

Influencing Interior Design Pedagogy by Determining Patterns in Learning Styles and Professional Outcomes

Phase 1 Goals

1

Conduct new research on interior design graduate students to determine patterns in learning styles.

Existing learning styles research on undergraduate interior design students, while not exhaustive, includes enough actionable material. As a result, new research efforts by the author are being directed towards the graduate interior design student population.

A survey by the author was coupled with the VARK Learning Styles Assessment by Neil Fleming. The survey seeks information that will be useful in later phases of the research.

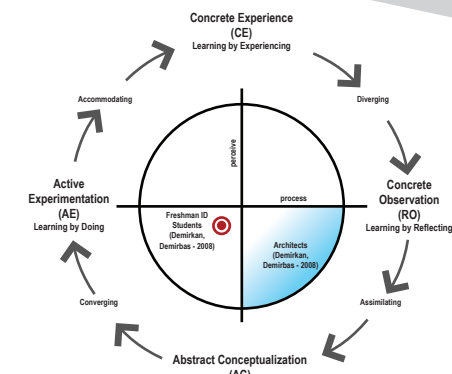


Fig. 1: Learning styles of freshman ID students using the ELT (Demirkan, Demirbas, 2001)

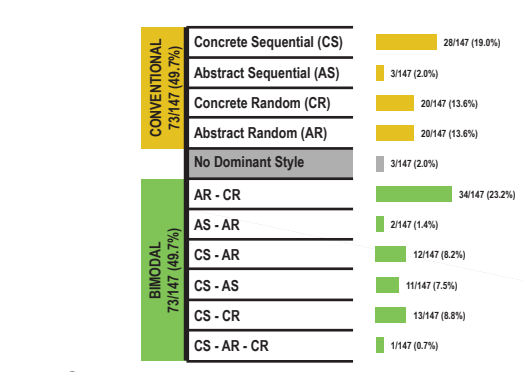


Fig. 2: Learning styles of undergrad ID students using the Gregorc LSD (Demirkan, Demirbas, 2001).

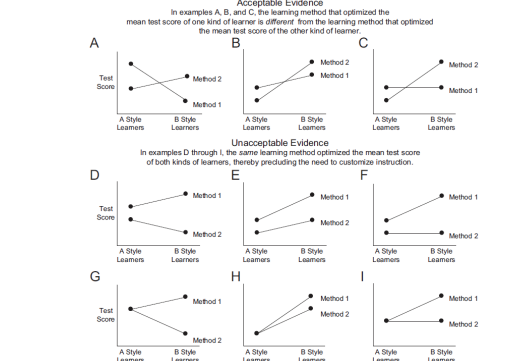


Fig. 3: Controversy regarding LS research methodology (Pashler, 2009).

Use the new and existing research as part of a broad strategy to improve learning outcomes in a lecture-based course.

Construction Systems, taught by the author in the FSU ID Department, was selected for the study because both undergrad and grad students take the class. The author followed the lecture-based model that had been established by a prior instructor when teaching it for the first time, but then "flipped" the course the second year. The author analyzed learning styles of both undergraduate and graduate interior design students to reshape the course. Grades and teaching evaluations were used to measure outcomes.

2

Learning Styles Research

The existing research on interior design students' learning styles focuses on undergraduates. The findings are consistent despite the fact that varying instruments (Gregorc Learning Styles Delineator; Experiential Learning Theory) are used: undergraduate interior design students prefer a bi-modal, or even multi-modal, approach to learning.

Utilizing the "meshing theory", or matching instructors' teaching styles to students' learning styles in an effort to improve learning outcomes/grades, is a common strategy in design studio courses. Pashler, et al, found that the methodology used to broadly evaluate the various learning styles tests in the context of the meshing theory is faulty. When researchers evaluated the meshing theory, either their process did not appropriately isolate the changes in teaching styles to match up with learning styles, or when the methodology was sound, the results sometimes produced improved learning outcomes, but sometimes they did not.

It is not the intent of the author to utilize the meshing theory as a "silver bullet" to improve interior design pedagogy, but it can play an important role in a larger strategy to improve the learning outcomes of courses in a design curriculum that are traditionally lecture-based. Coupled with course "flipping", adjusting a lecture course to be more in tune with students' learning styles could be an effective strategy to improve learning outcomes and overall student investment in the course.

At FSU, the Interior Design Department has a thriving and growing graduate program. Some students earn an MFA, others an MS, and some come to the department with an undergraduate degree in interior design while others do not. Due to the diverse population of students in the FSU ID Department graduate program, and other programs like it across the USA, the author saw a need and an opportunity to add to the body of knowledge in this area. The findings using the VARK learning styles assessment by Neil Fleming reveal a student population that is largely multi-modal in their learning styles preferences.

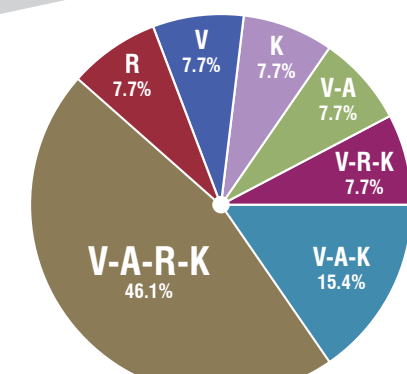


Fig. 4: Learning styles of Graduate ID Students at FSU using VARK (Webber, 2013).

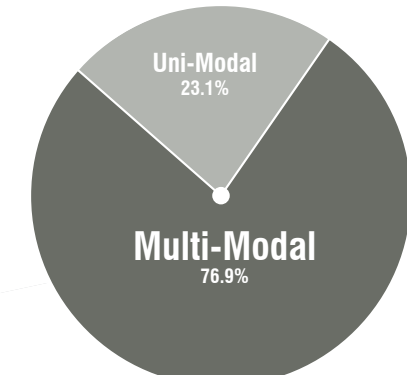


Fig. 5: Graduate ID students' Multi-modal vs. Uni-modal learning styles preferences (Webber, 2013).

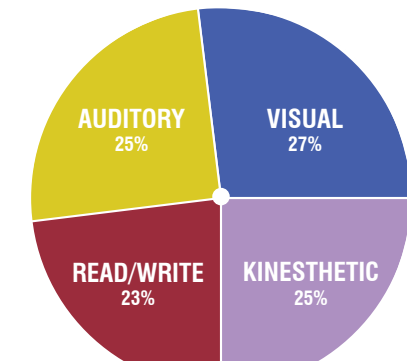


Fig. 6: Individual VARK question response distribution by learning style preference type (Webber, 2013).

EXISTING

NEW

Construction Systems Course Changes

2012

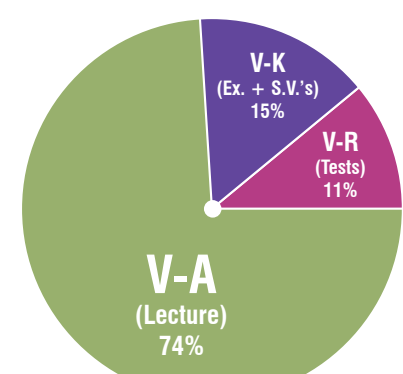


Fig. 7: Construction Systems in-class time allocation (FSU, Interior Design, Fall 2012)

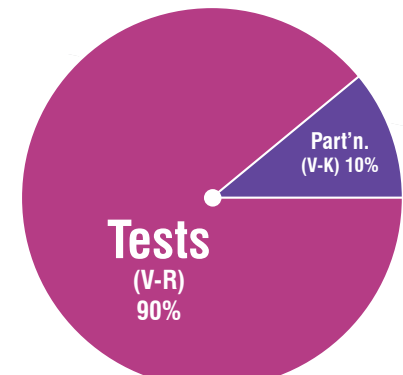


Fig. 8: Construction Systems grading allocation (FSU, Interior Design, Fall 2012)

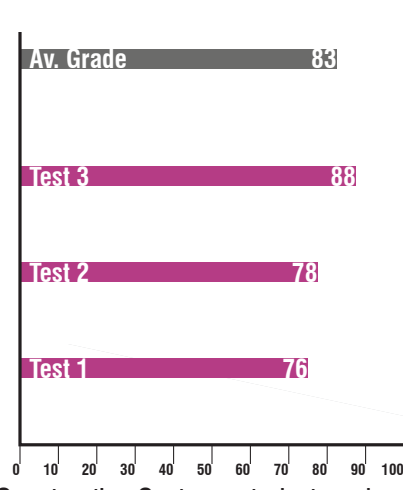


Fig. 9: Construction Systems student grade results (FSU, Interior Design, Fall 2012)

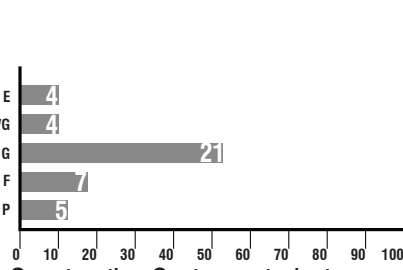


Fig. 10: Construction Systems student course evaluations - instructor assessment (FSU, Interior Design, Fall 2012)

The construction systems courses of interior design departments are often approached by students with a "have to", but not a "want to", attitude. Experience tells this author that most students get excited about work that happens in design studio courses, but not as much by work in the construction systems courses. Learning styles experts say that students tie their learning experience to their performance in the course, and that individual performance is partly influenced by the compatibility of the instructor's teaching style with the student's learning style (Kolb, 2005). These points beg the question, "Are interior design educators teaching construction systems in a way that matches up with the students' learning styles?" Also, what can be applied from the studio course format and organization to enhance student learning outcomes in a construction systems class? This proposal describes a case-study research study that explored these questions for third-year interior design undergraduates and first-year graduates.

The first task of this study investigated interior design students' diversity of learning styles. Design educators know that first-year design students have very diverse learning styles (Demirkan and Demirbas, 2008; Watson and Thompson, 2001), however, these studies would benefit from confirmation and expansion. To that end, the first phase of this study involved freshmen and senior undergraduates and graduate interior design students. The author used the VARK (Visual, Auditory, Read/Write, Kinesthetic) learning styles assessment test by Neil Fleming to confirm these students were largely multimodal (68.8%) with some strictly kinesthetic (18.8%) and only a few strictly visual (6.3%) or auditory (6.3%).

The second task of this study was to evaluate the construction systems course in terms of learning style. The author spent one semester teaching the course as established by precedent, then evaluated the teaching style of the course. The original course relied heavily upon in-class lecture (auditory-visual) to convey course content and on assessment through written tests (read/write-visual) that comprised 90% of the course grade. In the original course, in-class time was distributed thus: 74% auditory-visual, 15% kinesthetic-visual, and 11% read/write-visual. The revised, second offering of the course was redesigned to function more like a studio, with reduced emphasis on lecture and heavier emphasis on demonstrations, exercises, and drawing. The redesigned course utilized in-class time in this manner: 37% auditory-visual, 44% kinesthetic-visual, and 19% read/write-visual. The course grade was also diversified: 45% testing (read/write-visual), 45% assignments (kinesthetic-visual), 10% in-class quizzing (read/write-visual) and exercises (kinesthetic-visual).

The findings of this study rely on student grades and student work samples. Due to the original course relying heavily on test scores to measure grades, this study used an average grade comparison of tests from the original course and quizzes and tests from the revised course to quantify the impact of aligning teaching styles with learning styles. In addition, it is worth noting the grade outcomes of the other course activities against one another to evaluate where students excel. The intent of this study is not to demonstrate that the meshing theory of learning styles works, but demonstrate that it is worthwhile part of a larger strategy to improve learning outcomes.

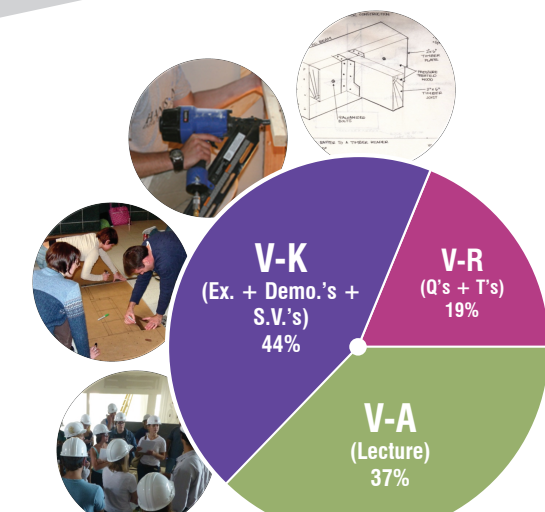


Fig. 11: Construction Systems in-class time allocation (FSU, Interior Design, Fall 2013)

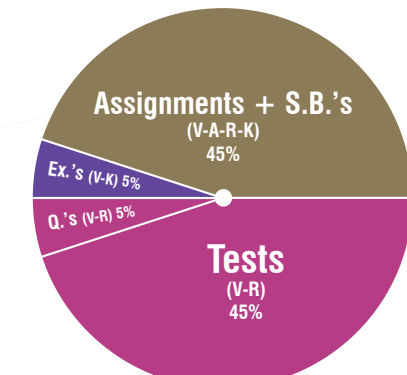


Fig. 12: Construction Systems grading allocation (FSU, Interior Design, Fall 2013)

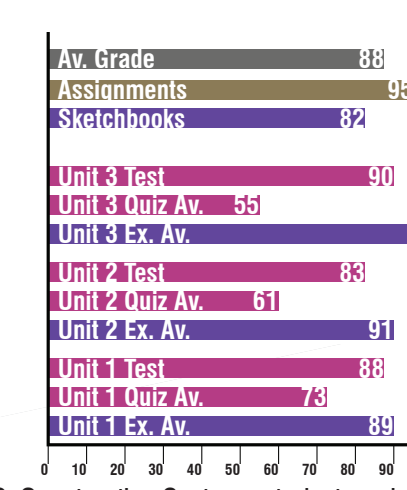


Fig. 13: Construction Systems student grade results (FSU, Interior Design, Fall 2013)

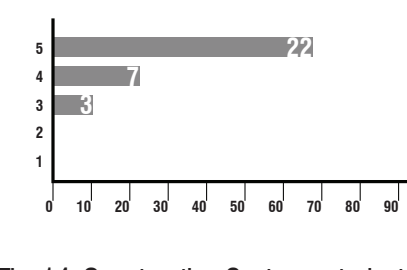


Fig. 14: Construction Systems student course evaluations - instructor assessment (FSU, Interior Design, Fall 2013)

2013

1

Expand the survey and test sample of graduate students.

The author secured interest from five additional interior design faculty across the USA to advocate for participation in this study with their students. Due to the logistical interaction of the survey and test, few students outside of FSU participated. The data represents 13 participants. The author is currently working on expanding the population sample both within FSU, and around the USA.

2

Investigate the role of Emotional Intelligence in the learning and professional preparation process for interior designers.

The author is currently evaluating the different ways to expand the study beyond students and into the profession of interior design. Learning styles are one possibility, but emotional intelligence may be more appropriate. Instruments to measure emotional intelligence are currently being evaluated for effectiveness in both the academic and professional settings.

Research corresponding patterns in design professionals.

Once a test instrument is chosen for the next phase, the survey and test will be distributed to interior design professionals. The data will be compared to the student results and evaluated for consistencies and differences. Could key differences exist between students and professionals? If so, what is the transition experience like for the student? If so, what observations do professionals have about students entering the profession?

Refine pedagogical techniques based upon the findings.

If differences are found between students and professionals, then adjustments may need to be made to pedagogical techniques in an effort to better prepare students to succeed in the interior design profession. The fundamental question becomes, "What can interior design educators do to better prepare students for the interior design profession?"

3

4

Future Goals

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