NordDesign 2016
August 10 – 12,
2016 Trondheim,
Norway

Collaborative Mentorship Methods in Design Education

Camilla Gwendolyn Stark, Bryan F. Howell

Brigham Young University
camillagstark@gmail.com, bryan.howell@byu.edu

Abstract

Peer mentorship in education has many well-documented benefits. However, students in the Millennial generation do not respond well to traditional, structured mentorship practices reflecting Baby Boomer values and mentality typically found in contemporary design education. This study specifically addresses mentorship practices among Millennial industrial design students at Brigham Young University and the Technical University of Delft. We researched student behavior through literature reviews, nine student/faculty interviews, and a student survey on collaborative practices with sixty-one respondents. Based on this research, students can best develop authentic, beneficial mentorships through frameworks that encourage unstructured learning. Successful examples include long-term collaboration in special topics classes and student-run clubs and organizations. The paper concludes with potential dangers of collaboration and a plan to increase collaborative mentorships at Brigham Young University.

Keywords: Peer mentorship, unstructured learning, generational differences, pedagogy

1. Introduction

Current research in the fields of design education, nursing education, and pedagogy has identified many benefits of peer mentorship, including improvements in group work, critical assessment, and articulation of knowledge (Boud, Cohen, & Sampson, 2002). Other benefits include increased skill confidence, leadership ability, and teaching ability (Dennison, 2010). An inclusive peer community also contributes to acculturation and a sense of belonging as inexperienced designers model values and behavior after more experienced designers (Howell, 2016). This paper specifically addresses collaborative peer mentorships as they relate to the unique values and practices of Millennial industrial design students.

The Millennial generation, born between 1980 and 2000, are currently the most populous

and most commercially and culturally influential generation in the United States (Goldman Sachs, 2015). Like all generations, Millennials have a unique set of values and motivators as a result of their cultural surroundings. Most significantly for this paper, Millennials are strongly driven by a desire for authenticity, more so than previous generations. Authenticity can be defined as congruency between what a person, brand, or experience is professing to be and what it actually is (Moore, 2015).

The expectation that everyone be true to oneself markedly differentiates Millennial corporate preferences from the practices instituted by Baby Boomers. For example, while Boomers were expected to conform to a corporation's culture, Millennials seek out employment that aligns with their already established values and personality (Moore, 2015). This shift is reflected in mentorship practices as well. Traditionally, organizations have employed highly structured mentorships to acculturate and educate students and employees. In this scenario, an experienced student or employee is assigned to one or more inexperienced students or employees. The inexperienced party is expected to engage with their mentor for insights, questions, struggles, and inspiration.

Because of their desire for authentic relationships, the Millennial generation do not respond well to structured mentorships. An assigned friendship or mentor is not seen as authentic because the relationship formed with outside influence and a sense of obligation. In a 1992 study on help-seeking in first year teachers, participants reported contacting experienced teachers that were perceived as friendly and approachable, rather than contacting their assigned mentors (Tellez, 1992). While these teachers are not Millennials, they represent attitudes that are prevalent in the Millennial generation.

Alternative educational mentorship methods that move beyond the highly structured mentorships of yesterday need to be developed for Millennials. In the past, design educators have encouraged student collaboration by providing shared shop, lab, and studio spaces. However, this is also less effective for Millennials. Educators have observed a decrease in studio "nesting", or students spending the majority of their work time in the studio. The trend is shifting to students who prefer to work on design projects anytime and anywhere (Skaggs, 2013). Because of this shift, students are less likely to form collaborative relationships through run-ins in shared working spaces.

Historically, these opportunistic collaborations have proven productive. A 1997 study focuses on unstructured training in the workplace, or on-the-job learning that is not organized and sanctioned by the company. It shows that inexperienced employees learn from informal social groups of their own choosing. Not only is unstructured training far less expensive than structured training, it may also be more effective (Chao, 1997).

Brigham Young University's (BYU) Industrial Design program is a boutique program, with approximately 45 students in the professional program at any time. Because of its size and the limited number of professors, students must take required classes in a certain order, almost always with the same student group, or cohort. While each cohort quickly becomes very close-knit, there is little interaction between cohorts from other years. Currently it would be possible (and for some students, likely) to complete four years of industrial

design training without getting to know design students from a different year of study. Students at the Technical University of Delft (TU Delft) also reported similar practices, despite enrollment of approximately 2000 design students instead of 45. To address this issue, they encourage collaboration between cohorts through student teaching assistants, a student fraternity, and a formal mentorship program between first and second year students.

Observation of student behavior, insights from literature, and personal experience lead to the hypothesis that increasing opportunities for unstructured peer mentorship will benefit Millennial design students and resonate with their generational values. This can be accomplished by creating frameworks that encourage mentorships between experienced and inexperienced students to form naturally.

2. Method

The study began with a literature search to determine the qualities of effective mentorship for Millennials. It examined studies in design education and also in other fields, such as teaching, nursing, and business.

Two members of BYU's industrial design faculty were informally interviewed about previous collaborative practices in the program and observations they have made over the years.

Four students in BYU's industrial design program were also interviewed, one each from the first, second, third, and fourth year classes. These students were selected because of their varied experiences in collaboration with students from other cohorts, such as participating in a research group. These interviews were fairly informal and lasted between five and thirty minutes. The following questions were asked, as well as follow-up questions to clarify responses:

- Tell me about a time a more-experienced designer helped you at school/in the workplace. Who helped you? In what circumstances did this occur? Did this happen only once or did you have many interactions with this person?
- Tell me about a time you helped a less-experienced designer at school/in the workplace. Who did you help? In what circumstances did this occur? Did this happen only once or did you have many interactions with this person?
- Other questions specific to each individual's' experience, such as questions about the influence of collaboration in research groups.

An outside perspective from a larger design school was also sought out. Three people at TU Delft: a bachelor's student, a master's student, and a PhD candidate who also teaches classes were asked the following questions via email:

- At TU Delft have you observed students from different years of study offering feedback on projects or helping each other in shop or lab spaces? What circumstances help these relationships form?
- Do you have any classes or programs where students in different years interact, or are most classes segregated by year? Do students often work with students in different years?

- Are students given opportunities to work with teachers and professors on research and other projects? How do you feel students benefit from these relationships?

A survey was administered to sixty-one students in both the pre-professional and professional industrial design program at BYU to measure their collaboration efforts. Students were asked to report how often they seek feedback or collaborate on projects with their classmates, students from other cohorts, and professors. Students were also asked to rate their trust for useful feedback from their classmates, students from other cohorts, and professors.

After conducting interviews and surveys, the authors synthesized the experiences and findings of researchers, professors, and students in order to inform design educators on beneficial methods to encourage collaboration between student cohorts.

3. Results and Discussion

The results of the survey revealed general trends in BYU's four-year curriculum. For example, students reported increasing frequency of collaboration with other cohorts each year until their fourth year, when reported collaboration with other cohorts diminished (Figure 1).

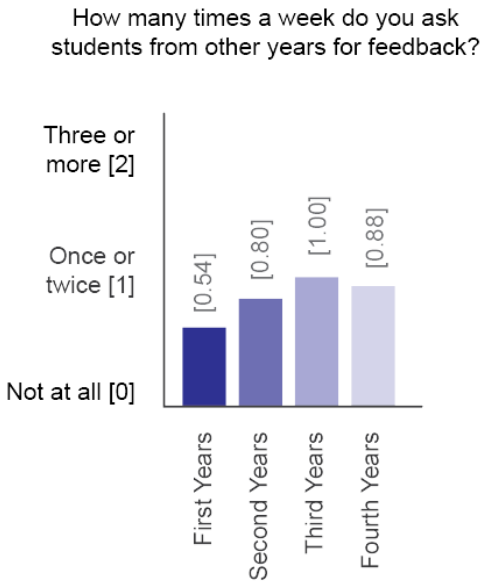

Figure 1. Survey responses of 61 pre-professional and professional industrial design students at BYU, represented by the mean average of the numbers in brackets.

Reported trust in receiving valuable feedback from other years followed a similar pattern (Figure 2). Possible reasons why the fourth years are less engaged are not trusting less-experienced students to offer valuable feedback, and a natural turning away from the program as they focus on obtaining full time employment.

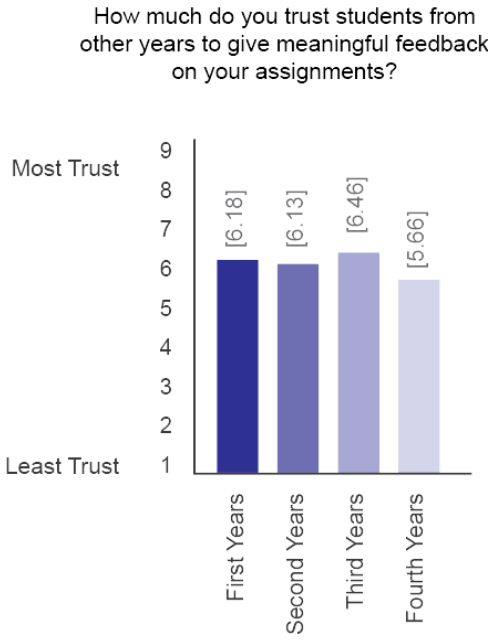

Figure 2. Survey responses of 61 pre-professional and professional industrial design students at BYU, represented by the mean average on a 1-9 Likert scale.

When asked an open-ended question about collaboration in design education, fourth year students reflected a greater amount of maturity in their answers. For example, 66% of fourth years reported collaboration's role in sparking new ideas, a sentiment nearly absent in data from other years. The professors interviewed suggested that this mature perspective was gained through internships and sufficient experience in the design program. In contrast, second year students mostly reported the frustrations of group work, a by-product from a difficult second year team project.

Beyond cohort-wide patterns, it is important to remember that each student has unique opinions and experiences regarding collaboration. Unstructured mentorship, by its very nature, relies heavily upon the student participation and engagement to be successful (Chao, 1997). However, professors can encourage Millennial students to collaborate by creating a framework in which they can interact authentically and form mentorships on their own terms. Doing so lays the foundation for future learning to occur between cohorts. Creating environments where students from different cohorts can interact is a natural ice breaking method to encourage individuals in different cohorts to come in contact with those who they feel comfortable with and learn what values and interests they have in common with other students.

3.1. Short-term vs. Long-term Contact

Recently at BYU, professors have been encouraging collaboration between third and fourth year students by combining the classes for brief activities, such as brainstorm sessions and presentations. Though this is a good idea in theory, it does little to encourage collaboration between the two cohorts because the contact is too brief to allow authentic relationships to form.

Less-experienced students are often intimidated by the skills and confidence of more-

experienced students, which inhibits relationships from forming. The third year student interviewed reported that while he was an underclassman, he did not feel like he had the authority to offer feedback on projects of more experienced peers. Part of this hesitation was likely a sense of intimidation or a common belief among young design students that their opinion does not matter. Brief contact between unequal groups may even heighten intimidation, though it can be overcome through extended contact as less-experienced students learn that more-experienced students are still learning and growing as well.

Last spring term, BYU offered an advanced sketching class for second, third, and fourth years, with the associated range of experience and skill level. Enrollment was split fairly evenly between the years, which is unusual for a program that is generally very segregated by year. As a result, students were exposed to the unique culture and paradigms that the other cohorts had developed. Because this class lasted six weeks, contact between students was sufficient to overcome intimidation and form authentic relationships. These relationships continue to benefit the students involved, who are now comfortable sharing feedback and stories on semester projects, internships, and employment opportunities.

This is a prime example of a situation that allows authentic mentorship relationships to form through long-term contact between cohorts. Some examples to facilitate this are small courses open to multiple years of study, such as special topics courses, field trips, and study abroad courses. To preserve authenticity in student interactions, professors should not attempt to assign mixed groups, but should allow students to interact naturally. Even though research demonstrates increased problem-solving ability in unfamiliar groups (Phillips, Liljenquist, & Neale, 2009), students will recognize the professor's efforts to increase inter-cohort interaction, which will diminish the authenticity of the relationship and undermine the formation of authentic relationships. Additionally, because of the length of the class, contact between students will be sufficient to overcome intimidation and form authentic relationships. After the class is over, students will now be comfortable sharing feedback with these classmates in other contexts.

This framework also allows students to overcome another barrier to collaboration: the need for sufficient project background information on a project in order to receive meaningful feedback. Instead of taking time to explain the project to a more experienced student, students would rather ask a peer who is already familiar with it. This tendency causes students to deny themselves of potentially helpful feedback. However, if students are working on the same assignments, the explanation barrier is eliminated and students can collaborate freely.

3.2. Assigned vs. Unassigned Peer Mentors

Because of their unique values, enforcing structured mentorships can actually create a barrier to collaboration for Millennials. A top-down, institutionally assigned relationship is perceived as uncomfortable and unauthentic, and therefore to be avoided. Many anecdotal reports circulate of students avoiding their campus-assigned peer mentors, demonstrating their discomfort with the association.

Assigned peer mentors are currently used at both BYU and TU Delft. While some students

have reported benefiting from these relations, overall there is some confusion about mentors' roles (Zamberlan & Wilson, 2015) and the inherent awkwardness of having an "assigned friend" with whom they may have little in common.

Congruent with the Millennial desire for authenticity in relationships, students would rather form mentorships on their own terms—in other words, they would rather make friends with students in other cohorts than be assigned a mentor. However, the educational institution can still influence these relationships to form by encouraging student organizations, inviting students from different cohorts to participate in collaborative research groups, and hiring students as teaching assistants.

Students at BYU and TU Delft both reported student associations and clubs as positive venues to meet students from other years of study. Students at BYU have recently implemented weekly industrial design club meetings where students from all four years can meet, sketch, receive critique, and form friendships. After only a few meetings, several first years have reported getting to know multiple second, third, and fourth years through these meetings. Meeting students in an informal setting, outside of the classroom, also decreases feelings of hierarchy and intimidation. Additionally, the grassroots nature of a student run club appeals to the Millennials affinity for authenticity, as relationships form on the student's' own terms. While professors should support the students who run these organizations, asserting too much influence will deter Millennial students from seeing these meetings as authentic gatherings.

Research groups provide an opportunity for students to form more focused mentorships in a slightly more structured setting. One third year student who is a member of a research group at BYU reported that she greatly benefited from having a close look at more experienced designers' processes. Their practice has influenced hers because of this exposure. This student also said that she received individual counsel from a fourth year student in the group, who gave her specific advice to make full use of the university shop facilities during her time here. This advice shaped the way this third year works, and she has since passed on the same advice to second year students in the research group.

Teaching assistants are already widely used at BYU and TU Delft, and their presence provides some unique benefits to student collaboration. A second year student at BYU reported feeling more comfortable asking a teaching assistant for help or feedback rather than a professor, because the teaching assistant is closer to her level in the program's hierarchy. Additionally, teaching assistants are behavioral models for inexperienced students (Zamberlan & Wilson, 2015). For example, first year classmates were fascinated by the teaching assistant's portfolio and senior project. His work gave the young class a glimpse into what could be accomplished in the program.

The students who work as teaching assistants also benefit from being mentors (Cortese, 2005). The primary author works as the teaching assistant for the first years, which has been highly beneficial to her in two ways. First, her own understanding of design concepts is strengthened as she teaches them, which is a well-documented effect (Cortese, 2005). Second, she forms valuable social connections with the students, which opens the door to

further collaboration as they progress in the program.

All of these suggested programs contribute meaningfully to any design curriculum, with increased mentorship as a side benefit. Additional special topics classes will create more refined designers. Student-led clubs will build solidarity and provide students with additional activities. Teaching assistants and research groups greatly benefit the students involved and build the program as a whole.

3.3. Dangers to Collaboration

While collaboration between cohorts potentially benefits everyone involved, too much collaboration is not beneficial. Maintaining a clear delineation between cohorts fosters a unique culture and paradigm in each level, stemming from the personalities, interests, and experiences of the class members (Zamberlan & Wilson, 2015).

There are potential disadvantages to excessive collaboration. Lacking delineation in classes weakens goals for student learning in specific years—for example, at BYU's industrial design program the goal for third years is to follow corporate guidelines through sponsored projects, whereas the goal for fourth years is to explore self-expression through personal projects. These cohorts must work on fundamentally distinct points of view in order to accomplish these goals. Another danger is students emulating examples of past work rather than addressing the problem from their own perspective. If the work from each cohort becomes indistinguishable from others, their learning experiences may become too homogenous.

3.4 Plan for Implementation

The industrial design program at BYU University currently encourages collaboration between cohorts by providing shared lab and shop spaces, offering some student teaching assistant and research positions, and sponsoring limited collaboration on class work, such as collaborative brainstorming sessions, the annual design symposium and study abroad program.

Currently, there are two developments to help collaborative mentorships form. The first comes from the professors, who are encouraging fourth year students to sign up for the third year studio class. The third year students will benefit from the expanded skills and perspective of fourth year students who have already participated in internships, and the fourth year students will gain confidence as they solidify their design skills. Additional spring term classes are also being offered this year, which will increase mentorship opportunities between cohorts.

The second development originates with the students, who have recently implemented weekly design club meetings. This student-led effort has already been very well received and appears to be leading to more program unity as students from different cohorts get to know each other. To determine whether these developments effectively contribute to the formation of collaborative mentorships, another survey and additional interviews will be performed next year.

4. Conclusion

Because of their value for authenticity, Millennial students thrive in educational environments that are distinct from established traditional styled programs. By understanding this shift, educators can create environments in which students can teach one another more effectively. As the benefits of collaboration, unstructured training, and mentorship are widely established; encouraging collaborative mentorships is a method of adding value to a design education.

Citations and References

Boud, D., Cohen, R. and Sampson, J. (2002). *Peer Learning in Higher Education*, 2001 (Kogan Page).

Chao, G.T. (1997). Unstructured Training and Development: The Role of Organizational Socialization. *Improving Training Effectiveness in Work Organizations*, 1997 (Psychology Press).

Cortese, C. (2005). Learning through Teaching. *Management Learning, 36*(1), 87-115. Dennison, S. (2010). Peer mentoring: Untapped potential. *Journal of Nursing Education,*
49(6), 340-2.

Goldman Sachs. (2015). [Graph illustrations of data summarizing multiple external studies on Millennials]. *Millennials: Coming of Age.* Retrieved
from http://www.goldmansachs.com/our-thinking/pages/millennials/

Howell, B. (2016). Design student acculturation through collaborative project assessment. In, *Proceedings of Design Education: Collaboration and Cross-disciplinarity, Engineering & Product Design Education Conference*. Aalborg, Denmark, Aalborg University.

Moore, K. (2014). Authenticity: The Way to the Millennial's Heart. Forbes. Retrieved from *http://www.forbes.com/sites/karlmoore/2014/08/14/authenticity-the-way-to-the-millennials-heart/*

Phillips, K.W., Liljenquist, K.A., Neale, M.A. (2009). Is the Pain Worth the Gain? The Advantages and Liabilities of Agreeing With Socially Distinct Newcomers. *Personality Social Psychology Bulletin, 35*(3), 336-350.

Skaggs, P. (2013). The New Studio, Breaking a Long Tradition. *Industrial Design Society of America (IDSA 2013).*

Tellez, K. (1992). Mentors By Choice, Not Design: Help-Seeking by Beginning Teachers. *Journal of Teacher Education, 43*(3), 214-221.

Zamberlan, L. and Wilson, S. (2015). Developing an embedded peer tutor program in design studio to support first year design students. *Journal of Peer Learning, 8,* 5-17.