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Shared learning spaces and social connectivity: a facility management perspective on hybrid learning environments

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Abstract

Purpose – The purpose of this study is to examine how the design and management of shared learning spaces in hybrid learning environments impact student social connectivity and, consequently, inform facility management (FM) practices. The investigation is prompted by the increasing prevalence of blended physical and digital learning settings in higher education.

Design/methodology/approach – A mixed-methods approach, using both surveys (n = 56) and interviews (n = 20) with students in an architectural course, was used to evaluate the influence of shared learning spaces on student interactions, sense of community and the overall learning experience.

Findings – Shared learning spaces can substantially enhance social engagement and collaborative learning in hybrid environments. However, spatial limitations, inadequate technological infrastructure and inconsistent access to technical support hinder their full potential. Students not only value flexibility and access to technology but also express a need for dedicated spaces for focused individual learning when participating remotely.

Originality/value – This study provides valuable insights into students' perspectives on shared learning spaces within hybrid learning environments, directly addressing the challenges and opportunities for facility managers. It contributes to the literature by examining the multifaceted role of FM in creating learning spaces that support both social connectivity and effective learning in hybrid settings.

Keywords Hybrid learning, Social connectedness, Shared learning spaces, Spatial planning, Technology integration, Student experience

Paper type Research paper

1. Introduction

Facilities management (FM) is a multidisciplinary field that integrates people, processes and physical environments to optimize organizational efficiency and enhance user experience. It encompasses a wide range of services, including space planning, maintenance, sustainability initiatives and technological integration, all aimed at ensuring the seamless operation of educational and workplace settings (Bröchner *et al.*, 2019). As organizations evolve, FM has shifted from a purely operational role to a more strategic function, contributing to business performance and long-term planning (Gluch *et al.*, 2023). Effective FM not only ensures that physical infrastructure supports core activities but also plays a crucial role in fostering collaboration, sustainability and

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6. Conclusion

The transition to hybrid learning environments presents both exciting opportunities and complex challenges for higher education. This study examined the critical role of shared learning spaces in fostering student social connectedness within a hybrid learning context, offering key insights for FMs. Our mixed-methods case study of an architectural course provided valuable data on student perceptions, experiences and the impact of space design and technology integration on their sense of community and collaborative learning.

Our findings highlight that shared learning spaces are essential for social engagement and collaboration in hybrid learning. They serve as vital hubs for interaction, knowledge exchange and building social connections, especially important given the potential for reduced face-to-face interaction in hybrid models. However, spatial limitations, inadequate technological infrastructure and inconsistent access to support can considerably hinder their effectiveness.

As a limitation of the findings, the specific context of this study, an architectural course at a single university, may limit the generalizability of findings to other disciplines or institutional settings. The reliance on self-reported data from surveys and interviews might also introduce potential biases. Finally, the proactive role of the instructor in this specific course may have positively influenced student perceptions of the hybrid model and the effectiveness of shared spaces. It will be important to address these considerations and develop supporting strategies to accommodate the impact of diverse teaching styles and institutional contexts.

This study underscores that successful hybrid learning spaces require a holistic approach to design and management. FMs play a crucial role in creating environments that foster social connectivity and support effective learning. This involves:

- Prioritizing social interaction: Designing spaces that encourage both formal and informal interaction, fostering a sense of community and belonging among students;
- Optimizing space utilization: Balancing the needs for individual study, collaborative group work and technology-enabled active learning. Flexible and adaptable furniture arrangements can facilitate various learning activities and group sizes;
- Ensuring technological equity and accessibility: Providing reliable internet connectivity, appropriate hardware, readily available technical support and user-friendly software are crucial for ensuring inclusive access to hybrid learning resources; and
- Supporting diverse teaching styles: Creating spaces that support various pedagogical approaches and provide FM support to bridge the gap between online and in-person activities.

By adopting these recommendations, FMs can create shared spaces that truly support social connectivity and enhance the hybrid learning experience. This proactive approach to design and management not only benefits students but also contributes to the overall success of hybrid learning initiatives within higher education institutions. Further research should explore strategies for fostering stronger virtual communities, best practices for technology integration and effective metrics for evaluating long-term impacts of shared space designs on student success in diverse hybrid learning settings. Further research should investigate these areas to strengthen the understanding and support of hybrid learning environments.

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Appendix 1. Survey Questions – Quantitative data

To gather a comprehensive understanding of students' perceptions of hybrid learning and their experiences with shared academic learning spaces, a quantitative survey was designed and administered to a sample of 80 students enrolled in the ARCH 2091 Architectural course. The survey, presented below, aimed to capture a range of data on student demographics, their experiences with the hybrid learning model, their perceptions of social connectivity, and their use of technology and learning spaces. This survey provided valuable quantitative data for the study, which was then analyzed using descriptive and inferential statistical methods to reveal trends and patterns in student responses.

ARCH 2091 Hybrid Learning Experience Survey

Please take a few minutes to complete this survey. Your feedback is valuable and will help us improve the hybrid learning experience.

Section 1: Demographics

- **Age**: [Under 18] [18-19] [20-21] [22-23] [23+]
- **Gender**: [Male] [Female] [Prefer not to say]
- **Program of Study**: [Architecture] [Interior Design] [Urban Planning] [Other: _____]
- **Year of Study**: [1st Year] [2nd Year] [3rd Year] [4th Year] [5th Year]
- **Previous Experience with Online Learning Platforms**: [None] [Some] [Moderate] [Extensive]
- **Comfort Level with Technology**: [1] [2] [3] [4] [5]
- **Preferred Learning Style**: [Visual] [Auditory] [Reading/Writing] [Kinesthetic] [Other: _____]

Section 2: Hybrid Learning Experience

1. How often did you access the online platform outside of scheduled class times?
    - [Never] [Rarely] [Sometimes] [Often] [Always]
2. Rate the quality of digital resources provided (e.g., videos, articles, 3D models).
    - [1] [2] [3] [4] [5]
3. How did the hybrid learning model influence your time management and study habits?
    - [Improved significantly] [Improved slightly] [No change] [Worsened slightly] [Worsened significantly]
4. Describe any technical issues encountered during online sessions and how they were resolved?
    - [No issues] [Minor issues resolved independently] [Minor issues resolved with help] [Major issues resolved with help] [Issues unresolved]
5. Did the hybrid model encourage you to explore additional learning materials beyond the course syllabus?
    - [Yes, significantly] [Yes, somewhat] [No change] [No, not really] [No, not at all]

Section 3: Social Connectivity 6. How effective were the communication channels in building support with classmates and instructors?

- [1] [2] [3] [4] [5]

7. What activities or assignments promoted the most interaction among students in the hybrid environment?
    - [Group projects] [Peer reviews] [Discussion forums] [Live Q&A sessions] [Other: _____]
8. How did the hybrid model affect your ability to form study groups or partnerships?
    - [Much easier] [Somewhat easier] [No change] [Somewhat harder] [Much harder]

(*Continued*)

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Section 4: Technology and Space Utilization 9. Which online tools or platforms facilitated the best collaboration for group projects?

- [Video conferencing] [Collaborative documents] [Project management apps] [Online forums] [Other: _____]

10. How did the design of the virtual learning environment impact your learning experience?
    - [Very positively] [Somewhat positively] [No impact] [Somewhat negatively] [Very negatively]
11. Describe how the physical classroom space was utilized during in-person sessions to enhance learning.
    - [Very effectively] [Somewhat effectively] [Neutral] [Somewhat ineffectively] [Very ineffectively]

Section 5: Course Content and Pedagogy 12. How did the hybrid learning model cater to different learning styles when teaching building components? - [Very well] [Well] [Adequately] [Poorly] [Very poorly]

13. Provide an example of a project or assignment that effectively integrated both online and in-person elements.
    - [Design portfolio] [Virtual model construction] [Material experimentation] [Peer critique session] [Other: _____]
14. How did the course leverage technology to simulate or demonstrate real-world construction scenarios?
    - [Extensively] [Moderately] [Slightly] [Not at all] [N/A]

Section 6: Feedback and Improvement 15. What aspects of the hybrid model would you like to see improved for future iterations of the course? - [Technology integration] [In-person interaction] [Online resources] [Course structure] [Other: _____]

16. How could the course better facilitate peer feedback and critique in the hybrid setting?
    - [More structured feedback sessions] [Clearer guidelines] [Better communication tools] [More opportunities for live interaction] [Other: _____]
17. What resources or support services would have enhanced your experience with the hybrid learning model?
    - [Technical support] [Tutoring services] [Study materials] [Online community] [Other: _____]

Section 7: Final Thoughts 18. How likely are you to recommend the hybrid learning model of ARCH 2091 to other students? - [1] [2] [3] [4] [5]

19. What was the most valuable lesson or skill you gained from the hybrid learning experience?
    - [Time management] [Technical skills] [Collaboration] [Self-directed learning] [Other: _____]
20. Any additional comments or suggestions for the ARCH 2091 course team regarding hybrid learning?
    - [Open text field for additional comments]

Please note that the options provided are examples and can be modified to better fit the specific context of the ARCH 2091 course and the objectives of the survey.

Appendix 2. Interview Questions – Qualitative data collection

To complement the quantitative data gathered through the survey, the study employed qualitative semi-structured interviews with 20 students selected from the survey participants. The interview questions, presented in Appendix B, were designed to elicit richer, more nuanced perspectives on the students' experiences with hybrid learning, particularly focusing on their perceptions of shared learning spaces, social connectedness, technological challenges, and the overall impact of the hybrid learning model. The qualitative data collected through these interviews was then analyzed using thematic analysis to identify and explore common themes and patterns in student responses.

Student Interview Form: Qualitative Data Collection

Please provide detailed responses to the following questions. Your insights are valuable for our thematic analysis of the hybrid learning experience.

Personal Information:

Code Name: (Assigned by the interviewer for anonymity)

Age Group: [18-19] [20-21] [22-23] [23+]

Gender: [Male] [Female] [Prefer not to say]

Interview Questions:

Experience with Hybrid Learning:

Describe your overall experience with the hybrid learning model in the ARCH 2091 course.

What were the most significant benefits and challenges you encountered?

Technology and Collaboration:

Discuss how technology was used to facilitate learning and collaboration in the course.

Can you share a specific instance where technology either enhanced or hindered your learning experience?

Social Connectivity:

How did the hybrid learning environment affect your sense of connectedness with peers and instructors?

Provide examples of interactions or activities that either fostered or impeded social connectivity.

Course Content Engagement:

Reflect on how the course content was delivered through the hybrid model. Did it engage you effectively?

What aspects of the course content delivery could be improved to enhance student engagement?

Adaptation and Support:

Describe the process of adapting to the hybrid learning model. What support mechanisms were most helpful?

Were there any resources or support services you wish had been available?

Personal Growth and Skills:

What skills or knowledge have you gained from the hybrid learning experience that you find most valuable?

How do you anticipate applying these skills or knowledge in your future studies or career?

Final Reflections:

Looking back at your experience, what is your main takeaway from participating in the hybrid learning model?

If you could suggest one major improvement for the course, what would it be?

Additional Comments:

Please feel free to share any other thoughts, experiences, or suggestions related to the hybrid learning model.

Thank you for your participation and valuable contributions.

This interview form is intended to elicit rich, narrative responses that can be analyzed for common themes, patterns, and insights into the student experience with hybrid learning. The qualitative data collected will be instrumental in understanding the nuances of student engagement, challenges, and the overall effectiveness of the hybrid learning model. Remember to ensure confidentiality and anonymity when conducting the interviews.