

DEVELOPING A COLLABORATIVE LEARNING ENVIRONMENT – THE HUB

Victoria Seitz, Department of Marketing, California State University, San Bernardino, 5500 University Parkway, San Bernardino, CA 92407, 909-537-5753

ABSTRACT

Collaborative learning has grown in popularity as a pedagogy to engage students and enhance learning of concepts and problem solving skills. As a high impact practice the environment in which collaborative learning takes place has been shown to enhance learning using this model. This paper describes the process followed in developing a Collaborative Learning Instructional Laboratory – The HUB for the marketing program at a southwestern university. Given that marketing pedagogies often incorporate experiential team projects, such an environment would contribute to increasing achievement of the program's learning goals and enhance student success.

Keywords: collaborative learning, collaborative learning spaces, marketing, learning outcomes, The HUB

INTRODUCTION

Collaborative learning (CL) is gaining popularity as a pedagogy in higher education as a tool to enhance retention and as a cost effective method to promote student learning and development [8]. As a teaching method that emerged in the 90's during the beginning of the internet and online teaching, collaborative learning has been a coordinated process where students negotiate their ideas and solutions among group members in problem solving [9]. According to Laal [7] to prevail as a CL experience it must have positive interdependence, or reliance on one another to achieve a goal; considerable engagement in the learning process; personal accountability; social skills and trust-building, leadership, decision-making and communication skills; and, finally, group self-evaluation. As a pedagogy for learning Laal and Ghodsi [6] suggests this process is far superior as students engage and problem solve among diverse group members of varying backgrounds. More importantly, students are responsible for their actions in a setting of shared meaning with group members. Essentially, collaborative learning promotes consensus building through cooperative efforts among group members impacting student achievement of learning outcomes to a greater extent than through individualized learning [6].

Collaborative Learning

Seralidou and Douligeris [9] state that compared to individualize learning, collaborative learning is an easier way for students to acquire knowledge and demonstrate higher academic achievement through the ability to transfer learning to other situations. This pedagogy is associated with positive attitudes toward the material being studied and satisfaction with learning and collaborating in small groups makes it easier to engage non active students and promote greater presence and contribution by them [5]. A critical benefit of collaborative learning is that students gain interpersonal group skills, occupational awareness and personal development through engagement with others with diverse thoughts and ways of being. Given this experience, students are able to solve problems in new and creative ways [8].

Moreover, students that participate in collaborative learning are less focused on grades and are more concerned with learning the material.

According to Laal and Ghodsi [6] benefits of collaborative learning can be summarized into four areas, social, psychological, academic and assessment. Specifically, collaborative learning enhances social skills through building diversity understanding, modelling and practicing cooperation, developing learning communities and providing a social support system for learners. From a psychological perspective collaborative learning enhances students' self-esteem, reduces anxiety and promotes positive attitudes toward teachers. Academically, collaborative learning promotes critical thinking, engages students in the learning process, models positive student problem solving techniques and improves classroom results. Finally, collaborative learning enhances measurement of learning outcomes through a variety of assessments employed.

However, this pedagogy does have its shortcomings. The major drawback of collaborative learning is the existence of social loafing that prevails in groups. Although, group evaluations minimized, this, it is an ongoing problem when the CL model is implemented for assignments and projects. Moreover, due to the overwhelming use of individualize learning in education, conflict and difficulties arise due to students lack of experience in working and managing diverse group settings [8].

Additionally, collaborative learning as the primary pedagogy in a course does not take in account all students' learning styles. Chen, Jones, and Xu [4] found that although students had balanced learning styles, accounting students favored a sequential styles of learning since their field is rule based. Further, they found that females were also sequential in their learning style compare to males were more global. Alfonseca, Carro, Martin, Ortigosa and Paredes [1] found that learning styles affect the performance of students when working collaboratively, whereas, mixed pairs in the active/reflective and sensing/intuitive dimension worked better together. However, Sullivan, Colburn and Fox [10] found that diversity of learning styles present in a classroom enhances student satisfaction and that many reported enjoying the multiple insights and the diversity of opinions welcoming in group settings.

Learning Environments

The benefits of collaborative learning are even more pronounced when students work in a dedicated space for it. Berry and Dieterle [3] found that students operating in a space designed for collaboratively learning attained higher assessments and test scores. Moreover, when students realize that they are working in a dedicated space to learn collaboratively, they become more comfortable. Seralidou and Douligeris [9] suggest that to be able to promote collaborative learning, a comprehensive and scientifically-based designing of environments is needed. Students need the tools that allow them to flourish in a group setting and explore learning through non-traditional methods. Students do consider their physical learning environment and this environment contributes to the outcome of their study activities. Beckers, Van der Voordt, Dewulf [2] found that students prefer learning spaces related to their activities, which differs whether they are at home or at a university. For example, students enjoy individual learning spaces at home and collaborative spaces at universities. Beckers et. al. [2] note that poorly designed classrooms and buildings inhibit students from coming to the university, whereas well designed ones attract them. For administration, it is important to consider designing spaces around the type of work that is done in the space rather than technology and furnishings [3]. Moreover, when designing such spaces it is imperative that the focus remain on group dynamics rather than individuals [9]. In their study Beckers et. al. [2] found that students considered air quality, temperature and furnishings to be important. Comfortable

reconfigurable furniture in well-designed functional spaces, not only attracts students but enhances their learning. Moreover, the researchers found that the use of color and materials, as well as, the level and quality of light in spaces stimulated the senses and mind positively impacting motivation and cognitive performance of individuals.

Given the above, this paper outlines the process of developing a collaborative learning instructional laboratory for the Marketing Department of a southwestern university. The process highlights the collaboration of faculty, students and community members in developing the classroom. Additionally, the paper presents the results of research conducted to measure perceptions of student satisfaction and achievement of learning outcomes using the instructional lab.

THE HUB

The Idea and Design

The importance of collaboration in learning is critical in educating students at the university level. Collaboration on service learning, team projects and/or cases are considered impactful experiential practices that invite students to learn from one another and solve problems. Furthermore, today's graduates often have careers where working collaboratively in teams is common in completing projects. In the marketing curriculum, courses provide an opportunity to solve problems collaboratively such as in developing marketing plans, marketing research studies, consumer analysis and marketing communication plans to name a few. However, spaces for students to work collaboratively were not available in a classroom environment. The general state of classrooms available at the university included primarily lecture halls, seminar rooms, and laboratories. Collaborative learning environments were available to students and faculty to reserve but there was not a collaborative learning classroom. The classroom that was available to be configured currently served as a computer lab and a classroom with audience seating and individual computer stations surrounding the room. Given that the marketing curriculum in the department provided experiential learning opportunities through team projects, a collaborative learning instructional laboratory was proposed to enhance achievement of student learning outcomes.

We set forth to design the classroom to provide a collaborative experience while being able to maximize enrollment for the courses offered in the program. For the particular classroom selected, over 1,000 students and faculty used the room annually so it was important that the redesign be well constructed and maximized student capacity. Working with several classroom designers and technical staff the space was analyzed and several designs for the classroom were proposed. The different designs featured different table configurations that were shown to faculty and discussed. Further consideration was given for ADA compliance that affected seating capacity with the various designs.

In analyzing course enrollments, it was determined that a capacity of 30-36 would be sufficient to satisfy student demand for the courses offered in the classroom with only a reduction of seven spaces from the existing layout of the classroom. The courses taught currently in the classroom were upper division and MBA courses that lend themselves to smaller enrollments. Additionally, faculty were asked what equipment and accessories they wanted in the classroom to promote an effective collaborative instructional laboratory as instructors. Some of the items that faculty listed included computers, printers with scanners, multiple screens, mobile whiteboards, and the ability to provide distance education. It was initially proposed to have a mobile cart with forty computer laptops for working with statistical software such as SPSS; however, after further consideration the items were dropped due to security and obsolescence issues. The budget for the redesigned was initially developed by the Technology Office in

the College as they would be the responsible for purchasing the equipment for the lab. Once, the final design and equipment were finalized an itemized budget was developed.

The final design of the classroom that was approximately 26'x 33' included five collaboration stations each with six movable chairs, a computer with a large screen and a docking station for laptops and mobile device hook-ups. Two collaboration stations were assembled along the side walls and one station was positioned on the back wall. The front wall provided a whiteboard as well as another projector screen that could be raised or lowered as needed. A lectern was placed toward the front of the room along the side wall.

Securing Funds

The budget proposal was developed and presented to the College for partial funding for furniture that included tables and chairs for the classroom for a total of \$30,000. However, to support the purchase of technology and accessories for the room, carpeting and painting another \$65,000 was needed. A proposal was developed and submitted to Vital & Expanded Technologies Initiative Grant (VETI grant), an internal university grant that is supported by students' fees where a committee of primarily students were the decision makers. The proposal was approved for total funding. Once the funding was secured orders were placed for the equipment and furniture. During the summer of 2017 the room was emptied, repainted white and carpeted in blue. Furniture was assembled and set to the approved design which involved five collaborative stations that included computers and large screens. At each of the stations, outlets were available so students could plug in their laptops or mobile devices and project the material on the screen at each table. Color was incorporated in the classroom through tables with blue trim and blue, green and red rolling chairs with armrests. A structural column in the room was painted the same color green as the chairs and a blue banner was placed along the top with the sayings approved by the faculty and advisory board.

During this time feedback regarding the name of the collaborative learning instructional lab was discussed among faculty, staff and the Marketing Advisory Board. Several names were proposed; however, The HUB (Helping Understand Business) was favored by everyone. The room design also included a banner with inspiring statements to motivate students and so the advisory board were invited to participate. The statements that emerged were Knowledge, Network, Experience; Research Plan Implement and Evaluate; Create and Collaborate, and Success Begins Here. A graphic design student at the university was hired to develop the look and feel for the signage for the room as well as the banner. The design options were presented to the advisory board as well as the faculty and one was selected.

Student Perceptions of The HUB

The HUB was available for classes starting fall 2017. Student learning outcomes for The HUB included better oral and communication skills, increased understanding of data analysis, ethical decision making, and increased understanding of marketing concepts and problem solving. A survey was developed to measure student perceptions of achieving these learning outcomes as well as whether the newly redesigned laboratory facilitated group and faculty interactions and job readiness. The instrument included fourteen questions measured using a 5-point Likert scale ranging from strongly agree (5) to strongly disagree and was distributed to a convenience sample of juniors, seniors and MBA students enrolled in courses in the classroom from October 2017 through March 2019 online. Questions focused on whether students worked more effectively in teams, facilitated collaborative ethical problem solving and data analysis, enhanced oral and written communication skills, increased students' satisfaction regarding group interactions and

increased their motivation to interact with their group during class time. A total of 201 surveys were completed.

Findings from the survey (Table 1) indicated that students' perceptions of achieving the learning outcomes for the curriculum did improve through The HUB. Eighty-four percent of respondents indicated that they strongly agreed or somewhat agreed that they gained a greater understanding of marketing concepts; 75% agreed and strongly agreed that the class set-up improved their oral and written communication skills; 72% agreed or strongly agreed that they had a greater understanding of data analysis through collaboration with team members; 90% indicated that the classroom facilitated collaborative problem solving; and 73% indicated greater understanding of ethical decision making through collaboration with team members. Regarding whether the classroom redesign facilitated group interactions, 55% agreed or strongly agreed that they worked more effectively in teams; 89% agreed or strongly agreed that the classroom increased their satisfaction regarding group interactions; 86% indicated that they spent more time collaborating with team members during class time; 88% indicated that the classroom increased their motivation to interact with the group; 94% agreed or strongly agreed that the class set-up facilitated group interaction; 89% indicated that the class set-up facilitated flexible interactions with classmates and the instructor; and 81% agreed and strongly agreed that The HUB facilitated instruction by faculty. Responses regarding job readiness were positive regarding the classroom's role in preparing students for their next step. Three-fourths (75%) indicated that the technology prepared them for the real world business environment and 77% said that working in a team helped prepared them to be job ready.

Table 1
Student Perceptions of The HUB

N=201

Statement	Strongly Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Strongly Disagree
I worked more effectively In teams	32.6%	23.2%	11.0%	5.5%	27.6%
The classroom facilitates Collaborative problem Solving	65.8%	24.9%	6.6%	2.2%	0.6%
The classroom increased my Satisfaction regarding group Interaction	62.4%	27.1%	6.6%	2.8%	1.1%
I spend more time collaborating with Team members during class Time	59.1%	27.6%	9.4%	2.2%	1.7%
The classroom increased my Motivation to interact with the Group	57.9%	30.3%	10.1%	0.0%	1.7%

Working in a team helped me Prepare to be Job ready	49.4%	27.5%	17.9%	2.8%	2.3%
I gained greater understanding of Marketing concepts	58.4%	25.8%	9.6%	5.1%	1.1%
The HUB facilitates instruction By faculty	53.4%	28.1%	13.5%	1.7%	3.4%
The class set-up helped improve my oral And written communication Skills	39.3%	36.5%	16.9%	5.1%	2.3%
I have greater understanding of data Analysis through collaboration with team Members in The HUB	39.9%	32.6%	23.6%	2.3%	1.7%
The class set-up facilitates group Interaction	75.1%	19.2%	4.5%	1.1%	0.0%
The class set-up facilitates flexible Interactions with classmates and Instructor	66.3%	23.6%	5.6%	4.5%	0.0%
The technology in JB 255 prepared me for The real world business Environment	49.4%	26.4%	19.7%	3.9%	.5%
I have a greater understanding of Ethical decision making through Collaborating with team members In The HUB	41.6%	31.5%	23.6%	1.1%	2.3%

DISCUSSION, IMPLICATIONS AND FUTURE RESEARCH

Research indicates that collaborative learning is a foremost method for engaging students and better preparing them for life after college [6] [8] [9] [5]. Moreover, research shows that designing classrooms to enhance collaboration in an aesthetically pleasing manner promotes learning and enhances student outcomes [3] [2]. Hence, a classroom in the Marketing Department was redesigned with input from faculty and the Marketing Advisory Board to support collaborative learning pedagogies utilized extensively in the curriculum. Findings from a student survey indicated that The HUB enhanced understanding of marketing concepts, data analysis, problem solving and ethical decision making. As well, students were more likely to collaborate with their peers and instructors enhancing their confidence in job readiness.

Interesting to note, of the student responses, only 55% reported that they worked more effectively in teams suggesting that challenging group dynamics may have detracted students' experience in The HUB. An implication of this finding suggests opportunities for instructors to participate in collaborative learning

training to help students better navigate group dynamics so teams are productive. Students have limited experience in working in groups and need guidance to be able to be successful in a collaborative environment. Instructors that are trained to facilitate assignments in this type of learning environment would be able to intervene when problems arise and resolve them quickly so that teams can move forward in completing the group assignment.

The HUB provides a collaborative learning environment where faculty and students can easily interact to solve problems and learn. One of the potential drawbacks to developing this type of classroom is its limited flexibility when the instructor chooses to have a quiz or exam, students are sitting together at tables and not enough space is provided for privacy of answers promoting cheating. As well, faculty that originally used the room as a laboratory for teaching Marketing Research, no longer had access to individual computers that students would use during class time and so other labs had to be found or some faculty chose to set up the course differently incorporating different software that students could use off campus on their own computers.

Although results of the survey suggest that students' perceptions of The HUB are positive; further research should be employed to compare if perceptions differ when students are enrolled in different types of courses such as introductory vs. capstone courses as well as, juniors, seniors and MBA students. Additionally, a survey of faculty regarding how their teaching style has changed to accommodate the classroom and their perceptions of student performance and satisfaction. An in-depth analysis should also be conducted to determine if The HUB improves student actual performance in courses as this was not measured.

Findings from the present study show that the impact of creating spaces to study and learn collaboratively enhances students' ability to learn and be job ready while meeting learning outcomes. Collaborative learning provides opportunities for students to learn from one another and previous research shows that students flourish when they are in a dedicated space for it. As universities address classroom needs for the future they will want to take into account including collaborative learning environments to meet university and program learning goals. Perhaps, universities may consider providing a variety of space formats that meet different student learning outcomes in face-to-face delivery of content. As universities prepare for their relevance in the future they will want to rethink classroom spaces as vehicles that facilitate and improve attainment of learning outcomes rather than solely spaces where the faculty and students meet.

REFERENCES

- [1]Alfonseca, Enrique, Rosa M. Carro, Estefani Martin, Alvaro Ortigosa and Pedro Paredes (2006), The impact of learning styles on student grouping for collaborative learning: A case study. *User Model Uses-Adap Inter*, 16, 377-401.
- [2]Beckers, Ronald, Theovander Voordt, Gurt Dewulf (2016), Learning space preferences of higher education Students. *Building and Environment*, 104, 243-252.
- [3]Berry, Landon and Brandy Dieterle (2016), Group consultations: Developing dedicated technological spaces for collaborative writing and learning. *Computers and Composition*, 41, 18-31.
- [4]Chen, Clement, Keith Jones, Shawn Xu (2018). The association between students' style of learning preferences, social presence, collaborative learning and learning outcomes. *Journal of Educators Online*, 15(1).
- [5]Dewiyanti, Silvia, Sashia Brand-Gruwel, Wim Jochems, Nick J. Broers (2007). Students' expectations with collaborative learning in asynchronous computer-supported collaborative learning environments. *Computers in Human Behavior*, 23, 496-514.

- [6]Laal, Marjan and Seyed Mohammad Ghodsi (2012), Benefits of collaborative learning. *Procedia Social and Behavioral Sciences*, 31, 486-490.
- [7]Laal, Marjan (2013). Collaborative learning: Elements. *Procedia Social and Behavioral Sciences*, 83, 814-818.
- [8]Loes, Chad N., Brian An, Kim Saichaie, and Ernest Pascarella (2017), Does collaborative learning persistence to the second year of college. *The Journal of Higher Education*, 88(1), 62-84.
- [9]Seralidou, Eleni and Christo Douligeris (2015), Identification and classification of educational collaborative learning environments. *Procedia Computer Science*, 65, 249-258.
- [10]Sullivan, Daniel, Michael Colburn, and Daniel Fox (2013). The influence of learning styles on student perceptions and satisfaction in a highly collaborative team taught course. *American Journal of Business Education*, 6(4, July/August), 429-438.