

The Class of the Not-Too-Distant Future

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In the future current educators and those contemplating teaching in higher education to plan learning environments that incorporate pedagogical components encompassing information, student performance, and novel situations at increasing rates. Such components may include student-to-student partnership-based engagement as well as hands-on experiences outside the classroom with students from their own and other disciplines, or with professionals in the practice, to motivate a well-rounded exchange of knowledge. Interacting with a variety of others in and outside of the academe fosters concept reinforcement that results in learning. While cognitively and actively engaged in the conceptual details, the learners are focused, leading to a comprehensive approach to learning and thinking critically. Traditional approaches to teaching may give way to new, adaptive learning environments both in and outside the classroom; in a dorm room; or in a practicing professional's place of work.

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BACKGROUND

Two professors, Amanda and Karl, were walking to the faculty parking lot when Karl said:

“Have you ever thought about what the future holds for how we teach and where; about how classes will be different than they are now?”

Amanda replied:

“Would you believe I read an article about that subject just recently. I looked for the definition in the dictionary, and as I recall, it read: ‘Class is a body of students meeting on a regular basis to study the same subject or a period during which such a body meets in a course of instruction.’”

Karl smiled, saying:

“So we are now wondering about what is in store not only for us but for our students as well. I believe we need to think about how things have changed since we were in college.”

“Oh yes,” said Amanda, “When we were in college the norm was sitting in class, taking notes from the professor’s lecture, then to try to figure out which questions would be on the next test.”

Karl added:

“Yes, and no PowerPoints; maybe an overhead projector was used sometimes to highlight a concept.”

Amanda responded, laughing:

“Those awful overheads, when the professor would write on the clear plastic and sometimes get really innovative by using markers of various colors.”

“I have noticed some students frown when I use too many PowerPoints, and I have learned that if I read from the screen, I lose their attention completely,” Karl added.

“So true, Karl; try and lecture for more than about 10 minutes, and you have lost them. They are so used to the technology they use as a part of life—instant responses, interacting with technology, and not tuning into lectures. Next time I see you, we should plan on setting aside some time to explore possibilities about how to structure the class of the future.”

INTRODUCTION

The conversation above raises questions regarding the complexities of teaching classes that include a variety of students of various generations while also coping with technological advancement and revamping pedagogical concepts to coincide with 21st-century lifestyles. Teachers face new challenges; they must consider transitions from traditional and previously used teaching methods, and focus on curriculum and course content, paying particular attention to pedagogy and processes. An example of a pedagogical approach would be to consider rethinking how teaching took place 20 years ago. At that time more emphasis was placed on lecturing instead of student engagement and the use of technology. That method can be replaced with one that is more engaging for the learner, altering the pedagogical method to one that involves analysis. Such a process involves an examination of a concept and its application via an active, hands-on experience with a meaningful result.

In the future, it may be commonplace for current educators and those contemplating teaching in higher education to plan learning environments that incorporate pedagogical components encompassing information, performance, and novel situations. Such components may include student-to-student partnership-based engagement, as well as hands-on activities outside the classroom, including with students from their own and other disciplines or professionals in the practice, to motivate a well-rounded exchange of knowledge. Interacting with a variety of others both within and outside of the academe fosters concept reinforcement that results in learning Valerie Polakow (1999). While cognitively and actively engaged in the concept of content details, the learners are focused, leading to a comprehensive approach to learning and thinking critically Valerie Polakow (1999). Traditional approaches to teaching may give way to new, adaptive learning environments both in and outside the classroom; in a dorm room;

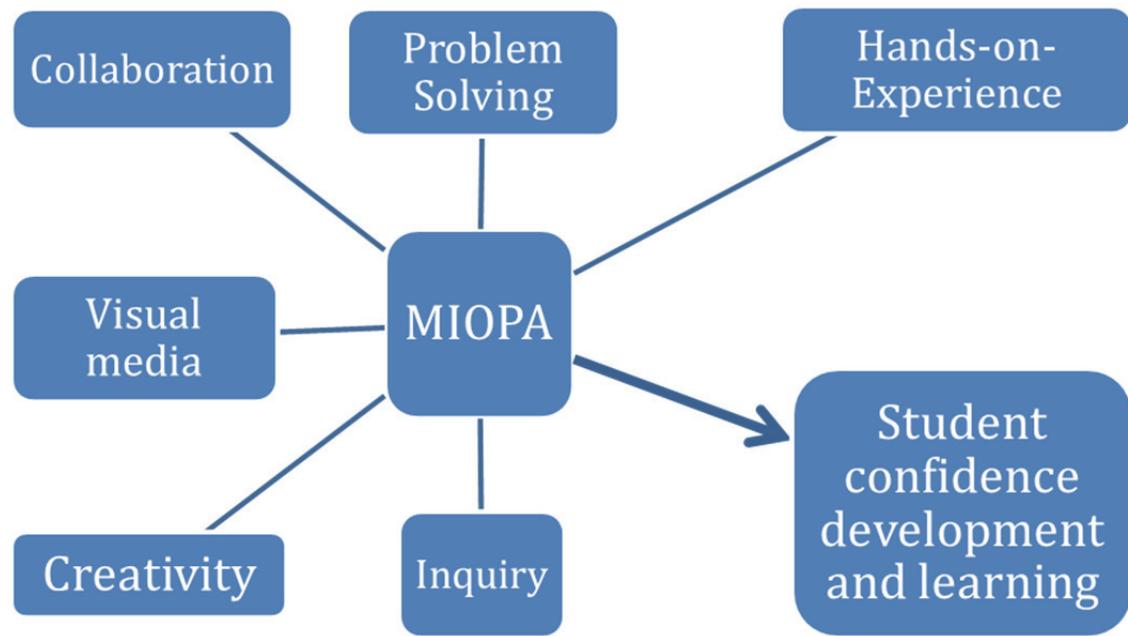
or in a practicing professional's place of work. Therefore, tomorrow's instructors will need to adapt to physical and virtual educational environments, including facility changes, student engagement with practical experiences, group engagement, and the employment of technology to enhance the learning process in order to keep up with current advances.

Due to the generational differences in the way learning and comprehending occur for today's students the time has come for those of us in higher education to rethink teaching methods. It is likely that learning beyond four walls is replacing the learning environment many professors experienced themselves. Current and future learners' everyday experiences of technology have primed them for interactive classrooms that will allow them to engage in the learning process and with each other. They need the freedom to engage in an educational experience, requiring them to engage in problem-solving with perspectives beyond their own.

John Dewey's philosophy on education, whereby curriculum is constructed and based on the experiences and curiosity of the student combined with the traditional subject matter and organized in a manner that is related to learner's life experiences, made him an innovator of his time Valerie Polakow (1999). There are some contemporary educators, such as Valerie Polakow (1999), who contend that the trend of our society is to become increasingly more culturally diverse, technologically adept, and able to communicate verbally (including the written word). According to Mosca and Curtis learning experiences associated with the learner's needs have the potential to alleviate artificial barriers among subject areas.

Mosca and Curtis have conducted surveys of over 200 students to determine how their students welcomed non-traditional methods other than lecture and written exams. As a result of their study, they developed a concept called "MIOPA," *multiple inclusions of pedagogical approaches*, which illustrates teaching and learning methods that can be applied within multiple environments (Figure 1). It describes a configuration of various pedagogical approaches intended to instill skills in collaboration, problem-solving, and creativity, as well as exercises involving hands-on experiences, inquiry learning, and development of the learner's confidence.

FIGURE 1
THE MULTIPLE INCLUSIONS OF PEDAGOGICAL APPROACHES (MIOPA) CONCEPT



The MIOPA concept suggests re-thinking the traditional classroom environment. Such changes will allow for student and teacher collaborations, which increase learning and foster spontaneous team building.

Research from Meister and Willyerd (2010) seems to support revamping the classroom environment, pointing out that campuses have already begun to evolve by integrating technology with learning. Their findings indicate that today's university students have already been introduced to classrooms with moveable, modular furniture and walls, various interaction spaces, along with environmental designs that encourage interaction, because they seat students facing both each other and the professor. According to Mark Greiner, senior vice president of Workspace Futures at Steelcase, "[h]ow we work and learn has significantly changed over the years, but often the physical space has remained essentially the same."

Professors who pay close attention to teaching methods do so because they believe that how teaching is structured plays an important role in how much knowledge is retained or transferred. Therefore, if content and concepts are isolated into a lecture and explanations, there is an effect on student learning outcomes. A large-scale study by Hake (1998) suggests this is true; post-secondary physics students recalled less than 30% of the material covered in a traditional lecture-style class. Similarly, other studies have indicated that students construct different understandings from explanations in isolation versus when they engage in experiences related to the material (Carrol, 1998; Trafton & Reiser, 1993)

MIOPA suggests that the classroom of the future will most likely be configured differently from what many of us are used to. The following is an example of how the MIOPA approach can be utilized to facilitate an interdisciplinary project.

Example

A course project composed of five disciplines brought together to immerse students into a transformational experience that encompasses English, Math, History, Graphics, and Business.

The objective of the course project is to produce 5,000 booklets pertaining to women's and men's fashion from the late 1800s to the present, to be sold online. Students would need to include the following in a final, tangible product.

The content of the booklet:

- An introduction.
- Photos of womenswear, including dresses, shoes, and outerwear
- Photos of menswear, including suits, shoes, and outerwear
- A full description of the item and discussion of the style for each photo.
- A historical description of each fashion, including the transformations between the various fashion styles, and how they fit with their time periods.
- The final chapter will provide a history of clothing businesses from the small Taylor/shop, to mom and pop retail, department stores, to the current on purchasing.

All citations and grammar rules must be followed in the production of the booklet.

Teaching Objectives

- **Math**, students will have to determine:
 - 1- Cost of paper, and how much will be needed.
 - 2- Cost of production.
 - 3- Cost of photography.
 - 4- The cost of shipping and packaging booklet to the buyer.
- **English**, students will be responsible for:
 - 1- All written components of the booklet.
 - 2- Proofreading all advertisements.

- **History**, students will:
 - 1- Research historical fashion trends from the late 1800s through the present.
 - 2- Gather photos.
 - 3- For each time period, explain woman's and men's societal roles.

- **Graphics**, students will:
 - 1- Design page layouts.
 - 2- Design the booklet's cover.
 - 3- Design the webpage.
 - 4- Design a logo.
 - 5- Develop a house graphic style guide.

- **Business**, students will:
 - 1- Write the company's mission statement.
 - 2- Write a business plan.
 - 3- Set up the budget with data collected from the math findings.
 - 4- Set up the organizational structure with the History, English, Math, and Graphics components.
 - 5- Establish control systems.
 - 6- Plan the division of human capital.
 - 7- Establish storage facilities and locations.

Today's global economy and students' expanding educational interests make it imperative that universities keep pace with the strategic needs of business and the needs of students. The classroom of the near future will move beyond the boundaries of brick and mortar buildings. As this change occurs, educators will need to adapt their thinking and approach to learning.

To stay ahead of the curve, educators can use MIOPA combined with an interdisciplinary approach to learning, as illustrated in the example project described above. Such a project can be organized using a product such as Adobe Connect. Instructors from each discipline can be designated as either hosts or presenters and can be available to students as guides. Depending on how the project is set up, students can be broken up into breakout rooms for each of the disciplines, or they can be grouped according to the organizational chart developed by the business group. In the breakout rooms, students can "meet" with members of their group, along with the instructor assigned to their particular group. Within the breakout rooms, students can work together to discuss the project and plan what needs to be done to carry out their portion of it. Group projects invariably offer multiple assessment challenges for instructors. An advantage of using Adobe Connect from the point of view of an instructor is that everything can be recorded and documented. Students who are not participating will be easy to identify by reviewing the video and chat logs.

This integration of subjects (Math, English, History, Graphics, and Business) and interaction of students with each other is a paradigm that not only brings together specific disciplines, it includes the human component of individuals working together. This is a critical feature given that many students spend a great deal of time depending on technology to communicate, and little time in face-to-face encounters (Johnsson, 1994). This merging of disciplines and student engagement with each other will lead to awareness of how humans function in teams and partnerships both in general and in working life, and how to effectively share knowledge to meet a shared goal and their personal objectives (Johnsson, 1994). Altering seating arrangements in the classroom environment can lead to a merging of disciplines and a positive approach to student engagement.

FIGURE 2
TRADITIONAL CLASSROOM ARRANGEMENT



In the traditional classroom arrangement (Figure 2), all tables or desks and chairs are lined up; this creates an environment in which students see the back of the head of the person in front of them. There is no eye contact between students. Teacher movement is basically limited to walking around the perimeter of the room. It is difficult to assign group projects without restructuring the seating arrangement. This arrangement is not conducive to student interaction as it prevents student-to-student engagement.

FIGURE 3
STUDENT GROUP ARRANGEMENT 1

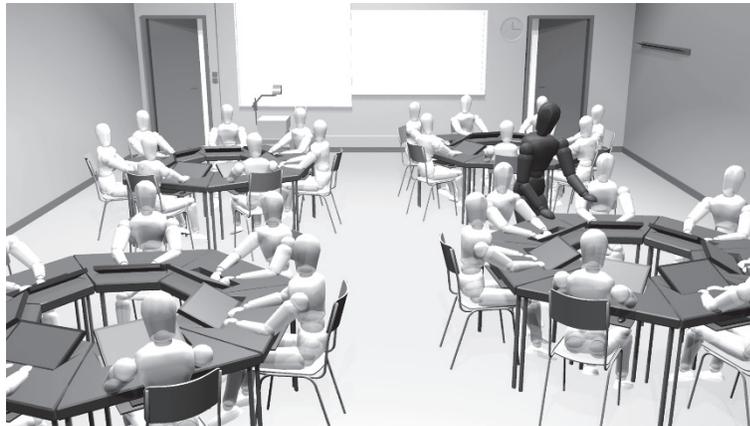
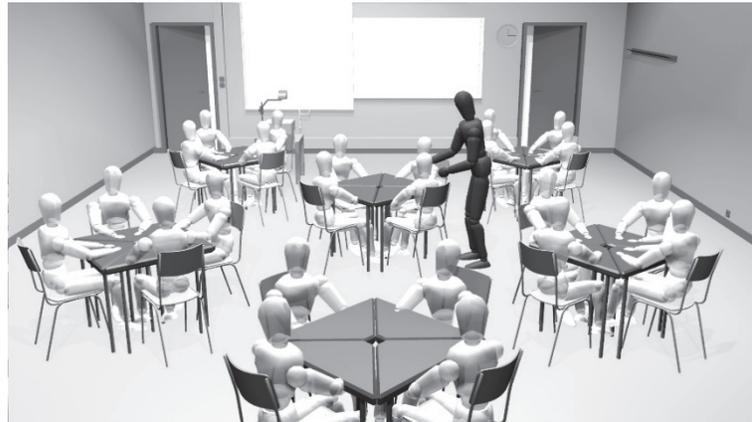


FIGURE 4
STUDENT GROUP ARRANGEMENT 2



In contrast, the student group classroom arrangements are shown in Figures 3 and 4 create an organic environment that promotes student eye contact. Educators can easily circulate through the room, speak to individual groups, and assign multiple projects. Group members can engage with each other. The group setting can add to the meaningfulness of the content being taught because the group members can discuss the material among themselves and share various points of view—something that should be encouraged in an educational setting. This setting helps educators motivate students to learn because they can be open with each other without fear of making a mistake; the setting helps establish trust factor among the group. By employing this configuration it may increase student motivation to learn, for now, they can be open with each other with the fear of making a mistake. The transfer that occurs in this environment is an important factor to consider, as learning is a process of influencing the acquisition of new learning; when students exchange their experiences with one another, learning becomes natural. Not all group members need to be physically present in the classroom. Students in the classroom can be in contact with student envoys using technology such as iPads or phones. Envoys can be visiting a location related to the topic being discussed by the group, therefore connecting the classroom with real-world issues.

METHODS

The authors presented 291 students with two images to ascertain student preference with regards to the classroom seating arrangement. The survey was distributed to a diverse group of students consisting of 57% female, 43% male and 12% racial minority. Including graduate and undergraduate students at Monmouth University. Graduate students were included in the study to discover if their attitudes toward grouping arrangements were different than those of undergraduate students as the graduate students have already entered the workforce and having experienced a traditional undergraduate education. The student population in the study was comprised of majors from the General Business, Communication, Healthcare, Criminal Justice, Accounting, Finance, and Marketing programs. Students were surveyed over one semester at Monmouth University in 2018.

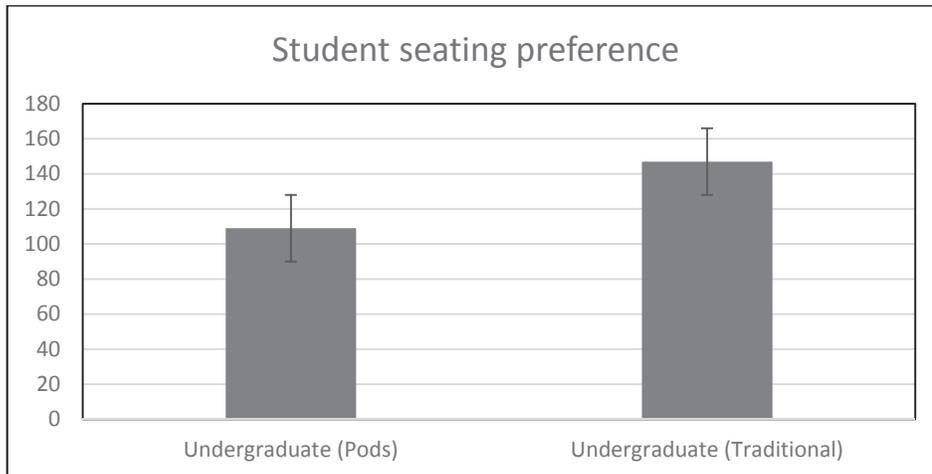
RESULTS

Data was collected through an anonymous student survey. The survey consisted of two images inquiring about student preferences to the seating/group arrangement in the classroom. The results are tabulated and are graphically represented below in Table 1 and Figures 5-7.

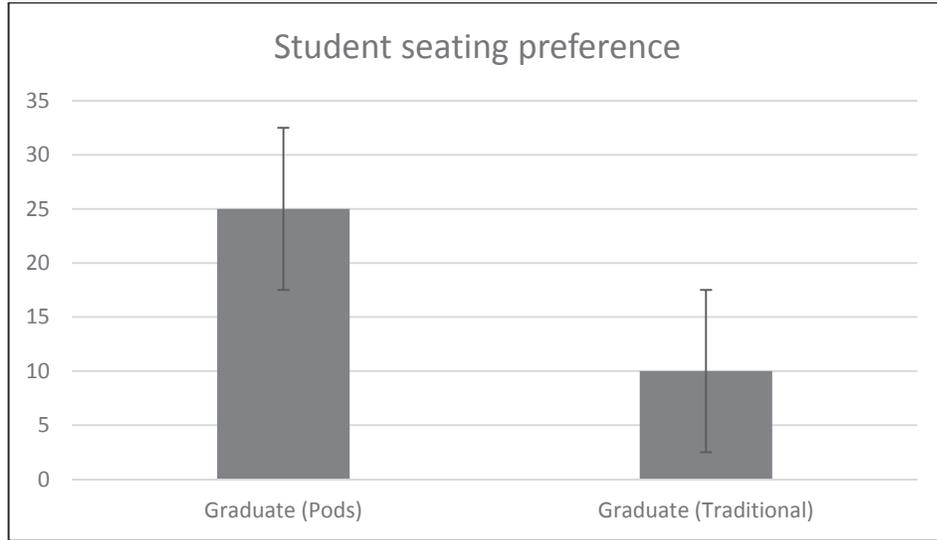
TABLE 1
STUDENT PREFERENCE FOR TRADITIONAL VS PODS SEATING ARRANGEMENT IN
THE CLASSROOM

Student Preference	
Undergraduates	# of students
Undergraduate (Pods)	109
Undergraduate (Traditional)	147
Graduates	
Graduate (Pods)	25
Graduate (Traditional)	10
Total	291

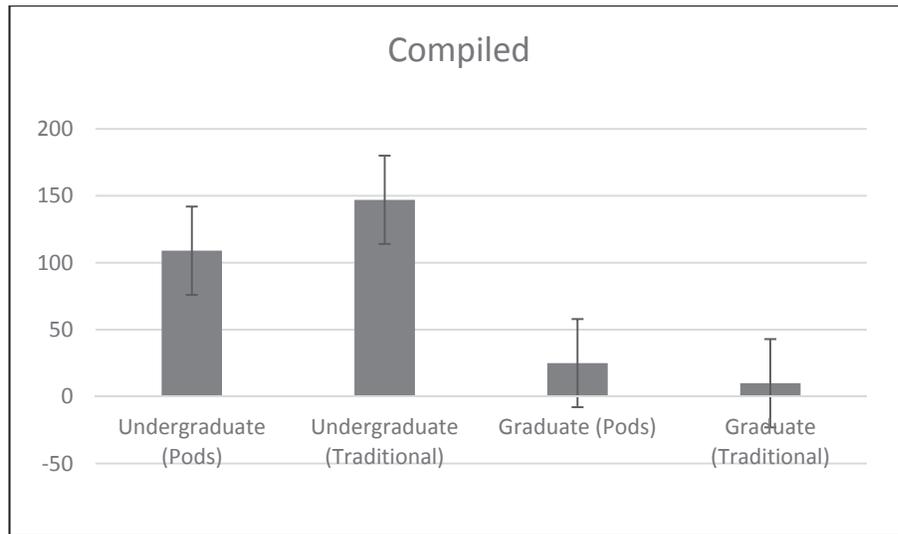
FIGURE 5
UNDERGRADUATE STUDENT SEATING PREFERENCE



**FIGURE 6
GRADUATE STUDENT SEATING PREFERENCE**



**FIGURE 7
COMBINED GRADUATE AND UNDERGRADUATE STUDENT SEATING PREFERENCE**



DISCUSSION

The data indicate that the majority of graduate students preferred or found benefit in interacting with their peers during class meetings as opposed to the traditional model of college education where students sit and take notes while the professor lectures. While the majority of undergraduate students preferred traditional arrangement. The authors of this study hypothesis that this discrepancy may be due to the fact that graduate students have entered the work force and see the value of interacting in peer groups while the undergraduate students have yet to break from the custom of sitting in a traditional classroom arrangement. The study authors suggest that using an integrated approach, such as the MIOPA approach outlined in Figure 1, will not only appeal to students but will also foster a learning environment conducive to greater student achievement.

The traditional college class setting primarily utilizes one pedagogical approach that primarily teaches auditory learners, or if purposefully animated/illustrated, visual learners. This approach not only does not address the learning style of a significant portion of the student population, but it also does not prepare students for the work environment. Using multiple pedagogical approaches in an interactive course ensures that all learning styles are catered to, and give students a sense of the teamwork they will most likely encounter in the workplace.

In the future, the authors will carry out a quantitative investigation of the effects of a MIOPA instructional approach on educational outcomes.

REFERENCES

- Carroll, W. (1998). Using worked examples as Instructional Support in the Algebra Classroom. *Journal of Educational Psychology*, 86, 360-367.
- Hake, R. R. (1998). Interactive Engagement Versus Traditional Methods: A Six-Thousand-Student Survey Mechanics Test Data for Introductory Physics Course. *American Journal of Physics*, 66(1), 64-74.
- Johnsson, B. (1994). The American Behavioral Scientist (1986-1994). *Thousand Oaks*, 37(1), (Sep/Oct 1993), 148.
- Meister, J. C., & Willyerd, K. (2010). The 2020 Workplace. *Harper Business*, 163-188.
- Polakow, V. (1999). A View from the Field. In Henson, K. T. & Eller, B. F. (Eds), *Educational Psychology for Effective Teaching*. Belmont, CA: Wadsworth.
- Trafton, J. G., & Reiser, B. J. (1993). *The Contribution of study examples and Solving Problems to Skill Acquisition*. Paper presented the 15 annual Conference of the Cognitive Science Society.