Chapter 2
Studying Learning Spaces:
A Review of Selected Empirical Studies

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EXECUTIVE SUMMARY

The author presents a review of empirical studies of learning spaces conducted primarily in the disciplines of science education and library sciences to aid researchers in the design of future learning space assessments. The studies included a variety of perspectives, such as examinations of spaces on learning outcomes, student engagement, and pedagogy. The selections also represent varying methods, including surveys, observations, and interviews, and include both quantitative and qualitative data analysis. This review of literature suggests that learning space studies should be designed to include multiple targets and approaches, as well as innovative methods combined with traditional methods for triangulation. Learning space researchers should also strive for detailed reporting and wider dissemination of their studies for better knowledge sharing in the field.

INTRODUCTION

The study of learning spaces on higher education campuses has grown substantially in recent years. A number of factors have brought learning space design to the forefront, including 21st-century technologies, a historical shift to the knowledge age, as well as teaching and learning trends, such as social constructivist theory and active learning pedagogy (Brown, 2005; Chism, 2006; Cornell, 2002; Scott-Webber, 2004). As a result, more institutions are designing, constructing, redesigning, and renovating campus learning spaces. In the 2009 *Survey of Learning Space Design in Higher Education* conducted jointly by Herman Miller and the Society of College and University Planning (SCUP), 84% of the participants responded that their campus learning spaces were undergoing significant construction or renovation (Vredevoogd & Grummon, 2009).[1]

Given the trend of constructing and (re)designing spaces, it is important to consider the various ways we can study the effectiveness and role they play in 21st century teaching and learning. Warger and Dobbin (2009) have written that assessment should be a part of the conversations taking place about learning environments. Similarly, Hunley and Schaller (2009) argued, "Without assessment, institutions may miss the important connections between context, institutional culture, and students' specific needs" (p. 34). However, J. Boys (2011) pointed out that the area of learning spaces is "worryingly under-theorised" (p. 4). Tom, Voss, and Scheetz (2008) would likely agree with Boys, as they have noted that many of the published reports on learning spaces contain positive "assertions of effectiveness rather than evidence" (p. 46). In the same Herman Miller/SCUP survey (2009) on learning space design in higher education, only 21% of respondents reported that assessments of their new or renovated campus spaces would be conducted, which validates these concerns. Other scholars have also recognized the lack of research and evaluation in this emerging field (Boys, 2011; Temple, 2008), calling for an increase in the sharing of knowledge, conversation across the disciplines, "and more rigorous research into the appropriate conceptual frameworks and methodologies for analyzing and improving learning spaces" (Boddington & Boys, 2011, p. xii).

There is a growing body of literature in the area of learning space design, and the subject has been studied from a variety of disciplinary perspectives, such as Science, Technology, Engineering, and Math (STEM), architecture and design, environmental behaviorism, library sciences, and the scholarship of teaching and learning. Research on learning spaces studied from these disciplinary perspectives is frequently situated within the scholarly publications affiliated with those disciplines; as a result, researchers must mine a variety of resources and databases to find this work. An additional challenge exists when looking for published research on learning spaces is that no common language or vocabulary yet exists to discuss the subject.

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