dialog/Saveshow.asp

The basic characteristics of variables used in the model for the correlation analysis are as follows:

- significant variability of municipal budgetary expenditure on preschool education, represented by a standard deviation of over 20% on average,
- average annual budgetary expenditure per child in preschool education amount to almost 64% of the cost of preschool education for children aged 3 or less and almost 87% of the cost of preschool education for children aged 3 to 6.

Table 11 allows for the following conclusions to be drawn:

Table 11. *Correlation Ratios of the Model for Analysis of Economic Accessibility of Preschool Education*

Variable	Percentage of children in preschool education	Kindergarten rates: age of children 1-3 years	Kindergarten rates: age of children 3-6 years (eur)	Annual municipal budgetary expenditure per child aged 6 or less	Annual municipal budgetary expenditure per child in childcare	Average monthly salary in municipality
Percentage of children in preschool education	xxxxxxx	0.09	0.22	0.53	-0.32	0.19
Kindergarten rates: age of children 1-3 years		xxxxxxx	0.54	0.28	0.25	0.06
Kindergarten rates: age of children 3-6 years (eur)			xxxxxxx	0.42	0.33	0.05
Annual municipal budgetary expenditure per child aged 6 or less				xxxxxxx	0.61	-0.03
Annual municipal budgetary expenditure per child in childcare					xxxxxxx	-0.23

- the correlation between the costs for the two age groups of children by municipalities is positive (0.54), which signifies that the municipalities' pricing policies for the two age groups are based on similar premises; a more expensive organisation of the scheme for one age group of children typically entails a more expensive organisation of preschool education for the other age group and consequently higher budgetary expenditure for childcare (0.42 and 0.33 respectively).
- budgetary expenditure per child exhibits a positive correlation with the percentage of children (0.53), while higher funding per child corresponds with a higher percentage of children in childcare schemes; the lower percentage of enrolled children may lead to a corresponding higher spending of budgetary funds per child in care; however, since the rate of correlation is very low (-0.32), it can be assumed that this hypothesis may require further factual evidence

- Salaries do not exhibit a stronger correlation with any of the variables being analysed, yet a weak but negative correlation (-0.23) must be duly noted to municipal expenditure per child in childcare, signifying that with higher salaries municipal expenditure per child in child care drops as a result of the system for co-financing childcare depending on the parents' income.

In general, a conclusion can be drawn that the model does not exhibit any distinct law of correlation existing between the statistical data employed. It has been determined that more children are included in preschool education schemes in municipalities which allocate more funding to these schemes and where the average salaries of residents are higher; nonetheless an increase in funding per child in care has been noted in municipalities with a lower percentage of children in preschool education (municipalities with low income young families). One general conclusion is also that the economically more viable municipalities (higher budgetary funding of preschool education, higher salaries) show a higher degree of accessibility to childcare.

Conclusions

In the paper we found that there are differences in funding preschool education among Slovene municipalities. We also found that there are differences among municipalities as regards budget expenditure (per inhabitant and child) on preschool education as well as preschool education prices and parental contributions for preschool education. We were not able to determine the accessibility of this service in individual municipalities.

We can conclude that the current system of budgetary indicators can not offer an overview of cost-efficiency and accessibility of preschool education services available to the inhabitants of Slovene municipalities. This system is the basis which needs to be upgraded with data on kindergarten prices, number of children involved in public or private kindergartens and perhaps with the waiting time and evaluation of parents' satisfaction with preschool education. In any upgrading of the current all municipalities can be provided, it would also contribute to inhabitants being indicator system with additional indicators (on waiting times, prices, parents' satisfaction with preschool education) it would seem reasonable (at least during a transitional period) to consider a solution supported by a sampling system (http://www.audit-commission.gov.uk /ac2/ NRfirst.htm). This would increase transparency, but moreover, until data from better informed on the implementation of preschool education in their municipalities.

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Strategija razvoja predšolske vzgoje v Mestni občini Ljubljana do leta 2013, Delovno gradivo, Mestna občina Ljubljana, 2006.

Zakon o financiranju občin (Uradni list RS, št. 80/94, 45/97-odl.US, 56/98, 1/99, 59/99-odl.US, 61/99-odl.US, 79/99 in 89/99-odl.US)

Zakon o lokalni samoupravi (Uradni list RS, št. 72/93, 6/94 - odl. US, 45/94 - odl. US, 57/94, 14/95, 20/95 - odl. US, 63/95 - obvezna razlaga, 9/96 - odl. US, 44/96 - odl. US, 26/97, 70/97, 10/98, 74/98, 59/99 - odl. US, 70/00, 51/02 in 108/03 - odl. US)

Zakon o organizaciji in financiranju vzgoje in izobraževanja (Uradni list RS, št. 12/96, 23/96-popravek in 22/2000-ZJS)

Zakon o vrtcih (Uradni list RS, št. 12/96, 44/00, 78/03)

URL: *http://www.imf.org/external/np/fad/trans/code.htm* [2006-5-5]

URL: http://www.mss.gov.si/index.php?id=82[2006-5-5]

URL: *http://www.stat.si/letopis/index_letopis.asp.* [2006-5-5]

URL: *http://www.audit-commission.gov.uk/ac2/NRfirst.htm* [2006-5-5]

URL: *www.vus-uni.lj/sib/vhod.html*[2006-5-5]

URL: http://www.stat.si/letopis/index_letopis.asp.

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URL: http://www.uradni-list.si/1/objava.jsp?urlid=200825&stevilka=911

Part C
Case Studies

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Educators and Mandated Reporting of Child Maltreatment: Comparisons to Legal, Medical and Social Service Reporters

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In 1974 the United States Congress passed the Child Maltreatment and Prevention Act (CAPTA) which provided states with a minimum set of standards for dealing with the maltreatment and neglect of children. This piece of legislation and its most recent amendment, the "*Keeping Children and Families Safe Act of 2003"* has resulted in all 50 states enacting mandated reporting laws which require certain professionals who work with, or have regular contact children to report cases in which they suspect abuse and/or neglect (U.S. Department of Health and Human Services, 2005). The professional groups included under these mandated reporter laws include, social service, mental health, medical, legal and educational personnel. In 2004, child protective services (CPS) across the U.S. received more than 3 million referrals of alleged maltreatment involving more than 6 million children. Over one-half of these referrals came from legally mandated professional reporters (U.S. Department of Health and Human Services, 2004). Of all the mandated reporters, teachers may be the best positioned to identify and report child maltreatment. Their daily access to and familiarity with the child and family make teachers ideally situated to note and document changes in children's behaviors, appearance, etc, which may indicate that maltreatment is occurring (Lowenthal, 2001; Romeo, 2000). However, examining the reporting practices of teachers in the US reveals a less than ideal situation. The third National Incidence Study indicated that schools report more cases of child abuse and neglect than any other institution, yet 84% of cases identified in schools are never reported (Sedlak & Broadhurst, 1996). In addition, Crenshaw, Crenshaw & Lichtenberg (1995) report data from the National Center on Child Abuse and Neglect (NCCAN) which indicates that schools report only 24% of all cases recognized by educational personnel. Despite their pivotal role in detecting and reporting child maltreatment, the accurate

detection of child maltreatment by educator continues to be elusive and therefore, a topic of research (Cerezo & Pons-Salvador, 2004; Goldman & Padayachi, 2002).

The majority of research into the reporting practices of teachers has focused primarily on the factors which might influence a teacher's decision to report suspected maltreatment often utilizing hypothetical vignettes rather than actual reporting data (Yanowitz, Monte &Tribble, 2003; Kenny, 2001; Kenny, 2001b). When real data are used to examine actual reporting practices, analyses are usually limited to the degree to which teachers make unfounded reports (overreporting) or don't report when they should (underreporting). One exception to this was an analysis of actual mandated reporting data which indicated significant differences between mandated reporters in terms of the age and race of children reported, the type of maltreatment reported and the percentage of reports that were substantiated (Kesner & Robinson 2002). However, this study utilized data from a small number of states, and did not include information about the victim and perpetrator. Thus, the purpose of this study was first; to describe the characteristics of child maltreatment reports and substantiated child maltreatment cases made by educational personnel from across the U.S., including information about the victim and perpetrator. The second purpose was to compare reports made by educational personnel to the four other mandated reporter groups.

Methods

Sample

In 1988, the U.S. Department of Health and Human Services was directed by the US Congress to establish a national child maltreatment data collection and analysis program. The Children's Bureau in the U.S. Department of Health and Human Services, established the National Child Abuse and Neglect Data System (NCANDS) and is responsible for the collection and analysis of these data. The NCANDS Child File dataset consists of child level data related to all investigated reports made to state CPS agencies. Data includes information about the child, the perpetrator, the type of maltreatment, the results of any investigation, and the disposition of substantiated cases. Data from the 2005 National Child Abuse and Neglect Data Systems (NCANDS) Child File were used in these analyses.

NCANDS utilizes specific criteria in defining the five mandated reporter groups (McDonald & Associates, 2005). Educational personnel are defined as "Employees of a public or private educational institution or program; includes teachers, teacher assistants, administrators and others directly associated with the delivery of educational services" (Appendix A, p.6). Legal personnel are described as "People employed by a local, State, tribal, or Federal justice agency including law enforcement, courts, district attorney's office, probation or other community corrections agency, and correctional facilities." (Appendix A). Medical personnel includes "People employed by a medical facility or

practice, including physicians, physician assistants, nurses, emergency medical technicians, dentists, dental assistants and technicians, chiropractors and coroners." (Appendix A). Mental health personnel are "People employed by a mental health facility or practice, including psychologists, psychiatrists, therapists, etc." (Appendix A). Social service personnel are "Employees of public or private social services or social welfare agency, or other social worker or counselor who provides similar services." (Appendix A).

In 2005, 48 US states submitted data to NCANDS. These data consisted of 3.4 million reports of child maltreatment of which, 1.8 million came from the reports made to CPS agencies from the 5 mandated reporter groups. The two states not contributing to NCANDS for 2005 were North Dakota and Oregon. Examination of the U.S. Census Bureau data indicates that the combined population of Oregon and North Dakota comprise approximately 1% of the total U.S. population (U.S. Department of Commerce, 2002). Thus, it can be argued that these data capture the population of child maltreatment reports made by the 5 mandated reporter groups in 2005 and statistical significance testing of differences found is unnecessary.

Results

Data from the NCANDS 2005 Child File were examined and a description or profile of the typical alleged and substantiated case for educational personnel was created. Educational personnel were responsible for 32% of the reports of suspected abuse among the five reporter groups. Reports made by educational personnel were substantiated at a rate of 19%. That is, 19% of reports of alleged maltreatment made by educational personnel were later substantiated by CPS. Educational personnel reported 51% female and 49% male children as suspected victims of maltreatment. The average age of the child in their reports was 9.8 years. Fifty-seven percent of the children reported by educators were Caucasian, 25% were African American, and 2% were Asian. The remaining 16% were either other races or of unknown racial origin. Twenty-two percent of the children reported by educational personnel were Hispanic. The majority of the children reported by educators did not have a history of maltreatment. Only 17% of children reported by educational personnel had a prior history of victimization. This information was missing from approximately one-fourth of the reports made by educational personnel, so the actual percentage of children with a history of victimization may be higher or lower.

When a report made by educational personnel was substantiated it was most often for neglect or deprivation of necessities (33%) followed by physical abuse (30%) then sexual abuse, psychological or emotional maltreatment and medical neglect respectively. In only 9 of the substantiated cases reported by educational personnel, did the maltreatment result in the child's death.

Comparison to other Mandated Reporters

In 2005 Educational personnel reported more children to CPS than any of the other mandated reporters followed by legal personnel and then social service, medical and mental health personnel respectively. Despite the higher number of reports, educational personnel had the lowest rate of substantiation among all mandated reporter groups. Legal personnel had the highest substantiation rate as almost one-half of their reports were substantiated by CPS. Among the 5 mandated reporter groups, educational personnel reported the most physical abuse.

They made the second highest number of reports of neglect or deprivation of necessities behind legal personnel, although this category comprised the highest percentage of reports made by educational personnel. Additionally, Educational personnel were third behind Social Service and Legal personnel in the number of cases of sexual abuse they reported.

In 20% of the reports made by educational personnel, there was no alleged maltreatment listed. Educational personnel led the group of mandated reporters in this category. The average ages of children involved in reports made by the mandated reporters ranged from 6.5 years (Medical Personnel) to 10.1 years (Mental Health Personnel). The average age for children in Educational Personnel's reports was near the group high at 9.8. There was virtually no difference between the mandated reporters groups in relation to the gender of children involved in their reports. They all tended to report more girls than boys. Similarly, there were no differences in terms of the largest racial group represented in their reports. White children comprised approximately 60% of the children in reports made by all mandated reporter groups. The next highest racial group among all mandated reporter groups was African American, although there was some variance among the reporter groups; Mental Health personnel had the lowest percentage of reports involving African American children (21%) and Medical Personnel the highest (31%). Educational personnel were tied with legal and mental health personnel in having the shortest number of days needed by CPS to investigate and make a finding regarding a report of suspected maltreatment. On average it took CPS 51 days to investigate and make a finding regarding reports made by Educational, Legal and Mental Health personnel. It took CPS 53 and 54 days to investigate and make a finding on reports made by medical and social service personnel respectively. For a complete description of these differences see Table 1.

Discussion

This analysis of the reporting practices of educational personnel indicates that their reports have many unique characteristics when compared to other legally mandated reporters. As was found in previous research, although they contributed the most maltreatment reports, educational personnel had the lowest substantiation rate among all the mandated reporter groups. Unfortunately, these data do not allow for any type of conclusions about cause and effect to be made. Educators could be making more unfounded reports

(over reporting) or CPS could be providing inadequate investigation into reports made by educational personnel. Some research has suggested that CPS does not take reports made by educational personnel as seriously as those made by other reporters (Tite, 1993). Zellman (1991) reported that teachers' reports often dealt with less than sufficiently serious to warrant immediate attention by CPS. Regardless, the issue common to either of these scenarios seems to be a lack of a common definition between mandated reporters and CPS as to what constitutes child abuse and/or neglect. Although many definitions of the various forms of child maltreatment are similar in terms of ideology (Horton & Cruise, 2001), there are differences in the practical application of these definitions. The passage of the Child Abuse Prevention and Treatment Act in 1974 established minimum guidelines for defining what constituted child maltreatment. However, only the states have the authority to set legal definitions, thus there are some variations in each state's definitions (VanBergeijk, 2007). In a study of educators, Tite (1993) found that teachers were reluctant to utilize official definitions of child abuse and neglect and instead relied on their own theoretical definitions. The almost certain difference between CPS's legal definition and educational personnel's personal definitions is likely one of the primary factors contributing to the low substantiation rate of educational personnel. It should be noted that in this study, the mandated reporter group with the highest substantiation rate was legal personnel. It is logical that the group whose professional responsibilities lie in the legal realm, would be better at gathering credible evidence before making a report to CPS, thus increasing the chances that their report would be substantiated.

Mandated reporters in general are increasingly frustrated with the dichotomy of their legal obligations under the mandated reporting laws and the seeming ineffectiveness of CPS. Zellman and Antler (1990) describe this frustration as resulting from the annual increases in the number of maltreatment reports made to CPS along with insufficient CPS resources to deal with them. In addition, mandated reporters may be frustrated with increasing difficulty in gaining access to CPS to make reports. Zellan and Antler (1990) further suggest that as reporting becomes more difficult, mandated reporters may be more reluctant to report "marginal" cases.

Another issue potentially related to the low substantiation rate among educational personnel is a lack of professional training. Teacher education programs typically do a poor job at preparing teachers for the reality of child maltreatment in their classrooms. Few, programs systematically educate preservice teachers about child maltreatment and their duties as mandated reporters (Abrams, Casey, & Daro, 1992; Levin, 1983; Reyome & Gaedder, 1998). Thus, it is not surprising that of all the types of maltreatment reported by the mandated reporter groups, teachers reported the most physical abuse. Physical abuse presents the least ambiguous indicators, thus making it easier for an untrained individual to recognize and report it to CPS. Greater effort is needed to educate teachers about child maltreatment in general and

specifically, the ways in which they can gather credible evidence before making a report. Educators must be made aware of what many children bring into the classroom and go home to at the end of each school day. Many school districts do provide inservice training for their teachers regarding child maltreatment, however these are often limited to training in the procedures for reporting. In addition, recent research indicates no relationship between post-graduate training and recognition and reporting of child maltreatment by educators (O'Toole et al, 1999).

In today's society, schools are becoming agents of social change. Rather than ponder over the reasons and correctness of this new role, schools should take the lead in embracing it. Educators and school administrators should be at the frontline in the battle to address child maltreatment, as no one is better positioned to ensure the health and safety of children.

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Table 1. *Characteristics of Maltreatment Repots made by Educational Personnel and other Mandated Reporter Groups*

Variable	Educational	Legal	Social Service	Medical	Mental Health
Child Gender	Male 49% Female 51%	Male 49% Female 51%	Male 49% Female 51%	Male 49% Female 51%	Male 48% Female 52%
Child Race	White 60% African Am. 26% Other races 14%	White 63% African Am. 26% Other races 11%	White 61% African Am. 30% Other races 9%	White 58% African Am. 31% Other races 11%	White 60% African Am. 21% Other Races 19%
Child Age	9.8 years	8.4 years	8.6 years	6.6 years	10.1 years
History of Prior Victimization	Yes 18%	Yes 18%	Yes 22%	Yes 22%	Yes 36%
Percentage of Reports Made by Mandated Reporters	32%	29%	18%	14%	7%
Percentage of Reports Substantiated	19%	45%	32%	31%	20%
Average Number of Days Necessary for CPS To Make Finding	51 days	51 days	55 days	51 days	51 days
Physical Abuse (% among mandated reporters)	46%	20%	14%	12%	8%
Neglect (% among mandated reporters)	25%	34%	22%	13%	6%
Medical Neglect (% among mandated reporters)	32%	6%	14%	42%	6%
Sexual Abuse (% among mandated reporters)	21%	30%	22%	14%	13%
Psychological Abuse (% among mandated reporters)	26%	41%	12%	6%	15%

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A Comparison of Exemplar and Non-Exemplar School-wide Positive Behavior Support Schools as Measured by Suspension Rates

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It has been well established that many negative life outcomes are associated with failure to complete a secondary education. Among these are under-employment, lower lifetime income, poorer overall health, and a higher probability of being imprisoned than is the case for graduates (Laird, DeBell, Kienzl, & Chapman, 2007). Status dropout rates within the American educational system for noninstitutionalized persons ages 16 through 24 years old have dropped consistently over the past 30-year period from a high of 14.1% in 1976 to a low of 9.3% in 2006 (Snyder, Dillow, & Hoffman, 2008). Although the national trend appears to be moving in a positive direction, absolute numbers of Americans whose lives may be adversely impacted by failure to graduate from high school remains higher than is healthy for the growth of the nation. Even with these improvements, over 400,000 older adolescents terminate their formal education prior to graduation each year. Stimulated in part by a national dropout rate that most consider unacceptable, the federal No Child Left Behind Act (NCLB) of 2001 (2002) has required American schools to initiate accountability programs emphasizing data-based outcome measures far more rigorous than were common in most jurisdictions. Therefore, much more specific data regarding academic achievement, secondary school completion, the effectiveness of specific disciplinary policies, and academic outcomes for special needs children, are now available across states, districts, and specific schools. The availability of such data has in turn generated an increased awareness of the variables associated with academic achievement, the need for change in school climate, and specific interventions to increase student success.

The Louisiana Dropout Picture

The most recent national data on high school event dropout rates in the United States for the year 2004-2005 has indicated that 7.5% of the public school students in grades 9-12 in the state of Louisiana left school prior to completion. This is the third highest event dropout rate from among the 46 states that reported consistent data across years by using a common definition of dropout, i.e., enrolled during the 2004-2005 school year, but not enrolled, or otherwise completed, by Fall 2005 (Sable & Gaviola, 2007). During this same time period, middle schools in Louisiana suspended the highest percentage of students (19.1% in-school and 16.8% out-of-school suspensions) (Louisiana Department of Education, 2007). In addition, according to this same report, Louisiana expelled the highest percentage of public elementary and secondary school students in the nation. The rate of expulsion for this group was 0.85%, with the next highest expulsion rate being that of South Carolina at 0.69%. Similarly, Louisiana showed the highest percentage of students suspended (11.9%) (Snyder, Dillow, & Hoffman, 2008). Therefore, reported event dropout rates for grades 9-12 are probably serious underestimates of the total number of students who were removed from the academic environment during the 2005-2006 school year, as these numbers do not include those removed during grades 7 and 8 who did not return. Although this does represent a relatively consistent decline in the event dropout rate from 1996-1997 (11.6%) through 2004-2005 (7.5%) for Louisiana, it still remains considerably above the national rate of 4.7% for grades 10 through 12 (Laird et al., 2007). Viewing this from a different perspective, Louisiana's freshman graduation rate (students who graduated with a regular diploma four years after starting 9th grade) from public high schools during the year 2003-2004 was 69.4%. This was the tenth lowest in the nation, and is compared with an adjusted national rate of 74.3% for the same year.

As earlier suggested, these alarming dropout rates include a portion of students who have been suspended and/or expelled from school as a result of behavioral problems that were deemed unmanageable by school personnel. A recent American Psychological Association task force report on the efficacy of "zero tolerance policies" concluded that "school suspension in general appears to predict higher future rates of misbehavior and suspension among those students who are suspended. In the long term, school suspension and expulsion are moderately associated with a higher likelihood of school dropout and failure to graduate on time" (Skiba et al., 2006, p. 5).The recognition that removing children who disturb the educational environment through exclusion tends to escalate the very problem it is designed to reduce may appear somewhat counterintuitive; however, the data is clear on this issue. Similarly, Nelson et al. (2004) have provided evidence suggesting a strong developmental relationship between classification as an emotionally disturbed/behaviorally disordered (ED/BD) student and progressive academic deficits over the elementary school years, especially when the maladaptive behaviors are externalizing. Because this relationship between behavioral problems and lack of academic success is also well established, it is imperative that behavioral challenges in the classroom be remediated as effectively as possible if high school completion rates are to improve. Additionally, unacceptable suspension and expulsion rates, both in and out of school,

require immediate attention, both because such exclusion experiences are frequent precursors to leaving the academic environment permanently, i.e., dropping out (NCES, 2002), and without effective behavioral intervention practices, the behaviors generating these exclusionary actions render the learning environment for all students less than maximally effective and often unsafe.

Once again, Louisiana rankings on these measures are notable. According to the 2005-2006 Louisiana State Education Progress Report (Louisiana Department of Education, 2007), 11% of public school students experienced at least one in-school suspension (ISS) and 10% had at least one out-of-school suspension (OSS) during the 2005-2006 school year. An additional .6% received an in-school expulsion (ISE), while .4% received an out-of-school expulsion (OSE). Such removal of students from the mainstream instructional setting resulting from behavioral challenges clearly adds to the unacceptable dropout rates for the state of Louisiana. According to the American Academy of Pediatrics (2003), exclusion from school, due partially to a lack of alternative programming, poor supervision in the home, and little professional assistance during the period of exclusion, increases the risk of permanent school dropout.

The Role of Disciplinary Policies

These data have generated a focused interest in various strategies for better management of discipline in the schools. While the data above suggests that most attention is being given to school discipline policies that emphasize punishment over reward and exclusion (i.e., suspension and expulsion) over inclusion, behavioral scientists have long recognized that better behavioral outcomes are realized through the use of behavioral training and consistent, positive consequences for prosocial behavior. Similarly, McCurdy, Mannella, & Eldridge (2003) have emphasized the role of setting events, such as the excessive use of punishing methods of control and "zero tolerance" policies, in the paradoxical escalation and maintenance of disruptive and antisocial behaviors. The trajectory from maladaptive behavior to academic failure to dropout to a non-productive parasitic lifestyle that further embraces challenging antisocial behavior is a well recognized core of many of our social pathologies. This trajectory, or generationally repeated cycle, is particularly evident in the urban, inner city school, which is predominately characterized by poverty and the many associated risk factors attendant to an impoverished lifestyle. Exclusion from the academic environment through suspension, expulsion, and ultimately dropout status only serves to exacerbate continuance of this cycle (Skiba et al., 2006).

This trajectory from punitive discipline policy to excessively high dropout rates is clearly manifested in the directing statute in Louisiana. The relevant statute, LA Revised Statute 17:416, is entitled "Discipline of pupils; suspension; expulsion." As outlined in this statute, a disciplinary action includes reprimands, counseling sessions, parental notification, and other disciplinary measures. The district-level implementation of LARS 17:416 for the district under consideration in this paper defines disciplinary actions as "the acts of correcting, restricting, withholding of privileges and the administration of other penalties and punishments commensurate to

the particular infraction of rules and/or regulations" (Watson, 2007, p. 6). The statement that "Schools are Zero Tolerance Zones for Drugs & Guns" is in enlarged, bold print on the same page. Included in neither of these directive documents is any statement regarding an obligation of the school system to develop, implement, teach, or reinforce specific behavioral expectations.

Louisiana's Act 1225 and the Shift to School-wide Positive Behavior Support: *One District's Experience*

As a result of concerns related to school violence; dropout, suspension and expulsion rates; and juvenile incarceration rates in 2003 the Louisiana legislature, on the forefront of what was to become a national movement, passed The Juvenile Justice Reform Act of 2003**(**Act 1225, 2003), which in part mandates that the State Board of Elementary and Secondary Education (BESE) "formulate, develop, and recommend…a model master plan for improving behavior and discipline within schools (Act 1225, 2003). In turn, BESE has required statewide implementation of School-wide Positive Behavior Support (SWPBS).This state mandate was followed by a challenge in April, 2007, to develop a regionally-based, capacity-building network to provide positive behavioral interventions and support within and across all schools in Louisiana (Hill, 2007*).* In partial response to the state mandate, the school district discussed in the present paper took action to assign a district-level SWPBS coordinator, and to add a section to the School Master Plan for Discipline, which addresses the mandate to include SWPBS in each school.

This school district is a large urban, high poverty district in Louisiana composed of 74 schools that serve over 43,000 students. One frequent measure of poverty is the federally subsidized school lunch program eligibility rates for neighborhood public schools. Of the 12 schools included in this paper, 8 have a student population that has over 90% of its students eligible for the federally subsidized lunch program. The SWPBS model was initially introduced to this district, as well as a neighboring rural district, during the 2003-2004 school year, via a state/federally funded project, the Pyramid of Research-based Instructional Supports Model (Irwin, Cook, Hollenshead, Welch, & Gatti, 2003). The goal of the PRISM project was to demonstrate the capacity of a multi-tiered model of instructional supports designed to reduce over-identification of students for special education and to improve educational outcomes for at-risk students in regular education classrooms, as well as those with identified disabilities. The tiers included strategies to address both academic and behavioral needs of students and were based in the Professional Learning Communities model. SWPBS was included as the model for addressing behavioral issues and positive changes in school climate. The training model included graduate credit courses offered to teams of faculty/administrators from participating schools. Although anecdotal reports from these pilot sites were positive, continuation funding was not available for subsequent implementation and, therefore, systematic evaluation of progress was impossible. However, it was during that year that the state mandate for all districts to adopt SWPBS as a behavioral management system was passed, and districts began assigning coordinators, and initiating training.

SWPBS: A Description

As described by two of its co-founders, George Sugai and Robert H. Horner, SWPBS is a "systematic and sustained implementation of…practices and interventions designed to address problem behavior…an integration of measurable outcomes, data-based decision making, evidence-based practices, and overt support systems for implementers" (Sugai & Horner, 2006, p. 245). As a combined prevention/intervention model, SWPBS is designed around improving the overall school climate, using a 3-tier model grounded in teaching and reinforcing contextually relevant social skills and arranging the teaching/learning environment to discourage inappropriate behavior. The lowest tier, called primary prevention, engages all students across all school settings, and involves school, family, and community members. The second tier, called secondary prevention, targets students demonstrating at-risk behaviors who require an intensified focus and behavioral monitoring, while the third tier called tertiary prevention, is directed toward those students whose serious maladaptive behaviors have been resistant to primary and secondary prevention efforts, and, therefore, require more intensive functional behavioral analysis strategies, usually involving behavior specialists. (Sugai & Horner, 2006). At its lowest tier (primary prevention/universal level), SWPBS has been described as incorporating seven key practices that distinguish "exemplar" schools/demonstration sites from "non-exemplar" schools in terms of SWPBS implementation. These are:

1. school-wide behavioral expectations are defined;
2. these expectations are taught to all children in the school;
3. rewards are provided for following the expectations;
4. a consistently implemented continuum of consequences for problem behavior is put in place;
5. problem behavior patterns are monitored and the information is used for ongoing decision-making;
6. an administrator actively supports and is involved in the effort; and
7. the school district provides support to the school in the form of functional policies, staff training opportunities, and data collection option. (Horner, Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004, p. 5).

Although only formulated into a systematic model during the late 1990's, SWPBS has been associated with reported successes so broadly across the United States that approximately 5000 schools in 40 states have now adopted one of the forms of SWPBS, (U.S. Dept. of Education, 2005, as cited in George & Kincaid, 2008) with many reporting anecdotal and single case study successes in terms of such outcome measures as reduced suspension/expulsion rates, fewer daily office referrals, and reported teacher/administration satisfaction (George & Kincaid, 2008). SWPBS is grounded in well established applied behavioral analysis theory, which recognizes the lawful relationships among physiology, behavior, and environmental consequences. It employs principles developed through the behavioral analysis literature to generate systemic and sustainable school-wide climate changes that encourage prosocial behavior and academic progress in the classroom. Behavioral outcomes that are predictive of improved overall social skills acquisition and academic achievement levels, as well as implementation fidelity must be measured and analyzed. Because

SWPBS is a reformulation of a broad array of evidence-based practices suitable for a diversity of contexts, continuous evaluation of processes and outcomes is a critical core component of effective implementation. Despite early positive indicators, Sugai and Horner (2006) and others have continued to ask relevant questions regarding specific practice implementation: Is the proposed practice effective, efficient, relevant, and durable? Answers to such questions necessitate both internal formative self-assessments and external summative measures from independent collaborators. A variety of assessment tools directed at such program evaluation are in the initial stages of development. Three such tools that are being broadly adopted within the SWPBS context are the School-wide Evaluation Tool (SET), Benchmarks of Quality (BoQ), and the Effective Behavior Support: Self-Assessment Survey (EBSSAS) checklists. Although other tools are continuously being developed, an introduction to each of these three instruments is appropriate to place the current status of evaluation efforts in context.

Assessment Tools

The first of these, the SET, initially developed in 2001, was designed as a 28-item, 7-subscale measure for use with tier 1 (primary prevention/universal level) implementation in elementary and middle school settings by external evaluators. It is grounded conceptually in the belief that resolution of the high-intensity, high-frequency problem behaviors (tier 3) rests in an effective prevention model that includes all students, in all school settings, and at all times of the day (tier 1). This conceptualization represents a major redirection from the more traditional approach to problem behavior, which involves identification of the most severe problems, classification of children, and removal of behaviorally challenging children from the regular educational environment. Key assumptions underlying a school-wide prevention program are that clear behavioral expectations must be taught to all students and that peer interactions impact the overall school climate at least as much as adult-student interactions. Keeping these conceptualizations as a grounding belief system, the developers of the SET created an instrument to assess the degree to which a school is implementing the seven key features of SWPBS. Designed to be a research instrument used by external evaluators to assess implementation fidelity, the SET became the criterion measure for determining that an individual school is an "exemplar" school (i.e., both the Expectations Taught subscale and the Total scores reached at least an 80% level of implementation). Psychometrically, the developers of the SET have reported acceptable internal consistency, test-retest, and inter-rater reliabilities. When correlated with an externally developed measure of SWPBS implementation (Effective Behavior Support: Self-Assessment Survey - EBSSAS), the SET has demonstrated adequate content validity. Intercorrelations among subscales were appropriately in the moderate – to moderately high range. Newer versions of the SET are in the process of empirical validation, and continue to be recommended as the primary source of external assessment of implementation fidelity (Horner et al., 2004).

A second measurement instrument, designed as a self-report, 53-item rating scale for use as an internal self-assessment by school SWPBS teams, is the Benchmarks of Quality (BoQ), developed in 2004-2005 by the Florida Positive Behavior Support

Project team composed of Don Kincaid, Karen E. Childs, and Heather P. George. According to Cohen, Kincaid, & Childs (2007), this additional instrument was developed in response to concerns regarding time considerations (4 to 6 hours administration time plus considerable time engaged in training), in addition to the necessity for off-site, external evaluators for the SET, as well as a narrower domain for assessment included in the SET. The BoQ includes additional information regarding the implementation process such as the data management system, SWPBS lesson plans, and crisis plans. BoQ administration involves training by external coaches, completion of the BoQ by all team members, and a resulting Team Summary Report. These procedures and item content/structure were assessed in an early standardization investigation of the BoQ. Measures of internal consistency, test-retest reliability, interrater reliability, and concurrent validity using the SET as a comparison measure were obtained. Results provided early support for the psychometric soundness of the instrument for use in assessing the implementation of Tier 1 SWPBS principles. The authors recognize the need for further validation studies, as well as the development of instruments to assess the effectiveness of Tier 2 and Tier 3 implementation (Cohen et al., 2007).

The third assessment instrument receiving considerable attention in the SWPBS environment is the Effective Behavior Support Self-Assessment Survey (EBSSAS). This instrument was developed in 2000 by George Sugai, Robert Horner, and Anne Todd for the purpose of assessing the current school-level status of four systems within SWPBS, including school-wide discipline systems, non-classroom management systems, classroom management systems, and systems designed for students presenting at the Tier 3 level of behavioral difficulty. The survey is completed by all staff within a given school, from administrators, to teachers, to support personnel. It is designed to be administered upon initial implementation and annually thereafter. (Sugai, Horner, & Todd, 2003). Although standardization of this instrument does appear to be currently less emphasized than for the two previous instruments, the EBSSAS has been used as a comparative instrument in the establishment of content validity for the SET, where it has produced adequate associations (Horner et al, 2004).

SWPBS: Empirical Base

In addition to the validation studies reported on the assessment tools, there is an emerging evidence base supporting the efficacy of the entire SWPBS process. (Bohanon et al., 2006; Cohen, Kincaid, & Childs, 2007; Kincaid, Childs, Blasé, & Wallace, 2007; McCurdy, Mannella, and Eldridge, 2003; Sugai & Horner, 2006;). Successful implementation of SWPBS on a school-wide level requires the consistent and accurate adherence to process steps. Although much of the early evidence is anecdotal and single case study, recent indicators provide more empirically-based evidence that proper implementation of SWPBS can be achieved and sustained with integrity. The evidence which follows emerges primarily from studies of schools which have implemented and sustained SWPBS for at least one year.

According to Utley, Kozleski, and Draper (2002), it is imperative that both teachers and students be engaged in the construction of expectations through collective actions and discussion. To ensure that central concepts are effectively

addressed, an inclusive school-wide instructional curriculum should be established (Kincaid, Childs, Blasé, and Wallace, 2007). The teaching expectations and rules component must encompass core concepts and teaching methods. When schools establish clearly defined school-wide behavioral expectations and actively teach and model these expectations directly to all students in the school on a classroom level, compliance with appropriate behavior expectations increases as disruptive behavior decreases, thereby decreasing office discipline referrals (ODRs), suspensions, expulsions, and other exclusionary procedures (Netzel & Eber, 2003; McCurdy, Mannella, & Aldridge, 2003; Scott, 2001; Bohanon et al., 2006).

Positive reinforcement of appropriate behaviors remains central to successful implementation of SWPBS. Killu, Weber, Derby, and Barretto (2006) have asserted that behavior management techniques, such as token economy systems, provide an effective method for dealing with problem behavior. Although there is some question as to how effective a token economy system will be on students as they get older, the evidence supports the efficacy of these behavior management and acknowledgement systems in schools as an functional component in the reduction of ODRs, suspensions, expulsions, and other exclusionary practices (Netzel & Eber, 2003; McCurdy, Mannella, & Eldridge, 2003; Scott, 2001; Bohanon et al., 2006).

A critical element in SWPBS is the collection, analysis, and use of ODRs for the purpose of data-based decision-making in altering school policies, expectations and procedures. Discipline data should be gathered and entered into a database for analysis and summarization. The ODR form should also accommodate ease of data entry and the efficient tracking and assessment of misbehavior, which facilitates the ability to dynamically measure school climate and behavior (Colvin & Fernandez, 2000; Bohanon et al., 2006; Netzel & Eber, 2003). Staff members should be provided subsequent data reports on a regular basis. Regular review of disciplinary data at school-wide staff meetings should include presentation of quantitative and qualitative data, discussion of the next steps in the action plan, and the opportunity for feedback (Bohanon et al., 2006; Warren, et al., 2003; Colvin & Fernandez, 2000; McCurdy, Mannella, & Eldridge, 2003; Netzel & Eber, 2003). Better utilization of energy and resources to develop and sustain ongoing SWPBS implementation efforts is achieved through consensus building and data-based decision-making (Kincaid, Childs, Blasé, & Wallace, 2007; Sugai & Horner, 2006; Utley, Kozleski, Smith, & Draper, 2002).

Active and visible administrative support of SWPBS efforts at district and school levels is essential. Support is exhibited through regular team meeting attendance, integration of ongoing training opportunities, agreement to collect and use all data for decision-making, and the proper distribution of resources such as time, financial supports, and implementation materials to support the development, implementation, and sustainability of SWPBS programs. When these criteria are met, achievement of positive outcomes of SWPBS are maximized (Netzel & Eber, 2003; McCurdy, Mannella, & Eldridge, 2003; Scott, 2 Scott, 2001; Bohanon et al., 2006; Kincaid, Childs, Blasé, & Wallace, 2007; Sugai & Horner, 2006).

District Data Collection and Review

Schools selected for this early review of behavioral outcomes were those elementary schools within the district, which had met the 80% self-assessment

criterion of the BoQ. From among the 41 elementary schools in the district, 12 schools had achieved the 80% criterion on the BOQ 2 years post implementation. As implementation occurred district-wide during the 2003-2004 school year, and BOQ data is consistently available for years 2005-2006, 2006-2007, and 2007-2008, the BOQ was selected as the measurement instrument against which to view any possible trends in suspension rates. Out-of-school suspension rates were identified as the outcome measure, as this is a major target concern for the district, is the exclusionary practice that removes the student fully from the influence of SWPBS practices, and is generally a precursor to expulsion. Daily office referrals were not systematically available across schools. A six-year span of unduplicated suspension rates were retrieved from the 2006-2007 District Composite Report (2008) for the 12 elementary schools who, through self-assessment on the BoQ, determined that they had met the 80% criterion during the year 06-07. All data used in the present review were available as archival data.

A review of assessment data collected by the 74 schools in the district reveals a broad range of implementation fidelity, from schools who have not truly established a leadership team, to those who have consistently achieved self-assessments and/or external assessments at the 80% or above level of implementation, the criterion for designation as an exemplar school. Visual scanning of individual school charts provides an indication of where the target schools' suspension rates fall in relation to the SWPBS implementation date and to both district and state suspension rates.

SWPBS applies standard ABA methods to systems rather than individuals. Similarly, assessment of the impact of SWPBS implementation is often measured using single subject designs with the school as the target. In this study, two methods of assessing implementation changes were adopted. First, data representing 8 years of school suspension outcomes were charted using an interrupted time study model. Data from 4 years preceding SWPBS implementation (SY 99-00 through SY 02-03) were charted and a trend-line was calculated to demonstrate the direction of change. Data from 4 years beginning concurrent with SWPBS implementation (SY 03-04 through SY 06-07) were charted and a trend-line was calculated to demonstrate the direction of change. Visual analysis of the slopes of the two trend-lines reveals possible relationships between SWPBS practices and suspension outcomes.

The second analysis examined the slope of all 8 data points using the Tukey method. In this method, the median values of the first three and last three data points are established. The difference of the median values is divided by the number of data points, minus 1 (in this case 7), to estimate the slope of the data points.

Applying the interrupted time study model the relationship between the pre- and post-implementation slopes was classified as 1) stabilizing, 2) declining, or 3) increasing. Within the exemplar school sample, suspensions in 2 schools stabilized, 7 schools showed declining suspensions, and 3 schools showed increasing suspensions. Within the random sample schools, suspensions stabilized in 3 schools, declined in 5 schools, increased in 3 schools, and one school showed a temporary spike in suspensions returning to the previous mean over the following 4 years. This unusual pattern is probably linked to a confounding variable, for example a leadership change or population shift. It was noted across all schools that a spike in suspension activity

took place in school year 01-02. This date coincides with a change in the state discipline policy in accordance with the passage/implementation of LARS 17:416, as described on page 4 of this paper (see p. 4, para 2).

Applying the Tukey model, 9 of 12 schools reporting 80% implementation improved (reduced) suspension rates during this period. Six of twelve schools randomly selected from schools not yet at 80% implementation improved (reduced) suspension rates during this period. The improvement was somewhat stronger in the exemplar schools (Mean change = -.40) than in randomly selected schools (Mean change = -.25).

Conclusion

In conclusion, although critical problems do exist within the American educational system, important advances are being made in identifying, describing, explaining, and addressing some of the most important factors. Such advances are partially a result of modern technology that allows for the collection, analysis, and use of systematic data at a level never before realized. Through a deeper level of recognition of the role of such variables as the harm generated by the excessive use of exclusionary practices and the importance of a positive school climate, innovative models, e.g., SWPBS, for enhancing the teaching/learning environment for all children are being developed and empirically validated. As early implementation efforts are reviewed for their efficacy and utility, adaptations and improvements are being accomplished.

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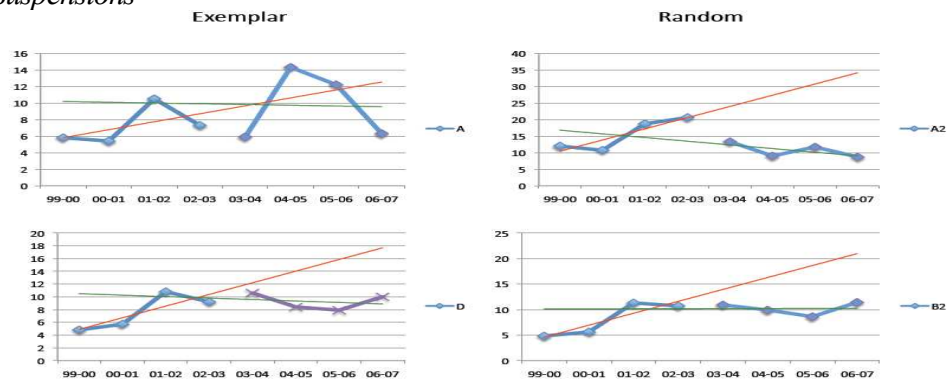
Table 1. *Annual Suspension Data for Exemplar Schools Sample*

School	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07
C	11.5	24.9	31.6	24.1	25.9	14.6	15.2	20
A	2.9	0	10.5	7.3	5.9	14.3	12.2	6.3
E	2.9	8.8	6.8	8	5.5	3.2	5.9	6.5
B	11.8	13.8	3.5	5.3	5.6	3.5	2.4	1.2
D	20.7	19.9	10.8	9.2	10.6	8.4	8.4	7.9
F	6.6	26.2	19.2	17.6	19.9	17.7	11	12.3
K	1.8	6	13.2	20.7	9.6	7.7	10.4	16.3
M	4	5	1	0.4		1.5	3.5	2.1
H	10.2	10	15.1	15.7	14.8	7.4	11	6.7
I	14.3	13.7	13.5	12.9	15.4	15.7	11.5	7.1
J	7	6.7	27.1	11.8	15.6	8.3	6.2	9.4
L	10.7	9.1	4.1	3.7	3.9	5.6	3.7	6.1

Table 2. *Annual Suspension Data for Randomly Selected School Sample*

School	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07
E2	11.7	17.6	15.7	15.6	15.4	20.9	16.8	16.1
H2	10.6	10.2	13.4	14.9	7.6	14.9	11.3	13.3
K2	8.5	19.6	12.8	10.6	10.6	7.9	2.6	3.2
A2	12	10.7	19.3	18.3	12.9	9.5	7.7	5.3
F2	22.9	24.8	13.7	15.5	21.2	18.4	16.5	15.1
I2	13.6	11.3	13.9	11.6	13.7	9.6	12.5	15.6
G2	9.4	4.8	7	3.8	11.8	10.5	8	4.7
J2	7.5	10.4	8.6	7.7	9.8	8.5	5.8	7.1
C2	26.6	13.8	37.5	20.9	25.6	25.3	19.7	18.2
D2	6.9	11.5	26.5	29.4	25.4	23.5	17.5	19.8
L2	8.3	6.8	3.2	5.2	2.7	2.6	5.8	3.1
B2			8.4	4.2	12.2	7.9	4.4	11.2

Figure 1. *Interrupted Time Series Charts: Exemplar and Randomly Selected School Suspensions*



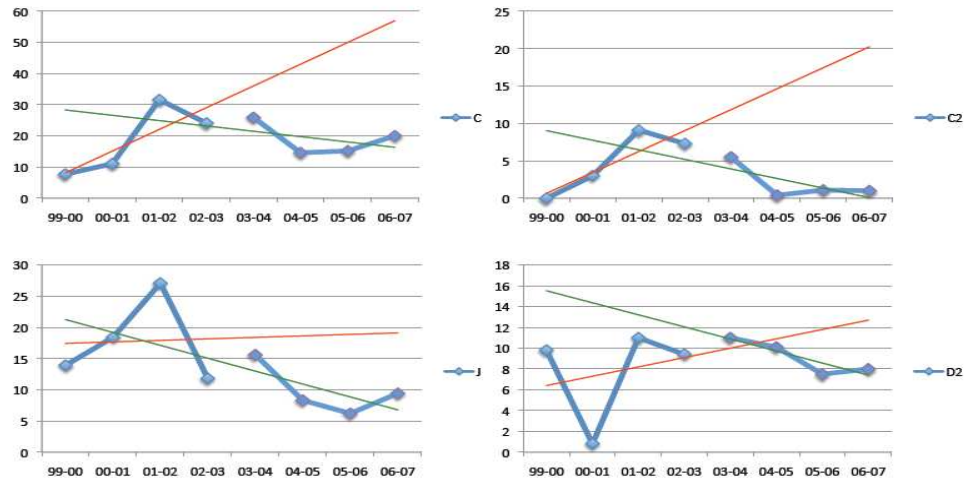


Figure 2. *Interrupted Time Series Charts: Exemplar and Randomly Selected School Suspensions*

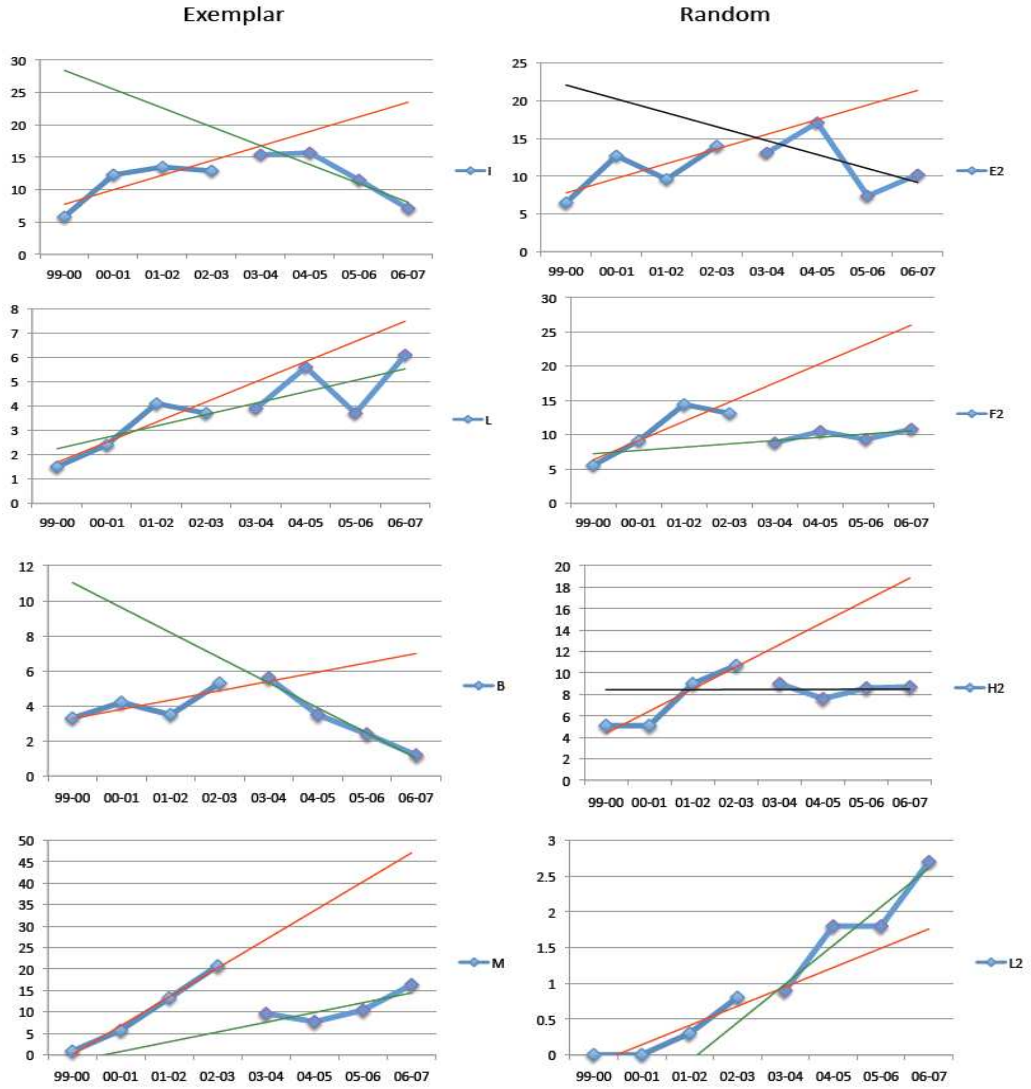


Figure 3. *Interrupted Time Series Charts: Exemplar and Randomly Selected School Suspensions*

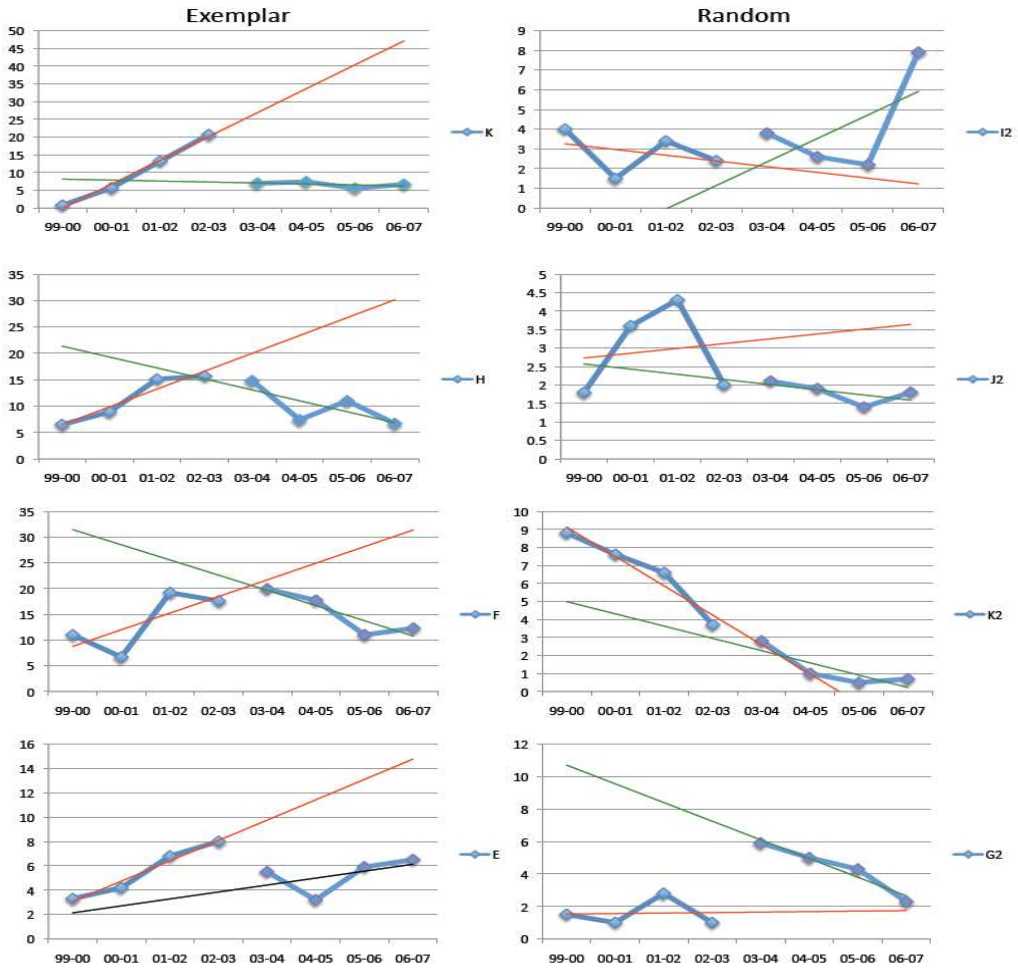
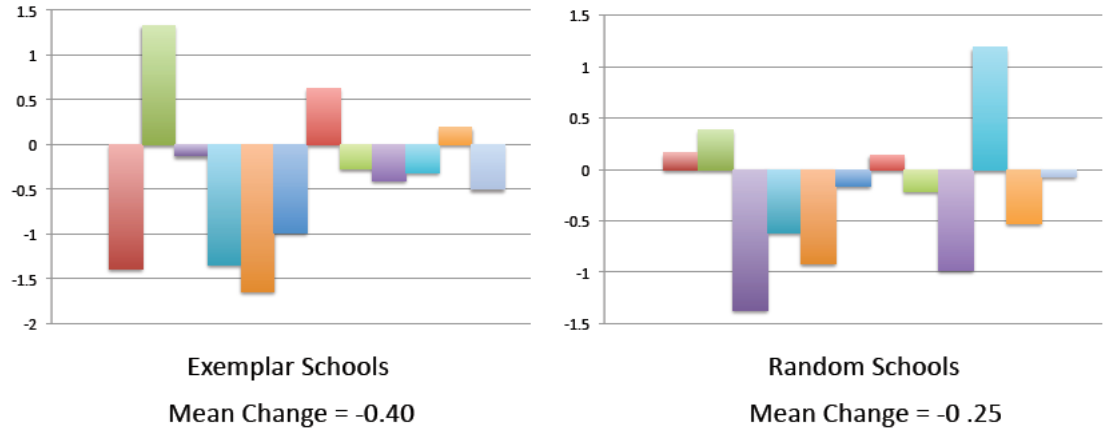


Figure 4. *Slope Magnitude and Direction Using Tukey Method*



24

School Violence: Some Evidence from the Economics Literature

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During the last two decades, school violence has emerged as a topic of interest in many countries around the world. Worries about the phenomenon have recently increased due to a surge of school-based shootings like the widely publicized Columbine High School tragedy in Colorado. According to the 2007 US School Survey on Crime and Safety, 78% of American public schools experienced one or more violent incidents during the school year 2005-06. In the UK, a recent report shows that 31% of children experienced bullying during childhood (see Brown &Taylor, 2008). This pattern is not limited to these countries since many others nations are facing violent incidents in or around their schools. For example, the World Health Organization reports that 40%, 38% and 36% of 13-year-olds from 35 countries had respectively fought, bullied others, and been bullied by others at school in the preceding months (see Janosz et al., 2008). As school violence has become an international focus of concern, policy makers and researchers are making substantial efforts to understand the causes and consequences of the phenomenon and to identify effective methods to reduce its occurrence (see Elliot, Hamburg & Williams, 1998). Psychologists began their scientific study of violence during the first half of last century (Amodei & Scott, 2002). Since then, substantial psychological knowledge has been assembled regarding the causes of violence as well as its prevention. Other social scientists, among them sociologists and education researchers have also long been active in youth violence research. On the contrary, the topic has been really explored by economists only in recent years. This gap is surprising because violence in schools constitutes an interesting topic for economic analysis for the following reasons.

First, the cost of violent behaviour to victims and to the whole society is considerable, even if it does not result in death or serious injury.[1] A simple way to evaluate the cost of violence is to adopt an accounting perspective and add up all the direct and indirect costs from violence. These include, but are not

[1]In the U.S., the cost of youth violence is estimated to be $158 billion per year (Children's Safety Network Economics& Data Analysis Resource Center 2000).

limited to things such as the health-care costs associated with traumas caused by violence, private security expenditures, reductions in the rates of human capital accumulation, lost productivity, the cost of emergency, worker's compensation, emotional pain and suffering, vulnerability, mistrust of others, family disruption, reduced quality of life and deterioration of neighbourhoods, etc. The indirect costs are more difficult to quantify, and the lack of statistics is probably one reason for the neglect of such evaluations. Second, school violence is also of interest to economist because it represents a potential determinant of educational achievement and labour market outcomes. If being exposed to violence adversely affects educational attainment, then the individual's employment prospects may be indirectly influenced by violence (Elliot & Kilpatrick, 1994).

School violence is closely related to two areas of existing economics literature. First, there exists a considerable amount of research exploring the economic consequences of crime dating back to the seminal work of Becker (1968). Much of this research has attempted to determine how involvement with the criminal justice system affects the labour market opportunities of criminals (Bound et Freeman, 1992). Second, from an economic point of view, education can be regarded as a production process in which a variety of inputs are used to determine a multidimensional output. Consequently, a lengthy literature has attempted to determine the impact of school inputs (expenditures, teacher characteristics, class and school size, etc.), environmental factors (peer groups) and socioeconomic characteristics. This approach, called the "production function" model is behind much of the analysis in the economics of education since the widely cited Coleman Report (Coleman et al., 1966). In comprehensive summaries of this research, Hanushek (1986, 1997) finds that student outcomes are not consistently related to school inputs but families and peers are the primary determinants of performance variance. Another contentious aspect of this literature is related to the influence of class size on student achievement. While there is not consistent empirical evidence on this issue, some studies have shown that small class size is important for certain types of students, such as low-achieving students, elementary school students, and students from low socio-economic backgrounds (Dolan & Schmidt, 1987). However, remarkably absent from the production function studies is generally the effect of school violence.

The objective of this paper is to examine some main issues concerning school violence from an economic perspective. A literature review is provided with special emphasis on the causes and economical consequences of the phenomenon. Published papers are reviewed in order to determining methods, data used, models specified, results, and policy implications. The question addressed in the first section is: What is the effect of school violence on student performance, educational achievement and outcomes?

School Violence and Educational Outcomes

School violence has been defined in multiple ways (see Farrel & Flannery, 2006; Henry, 2000). As used in most economics studies, the term violence refers to a category of behaviour that threatens or causes physical harm to another person. This broad definition covers multiple forms of violence ranging from mild incidents like shoving and throwing objects to more serious acts such as homicide and assault. It also includes school bullying (at least in its more severe forms) which has been the subject of public concern in many countries. According to Olweus (1991), "a student is being bullied or victimised when he or she is exposed repeatedly and over time to negative action on the part of one or more others students." In contrast, the definition does not include some kind of violence like, for example, the "symbolic violence" of domination. Finally, it should be noted that School violence is not limited to the student population. For instance, an estimated 10% of U.S. teachers are reported being threatened by a student in the past year. ("The Average Teacher," Teacher Magazine, 2002).

Currently, school violence research is attracting increasing interest in the economics literature. One issue that has received special attention is the relation between violence and educational achievement or outcomes. School violence is expected to have an adverse effect on pupil performance because it can create important disruptions within an education environment, reducing the effectiveness of classroom teaching time. It also can inhibit the educational process by causing individual students and parents to be more concerned about the safety of school environment than the material being taught, distracting from the goal of educational performance. There is important evidence in the economics literature to support these assertions. For example, initial studies have shown that students who fear attack at school, or who have been attacked, are more likely to stay at home for reasons other than illness (Pearson & Toby, 1991). In the same vein, students concerned for their safety may also find difficulties to concentrate. Consequently, their achievement and advancement may suffer (Grogger, 1997). In his article, Grogger examines how local violence affects high school graduation and college attendance. He uses data from the *High School and Beyond Survey*, a major longitudinal study of American youth, and finds that local violence has important effects on student achievement. In particular, Grogger finds that moderate levels of violence reduce the likelihood of high school graduation by 5.1 percentage points on average, and lower the likelihood that a student will attend college by 6.9 percentage points. The author also talked about school violence as an argument to bolster the argument of schools choice. Because of exposure to violence, students may attend nonviolent schools to leave the areas in which they reside. Bosworth (1994) also uses data from a major longitudinal research, the *Youth Cohort Study of England and Wales* (YCS), to evaluate the effect of truancy on educational attainment. He finds that higher levels of attainment are linked with the desire of students to be in school, and that, violence issues are symptomatic of poor students attitudes towards education. Brown and Taylor

(2008) conduct an econometric analysis of the effects of bullying on human capital accumulation over an individual's lifecycle. They exploit the rich data available from the *British National Child Development Study* (NCDS). With NCDS data, one can relate a child's experience of bullying at school to his subsequent educational attainment and wages received during various stages of adulthood. The findings suggest that school bullying has an adverse effect on human capital accumulation both at and beyond school. They also find that being bullied at school influences wages received during adulthood as well as indirectly influencing wages via educational attainment. Le, Miller, Heath, and Martin (2005) examine how childhood disorder problems influence schooling and labour market outcomes. They find two behavioural problems that have the largest negative impacts on the school leaving decisions of males and females namely bullying activity and a propensity for starting physical fights. Two possible pathways through which conduct disorder might impact on labour market outcomes are considered in this study. First, it is possible that child hood conduct disorder will impact on the chances that a person will be employed. Second, among those who are employed, childhood conduct disorder may impact on the wage obtained. Using longitudinal data on a cohort of high-school graduates, Waddell (2006) shows that US youth who reveal poor attitude and self-esteem attain fewer years of postsecondary education, are less likely to be employed and, realise lower earning. Being bullied at school may be associated with negative attitudes and low self-esteem (Brown and Taylor, 2008). Ammermueller (2007) evaluates the degree of school violence in 11 European countries and analyzes the determinants of being a victim and its effect on student performance. He uses data from the *Trends in International Mathematics and Science Study* (TIMSS) 2003 and the NCDS. The latter allows for a more credible identification of the effect and provides controls for prior achievement, prior victimization and additional student characteristics. The results show that the behaviour of peers in form of school violence is an important determinant of both contemporary and later student achievement. He also finds that being bullied as a child has a significant impact on the level of educational attainment and labour market earnings. Hence, reducing violence at schools not only eases life for many students who suffer from it but should also lead to more investment in human capital.

TIMSS data have also been used by Akiba et al., (2002) to explore the amount of school violence among 37 nations. Their results show that school violence is not directly linked to overall levels of crime or deviance in a given society, but national systems of education that produce greater achievement differences between students tend to record more violence. Consequently, equalizing the quality of education for all students is seen as one possible remedy for school violence. Recall that these results contrast with those reported in Elliot, Hamburg, & Williams (1998) who considered that the level of school violence and other juvenile delinquencies are reflections of crime rates in the society. McGarvey, Smith, and Walker (2007) investigate the link between school outcomes and both school and neighbourhood measures of violence using individual data from the *High School and Beyond Survey*. Their

study's policy relevance arises from the new funding requirements implemented in *No Child Left Behind Act* (NCLB). The NCLB is the first US federal law that explicitly focuses on student behaviour and requires the prevention of school violence as a condition of receiving federal funding. The results indicate that both in-school violent crimes and the neighbourhood violent crime rate have strong negative effects of school performance as measured by the proportion of students at each school who meet or exceed state standards on standardized tests.

Varhama and Björkqvist (2005) study the link between being bullied at school in adolescence and long term unemployment in adulthood in Finland. They find that, among individuals with long term unemployment problems, 29% responded to having been exposed to bulling at least once per week during adolescence. The association between bullying behaviour and academic achievement was also investigated by Woods and Wolke (2004), who argue there has been a dearth of research focusing on this issue. In their study, 1016 children from UK primary schools were individually interviewed about their bullying experiences. Surprisingly, they found little evidence of a direct link between being a bully and erosion of academic achievement.

Methodologically, to explore the effect of school violence on student attainment, the most common empirical approach used consists to estimate the following equation:

$$y_{ij} = X_{ij}\,\beta + v_j^s\,\gamma^s + v_j^n\,\gamma^n + c_j\,\delta + u_{ij}, \qquad i = 1,...,n_j; j = 1,\ldots N.$$

where the dependent variable y_{ij} represents the educational attainment of the *i*th student in the *j*th school. Vector X_{ij} includes individual-specific regressors. The vector v_j^s contains the measures of violence in the *j*th school, the vector v_j^n contains measures of neighborhood violence pertaining to the *j*th school, and the vector c_j contains all other school-specific factors. The term u_{ij} is an unobservable disturbance term, assumed to have zero mean and to be independent across students in different schools. The number of individuals in the *j*th school is n_j; there are N schools in the sample. The terms β, γ^s, γ^n, and δ are the regression coefficients to be estimated. In particular, γ^s gives the effect of school violence on student performance, and γ^n gives the effect of neighbourhood violence, controlling for all the variables included in X_{ij} and c_j. Ideally, one would like to have data on neighbourhood violence in order to estimate the effects of school and neighbourhood violence separately.

Estimating the effects of school violence raises several simultaneity problems (see Grogger, 1997). For example, the level of violence in a school may be correlated with the overall level of disorder, or with a "bad school" effect more generally. Without controlling for factors that contribute to the bad school effect, a regression model would attribute to school violence part of the

effect actually due to those other factors, overstating the effects of school violence per se. Another concern is that the question of whether the effects of violence in the school can be distinguished from the effects of violence in the neighbourhood. In a system of neighbourhood schools, this distinction is difficult to make. The second question being addressed is: Is there a link between youth violence and school size?

School Size and Youth Violence

School size is seen as a critical factor in determining educational outcomes. The observation that many acts of violence have arisen in large schools has led to a growing area of research on the relationship between school size and youth violence. The economics literature often argues that larger sized schools enjoy benefits through economies of scale.[1] (Kenny, 1982; Chakraborty et al. (2000); (Hanushek, 1986). Many studies have also argued that students in larger schools experience greater isolation and become more alienated and frustrated than their counterparts in smaller sized schools (Cotton, 2000; Ferris and West, 2002). Leung and Ferris (2008) examine the relationship between school size and youth violence using data collected from a group of young males living in Montreal, Quebec, in the 1990s. The dependent variable in the analysis is whether these youths self-report an act of violent behaviour when they were 17 years old. The explanatory variables include information related to their schools, their parents, and their peer influences. They find that factors such as growing up in a broken family, having delinquent friends, and attending a lower quality school can increase the marginal probability of violence from 13 percent to 23 percent.

The analysis also suggests that any potential education gain that arises through larger scale may be achieved only at the cost of increasing level of student frustration, alienation, and violence. More specifically, Leung and Ferris find that a student attending a school with more than 2000 students is about 22 percent more likely to engage in an act of serious violence than a student who attends a school with less than 1000 students.

Another study supporting the relationship between school size and delinquent behaviour is given in Ferris and West (2004) who use data from the U.S. *National Center for Education Statistics* (NCES). Their study shows that the percentage of schools reporting serious crime is as much as five times higher in schools with less than a thousand students.

Researchers of the NCES also found that discipline problems are often related to school enrollment size. Large schools tended to yield more discipline problems than small schools. For example, their results show that 34% of schools with 1000 or more students reported student disrespect for assaults on teachers at least once per week, compared with 21% of those at schools with 500-999 students, 14 percent of those at schools with 300-499 students, and 7%

[1]Economies of scale arise when the cost per unit falls as output increases resulting from large-scale operations.

of schools with less than 300 students. (Indicators of School Crime and Safety, 2005, U.S. Departments of Education and Justice, 2005).

A major drawback of some studies mentioned above concerns the way that the data are collected, in particular, the common use of school-based data, a source that may contain its own "selection bias". For example, school reported data may indicate that smaller schools exhibit less violence solely because their students are selected from the subset of less violent students.

Who are the Victims of School Violence?

There is an abundant psychological literature on the profiles of non-victims and victims of school violence. For example, research shows that bullies are less interested in school than students not involved in bullying. In addition both bullies and victims are more likely to experience feelings of loneliness and poor relationships with classmates than students not involved in bullying (see Nansel et al., 2001; Hodges, Malone & Perry, 1997). Moreover, victims of bullying often experience anxiety and depression, low self-esteem, physical and psychosomatic complaints. In extreme cases, they may commit suicide (see Smith et al., 2004). Because economists are primarily interested in the economical consequences of school violence, there is a lack of economic research on this topic. Some recent studies have, however, produced some evidence about risk factors. According to Ammermueller (2007), female students and students in villages or small towns are less likely to be hurt or stolen from by other students. He also finds that students with an immigration background are more likely to be victims. The appearance of students, for example, their looks and their height play an important role in the process of victimization. Finally, the author finds that having older siblings reduces the probability of being bullied while it increases when having younger siblings, in particular when siblings have the same gender.

School Violence and Absenteeism

Absenteeism from school is commonly associated with school violence. As already mentioned, some of the prior research assumes that students who fear attack at school, or who have been attacked, are more likely to stay at home for reasons other than illness (see Grogger, 1997). For example, The US *National Center for Education Statistics* indicates that 6% of American students avoided a school activity in the previous six months due to fear of attack or harm (NCES, 2006). In a review of the literature, Dake, Price, & Telljohann (2003) also found that victims of school violence display higher rates of absenteeism than their peers. Glew et al. (2005) have produced evidence that students who have been bullied are 2.1 times more likely than other students to feel unsafe at school and 20% of US elementary school students would reportedly skip school to avoid being bullied. According to Astor et al. (2002), among

American High school students, fear of attending classes because of violence is directly related to previous victimization by teachers or peers. Missing school because of feeling unsafe is also supported by Rigby (1998) who found an estimated 16% of boys and 31% of girls reported being absent from school in attempts to avoid being victimized.

School Violence and Poverty

The level of economic development, as measured by the GDP (gross domestic product) per capita is a significant determinant of school violence. For example, Akiba et al., (2002) found that GDP is a major variable that is significantly associated with rates of school violence once national characteristics of schooling have been controlled. In a comparative study of school violence in 37 nations, they found a negative relationship between GDP per capita and school violence suggesting that this phenomenon is more prevalent in developing countries. According to the authors, this result is in line with previous studies initiated by UNESCO. Socioeconomic status (SES) indicating whether the student received free school meals or family background proxied by parents' occupation may be related to school violence (see Brown & Taylor, 2008; Ammermueller, 2007). Finally, using data from a Local Education Authority in England, Sabates (2008) shows that reductions in poverty are associated with decreasing conviction rates for violent crime for three cohorts of young people, born between 1981 and 1983.

Conclusion

Modeling the process of violence in schools is complex and is not primarily the task for economists. Because concern about the phenomenon has increased in recent years, school violence research is attracting increasing interest in the economics literature. This paper gives an overview of the main issues about school violence from an economic perspective. The review shows that the phenomenon has an adverse effect on human capital accumulation both at and beyond school. It also influences wages received during adulthood as well as indirectly via educational attainment. Hence, reducing violence at schools should lead to more investment in human capital. These results suggest that economists should take account this kind of variable when estimating educational production functions.

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25

Latvia's Teacher's Innovative Activity in Contemporary Conditions

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Theoretical research of innovations is a new field in research activities, and it creates problems for education, especially for higher education. Great hopes are placed on innovations, they are considered to be a reliable driving force for development, and therefore special educational programs and projects are devoted to them. Observations testify to the fact that development is more successful in those countries where adequate conditions for innovations and their introduction into education have been created.

> *"...incorporating school reform into the working day of teaching requires not only expertise and sagacity. It is an enormous amount of often-frustrating additional work that is taken on by teachers, sometimes as an organic, professional innovation and, at other times, as a no less professional adaptation to an external imposition, which becomes part of a changing definition of 'good' professional performance" (Wexler, 2002, 471).*

Wexler points two problematic aspects of the ongoing educational reforms for teachers:

- the changing definition of professional performance, which can come into conflict with daily practices and professional orientation of teachers;
- innovative activity is the element in the structure of teacher's pedagogical activity.

The range of concepts included in the term "innovations" is wide, definitions of terms – various. Since the research object "innovations" itself has not yet been completely investigated and understood, the definitions of terms

are still not perfect. Besides, the terminology used for innovations in Latvian is quite new yet; therefore international words and simplified terms are used.

For instance, notions like "innovations and National innovation system", "a new paradigm of pedagogy", "knowledge-based innovations", "innovations in education", "innovation management" etc. are widely used in strategic development plans of Latvia.

The research emphasizes the importance of identifying what teachers think about innovations in education, as well their view about teacher's innovative activity.

What actually are innovations? How do they "work"? Why do we often and often encounter innovation concepts in pedagogical theories? How can we explain novelties existing in pedagogical processes and evaluate their influence and necessity? These and similar questions exist, often they are not fully answered and understood, therefore the authors of the paper have made an attempt to explore this problem in more detail.

Research aim: to investigate theoretical foundations of innovative activity and the opinions of Latvia's teachers about innovations in schools of Latvia.

Theoretical background

The word "innovation" has originated from Latin "*innovatio*" which means: something newly introduced. The attempts to interpret and define the concept "innovation" have been many and diverse (Urban, Hauser, 1980; Everett, 1983; Guile, Quinn, 1988; Schumann, 1994; Main Definitions…, 1994; Partnership and Co-ordination East-West…, 1997 etc.).

The notion of innovations comprises three meanings: innovations as instrument, innovations as process or action, innovations as end result (new offers, new technologies, changes in social life etc.). Innovative activity is the application of scientific and technical achievements, knowledge and information in accordance with the changes in the society and for improvement and promoting economic, social, legal, cultural, educational and other processes vital for the society as well. According to this formulation, innovative activity should include knowledge about scientific, technological and management processes and about other disciplines pertaining to social and humanitarian sciences.

Evolutionary Model, Innovative Milieux Model and Propulsion Model of Creative Contributions are the methodological basis of this study.

P. Saviotti (Saviotti, 1996) explains the key concepts in an evolutionary approach to innovation as being the following:

- **Generation of variety**. Innovations are seen as equivalent to mutations, which continuously generate new products, processes and forms and contribute to increased variety. Not all mutations are successful, but the ones, which are often replace older products and processes consequently making them extinct.

- **Selection**. Selection processes act together with variety-generating mechanisms. The outcome is the "survival" (which could also be interpreted as introduction or maintenance) of some products, technologies and establishments as a result of their adaptation to the environment in which they operate, and the demise of others.
- **Reproduction and inheritance.** Firms are perceived as producing organisations and inheritance is expressed on the continuity in which organisations make decisions, develop products and generally do their business.
- **Fitness and adaptation.** Darwin's "survival of the fittest" principle is represented by the propensity of an economic unit to be successful in a given environment.
- **Population perspective**. Variation is an essential component for an evolutionary process. Hence, not only average values but also variances in the population of firms/products should be analysed.
- **Elementary interactions**. These include mainly competition and are the most studied interaction in economics. More recently, collaboration has also become a recognised type if interaction.
- **External Environment** is a key element in the evolutionary process. It traditionally covers the socioeconomic environment in which technologies are developed. It is determined by mechanisms such as patent regimes, market structures, standards and regulations. More recently it has also started to include the link with the natural environment.

This approach explains that innovations are connected with social and economic processes, where main values are oriented towards relationship between person and social environment. The Innovation Milieu Model states that "innovation stems from a creative combination of generic know-how and specific competencies" and "territorial organization is an essential component of the process of techno-economic creation" (Bramanti & Ratti, 1997, 5).

An early description of innovative milieux by R. Camagni (Camagni, 1991) lists the following components:

- a productive system, e.g. innovative firm;
- active territorial relationships, e.g. inter-firm and inter-organizational interactions fostering innovation;
- different territorial socio-economic actors, e.g. local private or public institutions supporting innovation;
- a specific culture and representation process;
- dynamic local collective learning process.

The Innovation Milieu Model is predominantly anthropocentristic.

The Propulsion Model of Creative Contributions (Sternberg, Kaufman & Pretz, 2002) is a descriptive taxonomy of eight types of creative contributions:

1) **Replication**. The creative contribution represents an effort to show a given field is where it should be. The propulsion is intended to keep the field where it is rather moving it;
2) **Redefinition**. The creative contribution represents an effort to redefine where the field currently is. The current status of the field thus is seen from a new point of view;
3) **Forward Incrementation.** The creative contribution represents an attempt to move the field forward in the direction in which it already is moving, and the contribution takes the field to a point to which others are ready to go;
4) **Advance Forward Incrementation**. The creative contribution represents an attempt to move the field forward in the direction it is already going, but the contribution moves beyond where others and ready for the field to go;
5) **Redirection**. The creative contribution represents an attempt to move the field from where it is currently headed toward a new and different direction;
6) **Reconstruction/Redirection**. The creative contribution represents an attempt to move the field back to where it once was so that the field may move onward from that point, but in a direction different from the one it took in the past;
7) **Reinitiation**. The creative contribution represents an attempt to move the field to a different and as yet not reached starting point and then to move the field in a new direction from that point;
8) **Integration**. The creative contribution represents an attempt to move the field by putting together aspects of two or more past kinds of contributions that formerly were viewed as distinct or even apposed. This type of contribution shows particularly well the potentially dialectical nature of creative contributions.

At theoretical level, the model may be useful in understanding what kinds of inventions are and why some inventions are more or less successful than others, often independent of their quality or level of novelty. This model may be useful in understanding how inventions differ from one another, not just in their level of creativity, but in the type of creativity they demonstrate in the first place as well to understand why certain types of inventions are less readily accepted than others.

At practical level, the model may be of use to organisations that specialize in invention. In order to maximize their profitability, they may wish purposely to distribute the kinds of inventions they produce across the various types in order to maximize both short-term and long-term investments in inventions.

According to co-constructivist framework, specific social suggestions are resources for active creative activity of particular subjects who, in the framework of their unique (social and individual) circumstances, reconstruct the meaning of particular social suggestions in the form of context-specific subjective meanings.

Nowadays, in Latvian society much attention has been given to the main value – a human being as a creative person who encourages the development of the society. A creative personality is objective and unique wealth of the society. Definite delimited frontiers do not exist in the course of the development of a creative person. It continues all life long.

This is due to the fact that school leader has to adjust management technologies to new conditions, where the understanding of social situation and developmental trends of the society as oriented towards sustainable development of the society is distinctly marked.

"...educating effectively for sustainability requires education which is:

1) *flexible and adaptable;*
2) *interdisciplinary or transdisciplinary;*
3) *collaborative;*
4) *experiential;*
5) *holistic;*
6) *locally relevant;*
7) *emphasising values;*
8) *future-oriented;*
9) *action- oriented;*
10) *learner- centred;*
11) *problem solving;*
12) *systematic" (Institute of Enviromental Studies, 1999, 16).*

All the above mentioned features characteristic of teachers' innovative activity in contemporary school have been actualized in both science and practice, and in those study programmes of higher education establishments which are designed for training teachers, managers of educational institutions and specialists in pedagogy on the whole. This is why the research we offer is concerned with the opinions of Latvia's teachers about innovations and their motivation for innovative activity.

Method

Sample

The 8 teachers in our study were selected from a larger sample of 364 Latvian secondary school teachers who had participated in previous studies (Davidova & Kokina, 2004, 2006). The selection criterion was strong difference in professional orientations, assuming the teachers also would differ in their attitudes related to innovations in education, and, therefore, would clearly show the way they experience and appraise the innovations in schools. The previous studies were conducted in 2003 and 2005 and explored secondary school teachers' orientations towards different aspects of their work quantitatively.

The 8 teachers, who worked at different Latvian schools, were interviewed in October and November 2006. Ettlie and O'Keefe's scale of attitude to innovations was employed as the basis during the interview (Ettlie & O'Keefe, 1982). The following four teachers were selected from the group of teachers with a student/learning-centred orientation towards teaching and an extended orientation towards the school organization (all names are pseudonyms):

- Normunds, a physics teacher, with more than 12 years' experience;
- Daina, a Latvian language teacher, with more than 16 years' experience;
- Inese, a mathematics teacher, with more than 18 years' experience;
- Tereza, a Latvian language teacher, with more than 21 years' experience.

The other four teachers were selected from the group with teachers with content-centred orientation towards teaching and a restricted orientation towards the school organization (all names are pseudonyms):

- Laura, a biology teacher, with more than 13 years' experience;
- Zhenija, a music teacher, with more than 16 years' experience;
- Lusija, a literature teacher, with more than 19 years' experience;
- Ausma, an English language teacher, with more than 22 years' experience.

Procedure

The interviews took place either at school or at home. The first interview lasted 1-2 hours. Two researchers conducted each of the interviews: one asked questions with the aid of a topic list, and the other listened, took notes, and possibly posed additional questions at the end of the interview. Both during and after the interview, a research log was kept (Kelchtermans, 1994). In this log, the researchers reported their general impressions of the interview, what went well, what could be improved, their personal impression of the respondent in terms of pleasantness and interest, their impression of the environment in which the interview took place, and their role in the interview (Miles & Huberman, 1984; Kelchtermans, 1994).

All interviews were audio taped and transcribed to create a written protocol. The first analyses followed (see next section, phases 1-4). Then a second interview was conducted, lasting 1-1,5 hours. The interview protocols and the initial analyses were sent to the respondents for validation. All of the teachers subsequently agreed with the content of the protocols and the initial analysis.

Analyses

Following Miles and Huberman (1984), we analysed the written interview protocols in several phases:

1) We assigned a descriptive code to those interview segments that appeared to be relevant to the different research questions.
2) We assigned a more interpretative code to each of the selected segments in order to summarize globally the content of the segment.
3) Each interview segment was specifically coded for the following: orientation (student/learning-centred or a teacher-or content-centred; restricted or extended), the primary components of appraisal and attitudes (positive or negative).
4) Each segment was next examined from the perspective of the research questions and, on the basis of this information; a more specific classification of the segments was developed. A summary data matrix was then created for each respondent.
5) These initial analyses were discussed with the teachers in the second interview, which resulted in some adjustments and refinements.
6) The summary data matrix for each respondent was analysed separately from the other respondents (vertical analysis); the data matrices from the different respondents were than compared to each other and summarized within a single data matrix (horizontal analysis).
7) A summary of the results was written with clear references to the data matrices, interview segments, and written protocols. Use was made of the Atlas/ti (1997) software program for qualitative analysis to guide the analyses.

Results

Interviews with teachers testify to the fact that they are aware of the importance of innovations for the development of education institutions, nevertheless the notion "innovations" is interpreted in quite a variety of ways. Teachers also realize that innovations exist, are possible and necessary for their pedagogical activities. For them innovations is everything that seems new if compared to what has been previously. It should be mentioned, however, that effectiveness of innovations is seldom viewed from global and sustainable development aspect, because, in teachers' opinion, the effect of innovation is often perceived as something abstract and short-termed.

The pedagogical prognosis for effectiveness of the stimulation of motivation for a teacher's innovative activity would not be valuable if reasons that lessen this effectiveness were not explored, otherwise it is not possible to ensure conditions with minimal hampering manifestations. The research

revealed the most important factors hampering teacher's motivation for innovative activity:

1) low payment;
2) formalism of administration requirements;
3) poor material and technical basis for studies;
4) biased recognition on administration's part;
5) teacher's discontent with self-realization methods;
6) lack of information about innovative teaching technologies which teachers are interested in;
7) unfavorable moral and psychological atmosphere among teachers;
8) too strict work regulations on school administration's part.

The effectiveness of pedagogical prognosis for the stimulation of teacher's motivation for innovative activity should be viewed in close connection with the quality of material and technical basis at school. The analysis of research data allows us to conclude that a pure material and technical basis is one of important reasons for pupils' reluctance to study.

Unfavorable moral and psychological atmosphere among teachers at school, too, essentially lessens effectiveness of the stimulation of motivation for a teacher's innovative activity, hinders teacher's acquisition of new techniques and methods that would enable them to use their time rationally and information sources operatively and effectively. And vice versa, good cooperation among pupils and teachers and creative atmosphere at school promote the development of teacher's professional skills and qualification. Under the circumstances of active application of effective technologies, persistent perfection of qualification and constant acquisition of pedagogical and psychological findings promote achieving positive results in teachers' own activities and stimulate them to study other teachers' innovative activities.

Creative atmosphere at school facilitates application of effective technologies for pupils' teaching, education and development. It stimulates teacher's purposefulness, develops self-discipline, readiness for innovative activity and strengthens interest in creative activity.

The self-stimulating potential of teacher's innovative activity is realized in achieving the set aims, in identifying and solving problems important for him/her personally. In the research, the following teachers' self-identified motivation stimuli were distinguished:

- application of effective technologies for teaching, education and development of pupils;
- recognition and prestige among pupils;
- respect shown by other teachers and administrations.

Other teachers' and administration's respect is closely linked with recognition by pupils.

The analysis of the research proved that teacher's desire to gain recognition and prestige among pupils strengthens his/her interest about innovative activity, stimulates the development of skills to be unbiased at evaluating the results of his/her own and pupils' activities, promotes the development of sense of responsibility, stimulates striving for success in a teaching process. Awareness about the needs to achieve good results in personal activities interlinks with the necessity to raise the level of professional skills and pedagogical culture, with achieving personal success in creative and innovative activity as well as with the need to analyze errors and failures and attempts to avoid those situations that have caused them.

In their essence, the conditions of innovative activity should be considered as non-standard conditions of a pedagogical experiment, but the needs to be informed about effective teaching, education and development technologies are closely linked with the necessity to perfect professional skills and pedagogical culture. Working under the conditions of experiment, the teacher experiences a need to change some features of his/her character and peculiarities of his/her personality, because conditions of innovative activity require determination, purposefulness, communicability and benevolence.

Under the conditions of active creative search, the teacher experiences needs to organize experimental research and therefore he/she strives to raise the level of his/her knowledge in the field of scientific research, studies the research materials, and works on gaining knowledge in psychology and methodology of teaching his/her subject. This in its turn entails the necessity to have a deeper insight into the experience of effective innovative activity, thus extending the application of his/her own creative approach in innovative pedagogical activity.

Table 1. *Orientations of the Latvian Teachers towards Innovations in School*

Teachers	**Statements of teachers' position**
Normunds, physics, 12-year experience	• Innovation is a new and original idea. • A teacher should be a daring and competent scientist. • I can willingly outline a new idea on a sheet of paper. • I would like to participate in the project if there was an interesting and competent team. • Innovators are surely talented fanatics.
Daina, Latvian language, 16-year experience	• Innovation is introducing new things in practice. • A teacher must be a driving force of innovative activities. • My innovations would not be supported, - therefore I didn't tell about them to anybody. • I would willingly participate in the project, but first I need adequate knowledge, necessary for developing and implementing projects. • I greatly respect those teachers who are able to change education system in Latvia.

Inese, mathematics, 18-year experience	• Innovation is a characteristic feature of the present time. • Innovations at school, first of all, should be linked with differentiation and individualization of the study process. • I pondered over the innovation for a long time, and then tried to explain my new idea to my colleagues. • Teachers should be more active in participating in projects. • Our progress will stop without people who are clever and full of initiative and who are not indifferent to ideas about changes in education.
Tereza, Latvian language, 21-year experience	• Innovation is novelty. • Teacher's innovative activity is oriented to pupils' freedom and independence. • I try to approbate new ideas during my classroom activities, and I often have good results. I lack daring and time to inform other people about my attempts. • I participated in the project and gained experience: it was both interesting and difficult. • Teachers-innovators are necessary today, but they are very few.
Laura, biology, 13-year experience	• Innovation is progress. • Teachers lack knowledge about innovative activities. • Now and then, some interesting idea occurs to me, but I am not sure whether it could be interesting to somebody else too, therefore I keep silence. • I heard from my colleagues that to develop and implement a project is extremely difficult. • I am sorry for the teachers who think they can solve problems of contemporary education.
Zhenija, music, 16-year experience	• Innovation is wish and ability to change situation in a problem field. • Teachers' innovations are not needed and supported at school. • Those are scientists who should be concerned with innovations, we, teachers, are practitioners. • I am not competent enough to develop and implement a project, because, in my opinion, specific knowledge and skills are necessary for this. • Indeed, any initiative on the teacher's part should be appreciated and supported, but today, unfortunately, the ministry and society on the whole are not interested in stimulating teachers' innovative activities.

Lusija, literature, 19-year experience	• Innovation and new technologies are related. • Teachers do not have time to think about innovations. • School does not particularly need new ideas. • I doubt I can develop a project because I don't have experience in this sphere. • I can't understand people, who wish to change the world.
Ausma, English language, 22-year experience	• Innovation is an abstract and new product. • Today, teachers are not yet ready for innovative activity. • It is quite difficult to implement new ideas at a contemporary school, the present education system restricts teachers' initiative. • I didn't participate in a projects. • The society should take care of teachers who are daring and full of initiative, who are not indifferent and who have new ideas.

Conclusions

1. Latvia's teachers associate the notion of innovation with original new things and progress. They are aware of the role of innovations in the education development process. For teachers with a student/learning-centred orientation innovations mainly mean introduction of new methods into the teaching process. Teachers with content-centred orientation emphasize the necessity to introduce innovations in the sphere of new technologies and to train teachers to work with these new technologies. Teachers with a student/learning-centred paradigm stress that it is vital to organize innovative teams, because one person is not able to put innovations into practice. It is also mentioned that innovations are seldom discussed at school and teachers are extremely loaded with work. Some teachers, who have a long work experience and who are content-oriented, are pessimistic about the possibility to implement innovative ideas in Latvia's education. At the same time, teachers emphasize many problems and discrepancies in Latvia's education which require flexibility in pedagogical work:

A. Teachers with a student/learning-centred paradigm underline such problems as
   - restriction of teachers' and pupils' freedom;
   - restriction in differentiation and individualization possibilities of a teaching process;
   - development of pupils' initiative, activities and independence etc.

B. Teachers with content-oriented paradigm mention such problems as
- need to develop new teaching aids;
- improvement of school material and technical basis;
- increasing teachers' prestige and salaries;
- perfection of teaching standards etc.

2. Latvian teachers are often involved only in the implementation of the reforms and not in their design, which offers them very little control over the actual innovative process. Teachers need to feel themselves a part of the innovative process in school and society.

3. As the result of the analysis of contributing and hampering factors of the stimulation of motivation for a teacher's innovative activity, the regularities of the stimulation of motivation for teacher's innovative activity were formulated:

- a teacher's innovative activity and the stimulation of its motivation are united and interconnected;
- the results of the stimulation of motivation for a teacher's innovative activity depend on the understanding of the changes in the role of a teacher, processes in the society, sustainable development of the society and education. They also depend on the level of a teacher's pedagogical, psychological and scientific preparedness and his/her involvement in professional perfection;
- the stimulation of motivation for a teacher's innovative activity depends on a cooperation at several levels (with pupils, teachers, school administration, department of education, local government etc.), on the competence of management education department employees, heads of local government and on preparedness of other stimulation subjects for such kind of activity, as well as on a teacher's involvement in a creative self-development within a diversity of a professional creative activities and communication.

4. As the result of the research the most effective criteria for determining teacher's motivation towards innovative work have been formulated:
- The involvement of teacher in innovative experimental research activity;
- The ability of the teacher to be involved in the innovative activity;
- The enhancement of productivity of teacher's creative activity;
- The authentic use of pedagogical technologies;
- The enhancement of teacher's cooperation with students and teachers;
- The enhancement of teacher's qualification and self-education;
- The enhancement of teacher's level of culture;
- The enhancement of teacher's effective innovative activity;

- Engaging teachers in exploring possibilities of innovative activity.

5. The stimulation of creativity takes place by considering pedagogical regularities for stimulating innovations:

- The results of stimulating teacher's innovative activity depend on the primary level of teacher's motivation;
- The stimulation of teacher's motivation for innovative activity depends on the level of teacher's pedagogical skills;
- The innovative work of the teachers and the stimulation of their motivation influence each other;
- Stimulation of teacher's motivation towards innovative activity depends on teacher's cooperation with students and teachers;
- Stimulation of teacher's innovative work depends on the professional competence of the leader of the school and other objects of stimulation;
- Teachers motivation towards innovative work depends on teachers ability to be involved in a creative work.

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Museum Education in Turkey

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Despite the fact that Europe and America have been utilizing museums as educational environments within formal and informal education since the 1950s, it has gained importance and obtained systematic structure in the 1990s in Turkey. It can be said that the idea of benefiting from museums in education in Turkey first began when a school museum in Galatasaray, Lycée was established in 1868. These endeavours continued with the opening of school museums in a primary school and a lycée in Bursa in 1930. A museum handbook was prepared and distributed for teachers in 1958 in order to show them how to benefit from museums; however, this and similar efforts did not become popular. The Ministry of National Education has realized radical changes in educational curricula in the decade of 2000s, including the adoption of a constructivist approach in current curricula. Environments outside of the classrooms were defined as learning areas within this approach, in which skill education is considered more important.

The necessity of benefiting from museums was emphasized in courses such as Turkish, mathematics, and science and technology since the 2005-2006 academic year. Museum education has formed approximately one third of the curriculum in primary education (1^{st}-8^{th} grades) in the areas of art activities and visual arts course curricula. Approaches of these two courses related to museum education are briefly given below:

Art Activities Course

One of the learning areas of the Primary Education Art Activities course programme is *museum culture*. The general aim of the art activities programme is to support students in bringing them up as constructive and creative individuals by using drama and theatre methods while benefiting from all art fields. Theatre and drama are principally utilized in the art activities programme beside the fields of music, drawing, statue, architecture, dance and literature.

The aims of museum education are listed in the programme as follows:

- To help individuals in accommodating themselves to a changing world;
- To prevent individuals from becoming estranged from the environment in which they live; to establish a connection between the past and present life;
- To provide an approach related to present-day problems and conflicts;
- To build a bridge between the objects exhibited and the individuals; hereby, it provides an opportunity for the individuals to unify their lives with the objects;
- To provide objects to be perceived as the concrete and authentic document of human life, as well as their materialistic and ideal values;
- To provide connections between the present-day lives of individuals and objects, which provides an opportunity for them to understand the relations between political, cultural, social, economic and ecologic issues; to develop their inquisitive aspects besides understanding these relations;
- To provide the opportunity for individuals to seek and develop information on their own;
- To provide opportunity for individuals to evaluate their time in a creative manner; to make visiting museums part of their lifestyle;
- To provide opportunities for individuals to compact communication and learning; to develop museum economy.

The aim of the museum culture education is to develop creative thinking while utilizing museums as educational environment. The following objectives should be obtained by the students with 'museum culture,' which is one of the learning environments of the primary education art activities course programme:

- He/she is cognizant of collection,
- He/she evaluates the functions of works exhibited in the museum as well as their similarities and differences, considering the objects utilized in daily life from the points of historical and artistic perspectives,
- He/she compares and contrasts past and present life events considering the works exhibited in the museum,
- He/she makes connections between the characters included in epics, legend or historical texts and costumes and accessories in the museum,
- He/she recognizes mythological and historical heroes in the museum, and
- He/she is cognizant of civilizations in the museum.

Visual Arts Course

One of the learning areas of the Primary Education Visual Arts course programme is museum awareness. Museum awareness is explained in the programme as follows: museums accumulating social, economic and cultural experiences, beginning from the early days of human beings to the present, within its constitution conserving and exhibiting them. Museums have very valuable samples that have attested to the development periods of human history and played important roles at the beginnings and ends of these periods.

The students learn the differences of visual arts in terms of cultural and historical inheritance within the learning area of 'museum awareness.' Within this framework, a student can observe not only local but also universal at the same time. Museums provide students with opportunities to realize new creations and understand the society and geography he/she lives in, as well as different cultures via education besides various opportunities and optional perspectives. The students will define the land of the Republic of Turkey as consisting of various and rich archaeological layers, Anatolian civilizations and acquire the awareness of owning these values.

Students should obtain the following objectives with 'museum awareness,' which is one of the learning environments of the primary education visual arts course programme:

- He/she is cognizant of museums, art galleries, ruins, historical works, ancient monuments and obeys the rules of such places,
- He/she understands the importance of the works in museums and art galleries, ruins, historical constructions, ancient monuments,
- He/she is proud of having wealth of our country, such as museums, ruins, historical works, ancient monuments, etc.,
- He/she knows the difference between original work and reproduction,
- He/she explains the aims of restoration and conservation,
- He/she makes connections between the works exhibited in the museums and the periods to which they belong,
- He/she respects the other cultures,
- He/she defines Anatolian civilizations via works,
- He/she understands that museums are places in which national and universal culture works are carried from past to future,
- He/she accepts the importance of owning our national culture,
- He/she realizes the necessity of recording historical works and art works which have the quality of carrying culture and understands the importance of these issues,
- He/she understands and explains characteristics of artwork,
- He/she performs research on the works that he/she is interested in,
- He/she knows how to bring historical work found to the museum,

- He/she discusses the results of smuggling works that are of cultural inheritance,
- He/she obtains information on the people who pioneered the establishment of Turkish museology by doing research, and
- He/she performs research on the delivery process of any work he/she has selected for the museum.

Studies done in the field of museum education have come into the current curricula more extensively and were put into practice in the 1996-1997 academic year, parallel to the studies done on primary education and teacher training programmes.

Museum Education in Teacher Training Programmes

When the Classroom Teacher Undergraduate Programmes are taken into consideration, it is seen that the concept of 'museum education' is included in the courses of Civilization History, Turkish History and Culture, Art Education, Science and Technology Instruction I and II, Drama, Visual Arts Instruction, etc. However, when the Pre-School Teacher Undergraduate Programme is taken into consideration, we see that the concept of 'museum education' is only included in the course of Visual Arts Instruction. Museum education is covered in the courses of Archaeology, Prehistoric Times History and Civilization, Arts and Aesthetics, Drama included in Social Studies Teacher Undergraduate Programmes, and also it is stated that museums should be utilized in social studies course.

There is a course titled '*museum education and practices'* in the Drawing Teacher Undergraduate Programme. The content of this course includes theoretical and educational issues such as history of museology, museum types, aims and functions, necessity (comparative analyses), museum and cultures, museum and art, museum and education, and museum and society relations. Benefiting from museums via practices in art education is organized as follows: preparation of museum guide for students, preliminary preparation, planning and rules for museum visits, programme and its evaluation, group and individual visits, introduction of museum, exhibition and evaluation of activities, examination of the works exhibited in the museums from the points of historical, aesthetics and critical dimensions, and sample and authentic artistic studies related to primary education art courses utilizing works and ruins in the museums.

It can be said that the concept of museum education is included in teacher programmes, although it is not sufficient enough. There are two programmes carried out at the post- graduate level in Turkey. One of them is *Museology MA Programme* affiliated with Yıldız Technical University, where much more importance is given to the field of museology in terms of education. The other is *Museum Education MA Programme* carried out by Ankara University.

Ankara University Museum Education Department

The Museum Education Department was established in Turkey in 1997 in order to carry out education at the post-graduate level. The aim of the Museum Education Department is to provide interdisciplinary education, and the courses are mostly related to education within the settings of the programme. The main objective of the programme is not to train museologists but museum educationalists, and its preliminary objective is to make individuals working at the museums obtain educationalist training. Moreover, the Museum Education Department aims to find ways of benefiting from the museums as educational organizations and also to train expert staff who will carry out the educational functions of the museums.

The fundamental reasons for establishing the department that provides education, training and research in the field of museum education in Ankara University are as follows:

- The museums in developed countries serve as an educational organization in our age,
- There is not enough experienced staff in the museums that will carry out the educational training functions, and
- There is not any educational staff in our country to provide educations in the museums.

The main courses provided in order to train equipped museum education experts in Ankara University Museum Education Department are as follows: Introduction to Museum Education, Introduction to Museum Science, Museum and Child Development, Learning at Museum, Creativity Education at Museum, Public Relations, Art Education at Museums, Research in Social Sciences, Curriculum Development in Education, Archaeology and History Museums, Art Museums, Nature History and Science Museums, Ethnography and Folklore Museums, etc. Approximately twenty of theses were prepared in the Museum Education MA Programme up until now.

Museums in Turkey also began to establish their own educational units besides formal educational organizations. For instance, a museum education unit is established in the Ankara Museum of Anatolian Civilizations, Ankara MTA Natural History Museum, İstanbul Modern, İstanbul Archeological Museum and İstanbul Vehbi Koç Museum, etc. Generally schools and museum education units plan and carry out projects within close cooperation. In addition to that, museum education units organize museum workshops, project based education, video shows, seminars, conferences, displays, exhibitions, concerts and publications. Some examples of these activities are summarized below:

1. *Children's Festivity*
2. *The Children's Olympics*
3. *Anatolia through My Eyes*

4. *A Day from an Archaeological Excavation*
5. *Ancient Jewelleries from Children's Hands*
6. *Mosaic Application with Children's Dream*
7. *The Story of Phrygians*
8. *A Day in Gordion*
9. *Children's Introduce Museum to Children*
10. *A Huge Book of the Civilizations*
11. *Seals and the Tales from Phrygians*
12. *Phrygians*
13. *Education Kits for Elementary Schools and Kindergartens*
14. *Müzebüs Project: Travelling Museum (Mobile Museum)*
15. *Friendly School Project from Our City*
16. *Friendly School Project from Other City*
17. *Educational Activities with Visually-Impaired People*
18. *Educational Activities about the Exhibitions*
19. *Education Project of Rahmi M. Koç Museum Workshops*
20. *Discovery Board Project*
21. *Education in 'Try and Learn Unit'*
22. *Learning Mariner's Bend*
23. *Memories of Vatma*
24. *Unit of 'What and How Does it Work?'*
25. *Project of Using Museums for Educational Purposes*
26. *Art in Play & Play in Art:* This programme is conducted in the scope of the project focused on performance art and installation. Children create extraordinary spaces, photographs, comics, and moving pictures with the help of their environments, memories and true-life experiences. This education programme, which starts with exhibition tour and concludes with art studies, offers children a different museum experience with their friends, family members and artists. *'Art in Play, Play in Art'* includes workshop activities for all ages and also organizes meetings with artists for their whole family on Sundays.
27. *Creative Workshop Time in İstanbul Modern:* There are many different activities in these creative workshops on the weekends. Children can be detectives at the library and design illustrated animal atlases. They can also create star ships while reading time meters. They can create a design forest while observing the nature and stage the Bosphorus Legend once again. Children also develop new design stories, which can change the daily life while trailing the impacts from the invention of the wheel to mobile phones.
28. *Young Volunteers for Art:* This travelling education exhibition is designed for the band of youth from 15 to 18 years of age. The reproductions of world-famous painter 'Fikret Muallâ' are being carried to the different high schools in İstanbul. Young people can have the chance of meeting him and seeing his artwork.

During this travelling education exhibition, the documentary about the artist is screened. Then, his works of art are exhibited as visual stories. Works of Fikret Mualla are being analyzed and commented by the young people with the guidance of museum volunteers. *'Fikret Muallâ - Hide and Seek with ABC':* A special book, which was prepared in the scope of the exhibition. This book was designed especially for children who have just learned how to read.

29. *Young Designers of the City:* Children and young people create extraordinary spaces from the basic rules of design, while joining the past and future applications of design culture and using geometric shapes and figures. This programme consists of artist meetings and artistic workshop events (workshops for young people from 15 to 18 years of age). *Feel Free to Design: Workshop* is created for children between the ages of 4 and 13 and invites participants to research, develop and visualize creative ideas, discover materials and experience all the stages of design. During the workshops, which are open to school groups on weekdays and children and their families on the weekends, participants will produce designs of the future.
30. *Let's Travel and See 'Labyrinth at Museum':* The museum becomes a labyrinth, which will foster the excitement of hundreds of children during this activity in İstanbul Modern Exhibition halls. After the children have participated in this fun Labyrinth Game, they will design things and create heroes.

Conclusion

As a result, it can be said that significant studies are carried out in the field of museum education in Turkey. International projects are developed within this subject, publications have begun to be published, but the most important of all is that many official and private organizations have adopted the field of museum education, especially since the 2000s.

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27

History of Drama as a Teaching Method in Turkey

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The origins of drama date back to the beginning of the 20th century. While the concepts of play, school performance and school theatre were being used as early as the 1900s, the concepts of drama in education and creative drama only started to be used after the 1980s. In this study, the term drama in education will refer to drama activities performed via animation and improvisation for the purposes of education and instruction in schools. This study is concerned with the origins of drama, drama in national education curricula and drama education in universities.

Origins of Drama

It is said that the sounds of animals and humans were imitated and supported with actions in the gymnastics and music courses taught at kindergartens during the fall of the Ottoman Empire (Akyüz, 2004: 19-24).

School Performances Book of Instructions (Regulations of school performances) was published by the Ministry of Education in 1915. It is the single most important resource which explains the origins of drama and theatre in Turkey. Prepared by a famous educationalist, Prof. Dr. İsmail Hakkı Baltacıoğlu, this book of instructions encouraged children to act. School performances mostly included educational, historical and moral lessons, and their main objective was to educate the emotions and morality. These performances had to be easy enough for children to understand. According to Baltacıoğlu, every teacher had the responsibility of incorporating dramatic performance and actions into classes (Çoruh, 1950: 29). These classes were stages and all children were included in the plays. Baltacıoğlu also performed plays with children and parents in the 1930s. The text was given in draft form and played in an improvisational manner. Make-up was done in front of the audience. Those who finished their parts in the play sat down with the audience (Şener, 2000). According to Baltacıoğlu, the first person to use theatre in Turkish schools was Muammer Targaç, a private school teacher (Cited in Çoruh, 1950:6).

In 1950, Çoruh published a book entitled *Dramatization in Schools*. In this book, dramatic and pretentive actions were divided into branches such as

school theatre, child theatre, dramatization in class, puppets, shadow-theatre, and festivals (Çoruh, 1950: 19). Every reading text, tale and story that was dramatized eliminated boredom and allowed clear learning. Çoruh wrote that reading texts could not always be dramatized but teachers should know how to benefit educationally from dramatization as a teaching method (1950:43). The aim of dramatization in schools was to develop unity and solidarity, cooperation, harmony, sincere living, acquiring knowledge by living and providing necessary settings for others (Çoruh, 1950:19).

Another book, *Applied Dramatization*, was written by Özdemir and published by the Ministry of National Education's Bureau of In-Service Teacher Training in 1965. The book was published in ten thousand copies. Özdemir divided the types of dramatization applied within courses into finger play, pantomime, pretending play, dependent and independent dramatization. Independent dramatization referred to the animation of a story, daily life situation, poem or interconnected event series performed by groups of children according to their own imaginations without strict dependence. Speeches were not memorized and actions were not performed considering specific situations. Dependent dramatization, on the other hand, referred to the animation of a story strictly depending on printed texts. Özdemir stated that the aim of dramatization was to educate while entertaining. He also maintained that teachers should seek dramatization opportunities depending on the characteristics of their courses (1965: 13).

Yet another book, *Child Theatre (Dramatization*) was written by Erkunt and published in 1966. Performances in preschool education, pantomime and puppet manufacturing were among the topics covered in the book.

The years between the 1950s and 60s in Turkey were marked by the progressivist teacher training model offered by the Village Institutes. Teacher trainees in these Institutes prepared extracurricular classical plays without utilizing any decor or costumes. They then performed the play together with the villagers. "The aim was not to train an actor/actress, but to make every student benefit from the art of theatre" (Çoruh, 1950).

A dramatization section also appeared in the book *Child Literature* (1979) written by F. Oğuzkan for distance education via letters. The aim of this book was to assist classroom teacher candidates attending education faculties in the child literature course. According to Oğuzkan, dramatization studies were the animation of natural and social events in an imaginary setting utilizing elements such as action, dialogue and imitation (1979:1991). Oğuzkan wrote in his book that dramatic studies increased student interest in fine arts, as well as creativity, critical thinking, cooperation and communication skills.

In the book entitled *Creative Dramatization Practices in Kindergartens* written by Ş. Oğuzkan (1986), creative dramatization was defined as the animation of a story created and performed by children in a free and spontaneous fashion, utilizing speech and action. The book consisted of sections such as dramatic plays, finger plays, pretending plays, pantomime and role sharing, etc. (Oğuzkan, 1986).

The foundations of contemporary drama in education were laid in the 1980's. Prof. İnci San of Ankara University launched drama practices together with the theatre actor Tamer Levent, first at the university and then in independent organizations. Today, the field of drama in education is becoming widespread with the national and international seminars organized in Turkey.

Drama in National Education Curricula

The primary school curriculum dated 1926, during the Republic Period in Turkey, accepted dramatic performances as a means of expression in the course and exemplified them as rondos, songs and plays. In the later primary school curriculum dated 1936, pretending plays and dramatic performances were also accepted in education (Çoruh, 1950:10).

Items including imitation, animation and dramatization were added to the same section of the primary school curriculum dated 1948. It stated, "Children should be accustomed to express themselves via imitation. It is not necessary for children to memorize texts while imitating roles" (10^{th} item).

In the 1968 primary education curriculum, dramatization was emphasized as an important component of education, which created enjoyment and entertainment. This curriculum stated that tales, novels, poems, and texts within stories could be dramatized (Oğuzkan, 1979:194). Pretending and the concepts of improvisation and dramatization were included in the secondary education curriculum dated 1962 (Oğuzkan, 1979: 195). Furthermore, drama was suggested as an elective course in the 1974-1975 new secondary education curricula.

In the academic year of 1997-1998, a course entitled "Individual and Collective Activities in Primary Education", which made use of drama, was launched. In 1998, an elective drama course was offered 1-2 hours a week to grades 4 through 8. The Ministry had field specialists prepare a course outline and a course book. Besides, intensive summer courses were organized for teachers to make drama widespread as a teaching method.

From the year 2005 onwards, the Ministry of National Education began to make radical changes in all educational curricula in favour of constructivism. This student centred approach is innovative in terms of using active learning techniques, objectives, learning domain, themes, and new measurement techniques. The elective Artistic Activities course, which is offered 2 hours weekly to $1\text{-}8^{th}$ grades, is based on this approach. Drama method is also used as an effective method in learning areas such as museum education, project education and art education in the Artistic Activities curriculum. Furthermore, drama courses are provided extensively in schools following this curriculum.

Drama, role plays, animation concepts and teaching methods are also widely used in the current life studies programme. At the same time, drama concepts and techniques are covered in the current social studies curriculum, too (Okvuran, 2006).

Although drama is only partially used in the current Science and Technology curriculum, it prevails in the Turkish curriculum where role plays,

animations and drama concepts are frequently used in adapting tales and stories.

Dramatization is included in the teaching methods and techniques section of the visual arts curriculum.

A drama course taught 2 hours weekly is also included in the curricula of drawing and music departments of fine arts high schools and child development departments of vocational high schools (Cited in Aykaç 2008 : 154).

A study by Aykaç reviewed the use of drama concepts and terms in the course books, teacher guides and research books prepared in line with the current primary education curriculum. It was revealed that drama concepts and terms were widely included in Turkish course books, partially in life and social studies books, and not at all in science and mathematics books (Aykaç, 2008: 158).

Drama Education in Universities

The first postgraduate drama course in Turkey was offered in 1989 by San and Levent of Ankara University's Educational Sciences Faculty. The first MA thesis in the field was written by Çebi (1985) and it focused on role play as an active teaching method. The first PhD dissertation, on the other hand, was written by Ömeroğlu (1990) and centred on preschool verbal creativity and its relation with drama.

The earliest postgraduate drama courses were included in the Theatre Department of Ankara University's Language, History and Geography Faculty and Gazi University's Preschool Education Department in the 1990's.

With an adjustment in the education faculties of Turkey in 1997, compulsory drama courses were included in classroom teaching, preschool education and foreign language education curricula. This surprising and positive development excited drama educationalists. The academic staff of Ankara University developed intensive training programmes for the academic staff to teach the compulsory drama courses in education faculties.

Since the year 2000, the Educational Sciences Faculty of Ankara University has been offering a Non-Thesis Creative Drama MA programme to train drama teachers at the postgraduate level. Each student in the programme takes 10 courses (3 credits each) and prepares a project. The programme covers the theoretical foundations of drama, drama practices, and art and theatre education courses. Students complete the programme within 2+1 years. So far, 65 students have completed the programme successfully. There is a Thesis version of this programme as well.

Until 2008, 93 MA theses and 15 PhD dissertations had been written on these topics in Turkey (Adıgüzel, 2008: 17). MA theses have mostly investigated the effects of drama on social studies, science, citizenship and human rights, Turkish, music, mathematics or foreign language courses, as well as communication, emphatic skills, social skills, creative writing skills, the effect of drama on academic success, moral development, self-confidence and individuality. On the other hand, PhD dissertations have been concerned with

the issues of the effects of drama on group counselling education, fine arts and basic design education, social skills education for the hearing impaired, oandr the attitudes of people towards the field competencies of teacher trainees.

The final projects of the non-thesis creative drama MA programme have mostly covered topics such as the relation between drama and science instruction (environmental education and drama) and the field of psychological counselling and guidance, problem solving skills, drama and literature, creative writing, classroom teacher instruction, mathematics instruction, preschool education (concept education, drama and underwater projects), old age and drama, drama with street children, and drama in police education.

In the 1980's, drama educationalists became aware of the fact that drama was a field and a teaching method. The international drama seminar which started in 1985 will be organized for the 12th time this year, featuring many well-known experts from England and Germany (such as Caslin, Heathcote and Nickel, among others). In addition, the 10th national seminar will also be held this year. The international drama seminar usually begins with the title of dramatization in education and has included the themes of drama in museums, masks, periodic drama, theatre sports, estrangement, forum theatre, intercultural interactions, etc. On the other hand, the national seminars have mostly included topics such as drama leaders meeting, museum pedagogy, explorations, drama in primary education, and drama in preschool education. Contributions of organizations such as the Modern Drama Association to the development of drama have also been significant.

As a result, it can be seen that the roots of drama in education dates back to the beginning of the 20th century in Turkey. Much as this may be considered a good start, we still need more developments to develop and utilize drama in education as a teaching method.

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28

An Evaluation of the Policy and Practice of Multigrade Schools in Turkish Primary Education

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In the Turkish education system, multigrade classes are defined as "training by a single teacher of multiple classes combined in a group" (MEB, 2003). Multigrade classes have existed for many years as a practice for the first-fifth grades of eight-year uninterrupted compulsory primary education and rural schools. Although the low number of teachers and students and insufficient classrooms in dispersed settlement areas were the initial reasons behind the practice of multigrade classes, the basic requirement for this practice at present is the decline in the number of students who continue their education in the countryside due to extensive emigration from rural to urban areas. In other words, rather than an educational preference, multigrade classes in the Turkish education system have been a practice required by economic and social conditions, as is the case in many developing countries.

The statistics of the Ministry of National Education (MEB) for the academic year 2004-2005 reveal that the total number of public (formal) primary schools was 34,904, while the number of schools with multigrade classes was 16,379 (MEB, 2005a). Thus, the schools with multigrade classes constitute 46.9% of all primary schools. For the same year, the number of teachers employed in the schools with multigrade classes was 27,685, while the total number of students in these schools was 587,379, of whom 52.4% (307,693) were male and 47.6% (279,686) were female students. Table 1 shows the percentages of teachers and students by the number of multigrade classes.

The present study mainly aims to review and evaluate on the basis of research results the current state, structure, functioning of, as well as significant policies, parameters and alternative practices for, multigrade schools, which have a long history in the Turkish Education System and are still quite common.

Table 1. *Number of Teachers and Students by Grade Combination*

Grade combination	**Number of teachers**	**Number of students**
Two grade levels together	11,062	238,343
Three grade levels together	8007	178,006
Four grade levels together	1065	18,194
Five grade levels together	7551	152,836
Total	**27,685**	**587,379**

Source: Milli Eğitim İstatistikleri 2004–2005. Directorate of Research, Planning, and Coordination Council, Devlet Kitapları Müdürlüğü Basımevi, 2005, Ankara

Current Structure and Curricular Functioning in Multigrade Schools

Grade Configuration

In contrast to monograde schools, grouping of grades apply to the multigrade schools covering the first-fifth grades of eight-year compulsory primary education in the Turkish education system. To put it in another way, in multigrade schools, the group consisting of the students in the first, second, and third grades is called "Group A", while the group consisting of the fourth- and fifth-grade students is called "Group B" students. Groups A and B are taught by the same teacher in schools with a single teacher. In schools with two teachers, group A is taught by one teacher and group B is taught by the other teacher. And in schools with three teachers, first-grade students are taught by one teacher, the second- and third-grade students are taught by a second teacher, and the fourth- and fifth-grade students in group B are taught by another teacher. In cases where the total number of students in groups A and B is much above the normal limits, schools may offer double-session teaching depending on the teachers' consent. Table 2 presents the grouping of schools according to the number of teachers.

Table 2. *Grade Combination by the Number of Teachers, Classrooms and Grade Levels*

Number of teachers	Number of classrooms	Grade 1	Grade 2	Grade 3	Grade 4	Grade 1
1	1	(1+2+3+4+5)				
2	2	(1+2+3)			(4+5)	
2*	2	(1+2)		(3+4+5)		
3	3	(1)	(2+3)		(4+5)	
4	4	(1)	(2+3)		(4)	(5)
4**	4	(1)	(2)	(3)	(4+5)	

Source: Köksal, K. (2005). *Instruction in Multigrade Classe*. (3rd ed) Ankara, Pegem A Yayıncılık [In Turkish] *In case when the number of students in Group A is too high, third-grade students are included in Grade B. ** If the classrooms formed by combining the second and third-grade students are too crowded, then the second and third-grade students are taught independently, while the 4th and 5th-grade students are combined.

Syllabus (Curriculum) and Timetabling

In all primary schools in Turkey, a national curriculum is applied and was last revised in the academic year 2005-2006. At school level, there is no flexibility for curricular changes. All modifications are made by the Ministry of National Education. In the syllabus of primary education, each school subject is analyzed in more detail and the general aims and objectives are also provided. In the revised curriculum, the following prescription for multigrade schools offered by the Ministry of Education asks teachers to follow the process (MEB, 2005b):

- The teacher teaching a multigrade classroom should handle the "Group A" themes of Life Studies and the "Group B" units of Social Sciences and Science and Technology as one group.
- Starting from the 2005-2006 academic year, Life Studies 1st grade (Ist year) themes, and in Social Sciences and Science and Technology classes, the 4th grade (Ist year) units will be applied in the elementary schools with multigrade classrooms.
- At schools with three teachers, if the first grade is independent and the others are combined, the teacher teaching the second and the third grades together should start from the second year and continue with the IInd and IIIrd years. S/he should not consider the 1st grade. The teacher teaching the first grade, on the other hand, should plan her/his work according to the Ist year units only.
- In some cases, the physical conditions of the school may prevent a normal combination of classes. For example, a school with two classrooms and two teachers is normally arranged in such a way that grades 1, 2, and 3 are taught by one teacher and grades 4 and 5 are taught by the other teacher. However, the physical conditions of the classroom may sometimes prevent this. Although it is not desired, sometimes grades 1 and 2 form one class, and grades 3, 4 and 5 are combined together as the other class. In such cases, while the teacher in charge of grades 1 and 2 will apply the program as the Ist year and the IInd year, the teacher in charge of grades 3, 4 and 5 will continuously base the program on the IIIrd year for grade 3, and will do Ist and IInd year units alternatively for grades 4 and 5.
- The holidays, special days and weeks, and the events reflecting environmental characteristics that are to be celebrated at schools every year should be handled together with related acquisitions, as they are on.
- In multigrade classrooms, if the teacher is teaching only group A or only group B, for this teacher, there is not a class hour with teacher or a class hour without a teacher separately. While the teacher is actively dealing with one group, she or he can follow

the studies of the other group (the group with assignments) and help them as required. For example, if the teacher is teaching group A and conducting an activity of teaching a sound to grade 1 in the Turkish lesson, she or he can correct the assignments of grades 2 and 3 who study on their own by checking their work.

- In multigrade classrooms, if the teacher is teaching group A and group B together, she or he should use the hours with teacher and the hours with assignments according to the requirements of the pupils and the quality of the units since the Life studies themes done in group A are different from the Social Sciences and Science and Technology units done in group B.
- The teacher should spare more time for grade 1 pupils to help them acquire reading and writing skills as well as the concept of numbers.
- The lessons requiring special skills and talents (art, music, physical education) can be conducted in a group in relation with other lessons, as well as conducting them all together as the entire school. For example, in physical education class, while the teacher is carrying out an activity with group B pupils, group A pupils can carry out another activity with the help of the assistant pupil. Or in music class, all class can work on a song to be performed on April 23, Children's Holiday.
- The assistant pupil will save time for the teacher in multigrade classrooms. The pupils who undertake this duty get a chance to develop socially and to mature. They guide the younger, which develops their leadership abilities.
- Particularly in the single-teacher multigrade classrooms, the classroom should be equipped with desks, tables, chairs and other materials suitable for group-work instead of classical stationary desks, to the extent of the possibilities.

Policies and Important Parameters Related to Multigrade Schooling

Lack of Specially designed Multigrade School Curriculum

As stated above, a practice for the first grade of elementary education and village schools, multigrade schools have a long history in the Turkish education system. Immediately following the establishment of the Republic (29 October 1923), rural society which constituted three-fourths of the entire population was focused on and priority was attached to opening schools in villages, training and hiring teachers in educational policies and applications. On the basis of these policies, it was first declared in the Constitution of 1924 that primary education would cover five years, be based on coeducation and be compulsory and free of charge in public schools. However, although the compulsory education period was determined by the laws to cover five years, education in rural schools had covered three years until 1939. The 1st National

Education Council convened in 1939 extended primary education to five years in all village schools. The National Education Basic Law nr 1739 adopted in 1973 rearranged the span of primary education as eight years for children aged between 7 and 14. Eight-year primary education in Turkey was first mentioned by this law. Nevertheless, eight-year uninterrupted compulsory education could only start to be implemented by the law nr 4306 enacted in 1997. This law also handled the two-level primary education (primary school and secondary school) within an entire eight-year span (MEB, 2007).

In the context of the historical development of primary education, primary school curricula underwent certain changes in relation to the span of primary education. The curricular changes adopted in multigrade rural schools are as follows:

- In 1936, a curtailed curriculum was designed for multigrade village schools with one teacher and three grades. It was focused around reading and writing, maths, civics, life sciences and agricultural studies. The daily timetable was determined as follows: cleaning would be done for 15 min before the lessons started; every class lasted 40 minutes, except for agriculture which lasted 1 hours; there would be 15-minute breaks between the lessons and the duration of lessons was subject to change with regard to local and seasonal conditions and they finished before the sundown (Cicioğlu, 1985).
- In 1939, the subject matters of Turkish, arithmetic, geometry, history, geography, civics and art were the same as city schools (monograde schools); however, life sciences, nature study and agricultural studies were designed according to rural conditions.
- In 1948, the primary school curriculum was redesigned and functioned for 20 years. In the revised curriculum of 1948, no time was devoted to the subject matters of music and physical education for multigrade village schools. In village schools, lessons took 26 hours per week: 6 hours for agricultural studies and 20 hours for the other subject matters (Cicioglu, 1985).
- In 1968, a new curriculum for primary schools was put into practice. The combination of grades and the subject-matter load of multigrade village schools were redesigned. Thus, the grades one, two and three were combined as Group A, and fourth and fifth grades as Group B (Tekısık, 2000). In the curriculum of 1968, a comprehensive and detailed program and teaching methods and principles were undertaken for multigrade schools.
- Until 1970, agricultural studies were integrated in the curriculum of multigrade village schools. Nevertheless, in later years, agricultural studies started to lose their prominence and the contents related to agriculture were removed from the curriculum in 1993.

- In 2000, the curriculum that had been applied since 1968 was changed into a single grade school curriculum in order to form unity and entirety in teaching and learning in all primary schools across the country.
- In the 2005-2006 school year, a new primary school program was put into practice. Since 2000, there has not been a specially designed program for multigrade schools.

Considering the abovementioned historical process, it could be argued that special works and efforts for the programs and applications in multigrade classes were more extensive in the years following the establishment of the Republic and the importance attached to these schools has declined in time. As a matter of fact, recent research has revealed that it is difficult under current conditions to implement exactly the independent classes (monograde) program – which was put into practice in the academic year 2005-2006 – in multigrade schools without taking into consideration the particular conditions of the schools with multigrade classes as it adversely affects students' achievement and there is a need to develop and implement special programs by taking into account the current conditions in these schools (Yıldız, 2005; Akpınar, Turan, and Gözler, 2006; Dalka, 2006; Dursun, 2006; Yıldız and Köksal, 2009; Karaman, 2006).

The Introductory Handbook of the Curricula for 1st-5th Primary Grades prepared by the Ministry (MEB, 2005b) does not explain how, but only mentions that teachers employed in multigrade classes should spend more time on the acquisition of reading and writing skills and the concept of numbers by the first-grade students. On the other hand, Yıldırım's (2008) study demonstrates that teachers employed in schools with multigrade classes perceive as a great challenge the teaching of reading and writing by the Sound-Based Sentence Method prescribed in the new curriculum both due to lack of time and insufficient "visual presentation" and "visual reading" instruments. Similarly, the following evaluations by the Education and Science Laborers' Union (Eğitim-Sen) about the new elementary curriculum put into practice in 2005 also reveal the declining importance of multigrade schools:

> '…it is uncertain how the new elementary curriculum will be implemented in multigrade classes. How can a teacher teaching five different grades in the same classroom implement this curriculum? The new elementary curriculum does not offer a way or solution for this problem. However, older curricula included solutions for this problem'; 'The curriculum has not explained the methods for the teaching of first reading and writing in multigrade classes (a separate first grade and combined second-third and fourth-fifth grades or all grades combined or combined first, second, and third grades and combined fourth and fifth grades) and teaching of the Turkish language and it lacks the required arrangements' and 'It does not make any mention of how to teach the first reading and

> writing skills to children in non-Turkish-speaking regions; rather, such a fact has been overlooked. First reading-writing textbooks should be specially prepared for those who are native speakers of Turkish' (Eğitim-Sen, 2005).

Lack of Specially designed Teacher training Programs

Currently, there is no special training program for multigrade teaching in Turkey. Rather, teacher trainees for primary schools are provided with the same preservice courses as those which are used to prepare regular teachers. The existing four-year primary school teacher education program, which started in the academic year 1997–98, does include a required course entitled 'Teaching in Multigrade Classes'. The content of the current course of Teaching in Multigrade Classes mostly includes knowledge about the advantages and disadvantages of multigrade teaching, instructional delivery techniques, assessment and evaluation, lesson planning, grouping and self-study strategies. However, teaching–learning methods and the course content can change from one instructor to another. In other words, there are no standardized content, delivery methods or applications, which help trainees acquire different knowledge and skills. The course also provides minimal preparation for the realities of living and teaching in the multigrade village school environment. Furthermore, the course is delivered primarily in campus and is urban-based. The existing primary teacher education program does not include any field experience of multigrade teaching, although some of the instructors delivering the course of Teaching in Multigrade Classes arrange daily visits to the nearest multigrade classes for observation. However, short visits are not enough for trainees to understand the realities of multigrade teaching (Aksoy, 2008a).

Recent studies on teacher training reveal that preservice training for teachers is not sufficient for multigrade schools (Kaya and Taşdemirci, 2005; İzci, 2008; Aksoy, 2008b). Other studies on the problems experienced in schools with multigrade classes have demonstrated that most of the teachers employed in these schools do not take any courses on the practice of multigrade classes either during preservice or in-service training, have graduated from another department other than education, and lack experience (Şahin, 2003; Yıldız, 2005; Özben, 1997, Erdem, Kamacı, and Aydemir, 2005; Dursun, 2006; Erden, 1996). Although researchers have commented on the inadequacy of preservice and in-service training received by teachers currently employed or to be employed in multigrade schools and the need for a qualified teacher training, arguably, the Council of Higher Education (YÖK), which is in charge of the Ministry and teacher training, has overlooked the study results, has not shown sufficient sensitivity for the subject, and failed to produce radical policies.

Lack of Specially designed teaching and learning Materials for Multigrade Schools

In the related literature it is strongly emphasized that specially designed textbooks and materials are necessary for effective multigrade instruction. For example, Tomas and Shaw (1992) highlighted this need as follows:

> Development of textbook and materials which are "user-friendly" and contain self-learning and self-correcting exercises is necessary for effective multigrade instruction. Care should be taken to ensure that books are written in a style which is clear and comprehensible to students, so as to allow the students to work with minimal supervision and guidance. Books which contain examples and problems which draw on students' daily lives are likely to be more useful than those which contain more intangible problems (p. 29)

However, the same books, workbooks, and materials taught in monograde schools are used in multigrade schools of Turkey. The Ministry of National Education has not produced specially designed books to meet the special needs and conditions of multigrade schools. In addition to the lack of specially produced textbooks, several studies also show that other physical facilities like chairs, desks (Aksoy, 2008), teaching and learning equipment, and books are inadequate (Erden, 1996).

Lack of Teacher support Mechanisms

Although the quality of preservice teacher training is a significant determining factor in achieving the goals of education and in the success and effectiveness of teachers in in-classroom application, teachers' effectiveness and efficiency will be adversely affected if they are left on their own in struggling with educational problems when performing their duties and lack the necessary support by senior administration, in particular. Even though schools have efficient environments, support by senior administration is more important for professional development, continued professional interest, and professional commitment of young and inexperienced teachers. Various studies have revealed that though young and inexperienced, teachers employed in multigrade schools with a significant role in the Turkish education system lack necessary support and struggle alone with problems about both improvement of school conditions (provision of educational materials, provision of fuel, maintenance and repairs, etc.) and in their profession (Aksoy, 2008b). Kaya and Taşdemirci (2005) arrived at the following conclusion in their study which is highly striking in that it demonstrates insufficient professional support as well as the pressure from inspectors who act as guides for teachers:

> Inspectors of primary education do not make any effort at the beginning of the academic year to inform teachers about the teaching of the first reading and writing. Furthermore, they do not

> provide teachers with adequate guidance during the semester and put pressure on them for early and fast reading of students (p.24).

Apart from insufficient face-to-face professional support, training alternatives for continuous improvement of teachers through distance education, radio, journals, etc. also currently seem unavailable in the Turkish education system.

Policies of Closing Down Multigrade Schools and Alternatives

In the Turkish education system, significant efforts were made in the years following the establishment of the Republic for village schools and accordingly, for multigrade schools towards teacher training, implementation of curricula specially designed for the conditions of rural areas, and preparation of educational materials. Yet, as efforts for eight-year compulsory elementary education starting in the 1970s became more intense, schools with multigrade classes lost their prominence in time. At present, there is no policy that pays special attention to the importance and needs of multigrade schools at a national level. On the contrary, multigrade schools have been regarded as the hunchback of the education system in the ministerial briefing dossiers and government programs and thus, we have arrived at the current point of announced policies of closing down (Karasar and Platteau, 1998). As a matter of fact, considered as a great step in the adoption of eight-year uninterrupted compulsory education, law nr 4306 was promulgated in the Official Gazette nr 23084 and put into effect on 18 August 1997. During the following days, for effective implementation of the arrangements specified by the law, it was announced that the practice of multigrade classes would be gradually ended under the Catching the Era in Education Project 2000, which aims at a modern educational organization in elementary education (MEB-IOGM website).

Turkey entered a period of planned development in 1963 and recently, the fifth five-year development plan for the years 2007-2013 has been prepared. Policies concerning the education system (problems, suggestions for solutions, and goals) were extensively handled in the plans. In line with the aim and significance of the present study, educational policies in development plans were also reviewed. However, the reviews revealed no objectives to directly improve multigrade schools in the final plan, while the first, second, third, and fourth five-year plans mentioned village schools, though partially. Particularly the 4th Five-Year Development Plan aimed to take and implement special measures in annual curricula to establish schools in all villages without any schools or to ensure that the children in these regions obtain the chance to receive education (DPT [State Planning Organization], 1979, p.456). The fifth five-year development plan, on the other hand, specifies that as there are no villages without schools in Turkey, from now on, attempts will be made to increase the quality in primary schools and regional boarding schools will be

opened to offer primary education services to dispersed settlements. (DPT, 1985, p.158). A report of the Specialization Commission on Preschool Education and Private Education, established to assist in the works on the Eighth Development Plan, underlined the need for raising the practices of multigrade classes to modern qualification criteria and particularly emphasized that the practice of transported education aiming to put an end to multigrade schools should be abandoned in the first five years as the first step of eight-year compulsory education only to be implemented in the sixth, seventh, and eighth grades (SPO, 2001).

As is clear from the objectives of the Development Plans, the Ministry of National Education attempts to gradually put an end to multigrade schools and implement the alternatives of regional primary boarding schools (RPBS) and transported education. The following explanations on transported education provided in a report by the Specialization Commission on Education under the Eighth Five-Year Development Plan are striking with regard to the outcomes of alternative policies:

> Although it was introduced to increase the learning environment quality for children in rural areas, the system of transported education has not only failed to properly realize this goal, but it has also stripped teachers off their roles as leaders of rural society and created significant gaps in the education and development of village adults. Therefore, transported education should be abandoned in the first five years of primary education, in particular, and encouraging measures should be taken to ensure that teachers live in the villages and assume the role of the leaders of rural society (DPT, 2001, p. 35).

Studies on RPBS and transported education also demonstrate that these alternatives have failed to attain the desired quality in the eight-year uninterrupted compulsory education. The importance of primary boarding schools and the practice of transported education cannot be denied particularly as it creates a great opportunity for rural children reach the upper levels of education. However, closing down multigrade schools and sending six- or seven-year-old children to a distant place for education away from their families' love and support means not only impairment of psychological health of children, but also closing of the single door to enlightenment for rural population. Another fact in Turkey is the negative attitudes among families in rural areas towards sending their female children outside their settlement area to receive education. As a matter of fact, the outcomes of the alternative of transported education and regional primary boarding schools appear to be dreary in terms of the rights of and access to education of female children at the age of compulsory education. In a study titled "A Comparison of the Primary Boarding Schools and Other Primary Schools in terms of the Levels of Performing their Social Functions: The Case of Erzurum", Kılıç (2001) reached 405 students receiving education in the RPBSs in various districts of

the province of Erzurum, of whom 22% were female and 78% were male students, and reports that female students are often not sent to the regional primary boarding schools. Çabuk-Kaya's (2006) recent study in the district of Silopi in the province of Şırnak has demonstrated that female students cannot benefit from the alternative of transported education for various reasons; that the list of students enrolled in the transported education system for the academic year 2000-2001 included a total of 54 female students; yet, these children were not sent to school during the education period; that there was only one female student among the transported students in this period; and therefore, the study was conducted only on 75 transported male students. Similarly, another study states that of 16,464 students enrolled in transported primary education system in Van in the academic year 2004–2005, 4780 were female (29%) and 11,684 were male (71%); and a majority of the female students in the province of Van were not sent to schools (Yeşilyurt, Orak, Tozlu, Uçak, Sezer, 2007).

The most commonly reported problems in other studies on the practices of transported education and primary boarding schools can be summarized as follows: inefficient conditions of health and nutrition, lack of or insufficient lunch provision for students, inadequate means of transportation, delays in the arrival of the means of transportation, headaches, exhaustion, reluctance, lack of motivation, and unpreparedness for classes among students (Altunsaray, 1996; Işık and Maya, 2003; Kefeli, 2005; Ergün, 2006; Arı, 2003; Sencer and Yelken-Yanpar, 2009). All these results demonstrate that implementation of alternative practices for multigrade schools without necessary planning and preparations brought very important problems in its tail.

Conclusion

The Turkish Education System does not have a current policy of improvement for multigrade classes that offer educational opportunities for many children. Gradual closing down of these schools to be replaced by education in transported and primary boarding schools has created new problems. Although the quality of education offered in the existing multigrade schools is low, research results reveal that particularly female children cannot be sent to schools outside their settlement area due to cultural reasons, certain psychological problems are experienced by young children as they receive education away from their families, rural people are deprived of teachers to enlighten them, and accordingly, the principle of "lifelong" education is neglected, all these findings make it necessary for decision-makers to revise the current educational policies and practices. Instead of closing down the schools with multigrade classes, it will be more beneficial to develop and implement policies that consider the academic superiorities and individual and social advantages of these schools by taking into account the practices in other countries.

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