

Organizational Behavior in the Classroom: Project Based and Experiential Learning in the Construction Management Curriculum

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Abstract

This paper sets out to address the “**thesis**” that there is a correlation between organizational behavior in the classroom and student’s learning dynamics. What is Organizational Behavior and how does it apply to the classroom in a technical teaching environment and how does it affect the way students learn? Also, what disciplines contribute to organizational behavior and how do they affect the classroom learning experience?

When a college student joins a class to study a particular technical subject today, he or she moves into a new world of project based learning. Today, students must participate in self learning, critical (outside the box) thinking, team skills including managing the team, and individual as well as team ethics. The student has moved into the “new” learning arena of group dynamics called experiential learning. The student’s level of participation has been greatly raised and he/she will be required to participate in active and self learning while developing enhanced communication skills. The Industrial Advisory Committee at Farmingdale State College has set enhanced communications, both written and oral, as their primary learning outcome.

This paper will set out the results of case studies in the field of teaching Construction Management at Farmingdale State College and how they differ based on class size, class make-up, and student maturity (Freshman vs. Senior). We will address the success and failure of each of these situations, including the male dominated population in Construction Management courses and the effect of female students in the curriculum. We will consider the results of “individual” vs. “team” work assignments and team make-up.

Also, we will look at the foundations of “Organizational Behavior in the classroom” and how they differ from the “Organizational Behavior in the office”

We will attempt to consider learning parameters such as student’s individual personalities, and values and how they fit into team rather than individual dynamics.

We’ll consider cultural background and how it affects teamwork, including team communication, and team dynamics such as leadership. We’ll look at the effects of peer review in this arena.q

Introduction

No paper on Organizational Behavior in the Classroom can start without the mention of “Experiential Learning” and no mention of “Experiential Learning” can start without understanding the work of David A. Kolb. He is perhaps the guru of the subject. His publication “Experiential Learning: Experience as the Source of Learning and Development”³ published in 1984 has become the foundation for the subject and most, if not all, future work on this subject. David A. Kolb’s ideas have had a dramatic impact on the design and development of lifelong learning models. His work can be traced back to that famous dictum

of Confucius around 450 BC: "Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand."

The concept of experiential learning explores the cyclical pattern of all learning going through experience, reflection, conceptualizing, action and on to further experience. We set forth a process for recording continuous professional development, by capturing, recording and implementing learning. The student who understands the material rather than memorizes or temporarily captures it, will gain profound insight into that material and all its relevant associated materials.

What exactly is "Organizational Behavior" and how does it apply to the college classroom? "Organizational Behavior is a field of study that investigates the impact that individuals, groups and structure have on behavior within an organization"¹. This field addresses the impact of motivation, leader (teacher) behavior, dynamic learning, attitudes and perceptions, conflict, student stress, and team vs. individual learning. A systematic study of how individuals behave in the classroom as well as in the office indicate that certain traits show up in both arenas. For one thing, behavior is usually not random but instead based on fundamental consistencies that are more or less accepted by all the students. For example, we all drive on the right side of the street in America, we face the doors when we get in an elevator and students raise their hands to speak in class. Behavior is generally predicable in the classroom as in the office with few exceptions.

The difference between organizational behavior in the classroom and in the office has always been that in the office the group's performance is the yardstick to measure success or failure. Traditionally, the individual's performance has been the yardstick to measure success or failure in the classroom but that's changing. Group or team efforts are more common today in the college classroom and student's performance is more and more measured on how their group has performed and how they performed within the group rather than how the individual student performed within the class. My students are learning the difficulties of working in a group, on a group project, and one that is set in a real world experience. This is new, challenging and sometimes frightening to them. Students often report frustration with other students and, of course, overcoming that frustration is part of the group assignment.

This transition in the college classroom from individual to group dynamics comes with many problems along the way. Students are used to and comfortable working alone. Teams that attempt a group project usually go through a series of mishaps before building cohesiveness within the team. Like life itself, we usually see the project based or experiential learning experience as new and exciting at first but soon the glow wears off and the hard work of team dynamics begins. "We all know that after the honeymoon comes the marriage, after the election comes the hard task of governing, after the ecstasy comes the laundry"². A student recently confided to me that team projects take some people skills that some do not possess. He, being an older student, felt much of this "agony" was related to team member ages and maturity.

Looking at organizational behavior in the classroom is a new and different approach. Interpersonal skills between the teacher and the students are changing to look more like that of a working organization. This is not to suggest that the teacher should develop a buddy arrangement with the students at all. This new dynamic between student and teacher is more one of empowerment than familiarity. I believe my students are coming to the understanding that their fate is in their hands, not mine and, in fact, their team can shine or not based entirely on their team's efforts. Human behavior and people skills are more important than ever in today's classroom. The teacher remains the teacher, whereas within the student groups things are changing. The group must develop a management environment in which the students decide which hierarchy works to best serve their mission. In some instances, it takes a new team weeks before they understand the mission because in a project learning setting even the definition of "the mission" has changed. An increasing numbers of students come to my office to talk more and more about

their group's dynamics and personnel interaction. More times than not, a student wishes to be moved to another group because his team members are "not pulling their weight". The good working groups quickly learn to organize, plan, lead and control, and these are the basic foundations of a working organization.

Organizational Behavior

Organizational Behavior is an applied behavioral science that is built on contributions from other behavioral sciences and applied to the office and in this case to the classroom.

The first of the contributing behavioral sciences is Psychology which is a science that seeks to measure, explain and sometimes change the behavior of humans. This is the first and most basic level and pertains to the individual, in our case the student. Here we are interested in learning theories and how boredom and fatigue affect the student's ability to learn. In a class of twenty-five students is a broad range of abilities, so one student is overwhelmed while another may be bored. This balance used to be the preveue of the professor only but has now become the preveue of the team individuals too. Classroom conditions, teacher's training, leadership within a group, motivation and means of appraisal (grading), all come into play for the individual. Although it's true that students never think their grade is enough, it is also true that students who feel they have been graded fairly usually accept their grade and if necessary seek to improve it. One of my case studies centers on a class that meets from 7 to 10PM in the evening in the early autumn. The classroom is very warm since there is no air conditioning. The class is a three hour lecture with a 15 minute break. Because of this, it is difficult for students to keep up the appropriate level of concentration so this class must be executed as a discussion rather than a lecture although it is all individual assignments and no team assignments. Sometimes the behavior of a student is more related to the circumstance (warm, late class) than to the classroom work being executed.

The second contributing science is Social Psychology and it blends input from Psychology and Sociology. It focuses on people's influence on one another. This second level has a great affect in the classroom. The students are usually young and heavily influenced by their peers. This part of organizational behavior focuses on the group, in the classroom, this is the team given a particular assignment. Here we try to measure and understand group behavior, power and conflict within the group and the end results as measured by the group's performance rather than the individual's. Students given a project assignment must work their way through behaviors and attitudes of the group members through communication and other group dynamic tools. Here the student is made responsible for his teammate's quality and quantity of work. Often enough, students writing a research paper as a group for the first time ask for more restrictive parameters so the group's members can eliminate this from their disagreement. For example, they want to know "how many words", or "how many sources". They would like these possible conflict interfaces to be eliminated by the professor.

The third contributing science is Sociology which is a study of individuals in relation to their social environment and culture. This is the study of group behavior and here we attempt to apply this to the team approach of learning and usually do this in the senior year. Group learning seems to be out of the grasp of freshman and even sophomores. The college classroom environment is different than the office and/or the industrial environment. A student sees another student differently than a work colleague sees another work colleague. Student competition is different than colleague competition. Students somehow understand competition when performing individual assignments in class and see their grade as a measure of how they fared. They do not seem to comprehend that any level of competition exists within their team as it might in an office atmosphere. They appear to try to convert their assignment in the team through some metamorphosis into an individual task and feel no responsibility for its seamless inclusion into the whole. As a result, some team written papers read like three or four individual papers written on a portion of the same topic. I often comment on their first draft that this does not appear to be one coherent paper

yet. Usually, this causes a rethinking of who amongst them is responsible for blending everyone's writing style into one coherent paper.

The fourth contributing science is Anthropology and since this is the study of societies, it does not contribute to the study of group dynamics in the classroom except as far as the cultural differences contribute to the team approach which is beyond the scope of this paper. However, I should state here that Farmingdale State College is a highly diversified population therefore there are many cultural differences but they seem to not matter when the team makes the metamorphosis from four individuals to one team.

Project Based Learning and Experiential Learning

Project based learning entails the students working in teams on a particular project. Experiential learning places the focus on assigning a real world problem for the team to solve. This is best accomplished when the team is required to produce a final package which will be graded and judged. This forces every member of the team to be a shareholder in the final result. A typical package is a Capstone Project or a Research Report to be written and then orally presented to their peers. Defense of their conclusions is made to the class. Peer review comes into play here. The team understands that their grade is decided on the total package of work, not the individual's contribution, but that each contribution contributes to the whole package. Most students ascertain a deeper knowledge of the subject matter, improve their researching abilities, both library and internet, and reach a higher level of self-direction and motivation. It is this new level of self-direction and motivation that carries over into the next arena and makes the student more than he might have been. Let us not think this is for all students at all levels. Most college students need some time in college and some direction from the professor to get this process started. Professors who empower their students early start them on the road to fulfillment of this greater self.

Experiential learning is the process of immersing the students in active roles in a real activity and showing this student that their work has real consequences. This might be a medical student, a law student or an engineering student doing his internship. Since it is sometimes difficult or even impossible to engage your students in a real life situation, the professor may use games, simulations, role playing or even story telling. Operational Research theories, such as queuing theory, can be used to intrigue the students into what they know to be a real life experience. At Farmingdale State College we use two person senior projects called Capstone Projects to bring the seniors attention to a real and complete project. We ask outside people from the industry to evaluate and comment on this project. We are trying to change the way we view knowledge. We are trying to make our classroom a place of student action where the student creates knowledge as well as gathers knowledge. Experiential learning requires one on one consultation with the professor, visits to off campus sites to see the "real thing", small discussion groups within the team, and student on student coaching. These methods cause an elevation of student anxiety over the new learning techniques being used. Students need time to adjust. The sooner we start them on this new path, the better.

How do we accomplish this? Students need to come to the understanding that they are self learners and not just the recipient of knowledge from the textbook or the professor. This is a "mind-set" change even more than a physical change in how we do business. Students should come to college with this mind-set but they do not. High schools are not yet preparing them to "take-the-lead" in their education.

Students must be encouraged, not taught, to think critically, and creatively, that is to say, outside the box. That doesn't mean a research paper should just ramble with no place to go. "Research begins, after your original tentative choice of subject, with your preliminary search for material, and the preparation of a preliminary bibliography"⁴. In other words, we need somewhere for the student to go and in this he needs guidance. The thinking outside the box and individual creativity can begin but only within a structured

framework and that must come from the professor. Students, at all levels, will need to be empowered within a particular structure so they can move ahead in a comprehensive and straight forward line. Student teams jointly writing a lab report need guidance on the format of a lab report. We seem to have come full circle here encouraging the student to self teach but to do so within the team framework.

Team skills are another step up for the student from individual skills. Some teams naturally jell and some don't. Even team ethics are on a higher plane and team participation is paramount. Communication seems to be the key. When I assign teams, I do so randomly. The students then can request a team change but only before the topics are assigned. The number one reason for a requested team change is logistics and communications. Dorm students want to be with other dorm students so they can meet logistically but also because they tend to be similar to one another and can communicate better. Older students, usually commuters, tend to have similar communication skills and prefer to be together. Having said this, I always make sure that every team writing a research paper has students from both populations and, where possible, is culturally diverse.

Case Study Comparison

Every autumn, I teach two classes in parallel and I keep notes on how they compare. Both classes are for upper classman and both are in the Construction Management Curriculum. The same students are in both classes to a great extent but not completely. Also, one class is for juniors and the other is for seniors, usually just before they graduate. Both of these classes are taught at night, are three hours long, are in similar facilities, and have an excellent text book. Each class requires a great deal of reading and note taking.

The first course is CON301, Construction Methods and Equipment and I teach this class very much on an individual basis. By now they're not freshman so the class is more informal and tends to more discussion trying to minimize pure lecturing. There are no team assignments. All the work is individual. My comparison to the second course is not completely analogous because this class has some problem solving and the other does not.

The second course is CON401, Construction Management and CPM Scheduling. This course is taught completely on a project or team basis. This is a writing intensive course so their assignments are not problem solving but low stakes and high stakes paper writing. Their homework assignments are typical "low-stakes writing" while their research paper is truly "high-stakes writing" with all the appropriate research responsibilities that go into an "original" work. Their research paper often shows me the inner working of their team. The students are seniors and able to handle the responsibilities put on them in their own team arena. They work as a team to research and present a full term paper. This paper is first presented as a written assignment and then they present it orally and must defend their findings before their peers. "No amount of skill in writing can disguise research that is poorly designed or managed"⁶. Their peers tend to hold them and their research to a higher standard than the professor might dare. The discussions after the oral presentation of a group's work are sometimes long and even heated.

Success and Failure

Before I talk about success and failure, let me point to some other factors that I believe affect the results.

First, the class size in both instances is about the same. Research indicates that within a reasonable limit (about 25 students), class size does not have a great effect on project based learning. It seems to become an issue beyond 25 students or at a lower number when the subject matter is of a more highly technical nature. Number of students is, of course, of paramount nature when the team assignments requires technical equipment such as a laboratory class.

Secondly, student maturity plays a role in project and experiential learning. Freshman, right out of high school, are used to being spoon fed information and not too much in each spoon. Project learning throws them for a loop. Too much in one package cannot be handled. “Head learning or any single mode of learning is best done in short cycles”⁵. Application to freshman of experiential learning was a complete failure in the project learning atmosphere. On the other hand, both the juniors and seniors in these classes seem to relish being given more and more responsibility while maintaining all their other relevant tasks. The motivational level required to perform in a team atmosphere is not there in the freshman class.

Another factor, not completely resolved is the issue of class make-up. In the Construction Management Curriculum, most of the classes are male dominated. A class which includes female students seems to energize the seniors, where as in a class of lower level students, there seems to be more of a social effect and less of a scholarly effect. In upper level classes where the students are older and presumably more mature, the female students are often the team leader and often put in more time and effort than their male counterparts. The best teams seem to have balance.

Having said all of the above, project and experiential learning are a great success in the senior class CON401 and the junior class CON301 will move more toward this type of assignments next year. Until students are taught this way in high school, the freshman will not be ready for this work. It is debatable whether we should throw the freshman directly into project and experiential learning techniques on a sink or swim basis. Perhaps there must be an intermediate step after high school in the college freshman’s first year. In the first year, a college freshman should experience a slow movement from individual learning to team projects. Most likely, this will increase the drop out rate and running a college is a business but it might be worth it. The end result will be a better qualified college graduate.

Learning Improvements

The classroom attitudes, especially the teacher’s, must change. The professor must set the tone for this type of experiential and project based learning. Students must be empowered to feel they have a real stake in this team outcome. When this is set successfully, even grades become less important while students make their way through a project with their team. The students report a better feeling about project learning after having successfully completed a Capstone Project or a Team Research Project. The same students when asked before they have attempted this project learning are usually negative on this subject.

Let me first comment on the professor’s personality and values. This is a major change from the way we used to do business. Empowering the students takes some effort on the professor’s part. As far as the students are concerned, their personalities and values usually blend together in the team almost naturally. There is always the student who sees being part of a team as a chance to do less but most respond as if this is a chance to do more. Our curriculum is multi-cultural and cultural background seems to have little effect on team dynamics.

What does have a big effect on team dynamics is team communications. This seems to automatically take care of itself if the students choose their own team members. Team communications seem to be less smooth when the students do not pick their team members. Peer pressure appears to be the governing factor here. In fact, peer review appears to be the single most important aspect of team learning after communications.

Conclusion:

Having said all of the above, I then took an informal student survey and asked the students to tell me their preference between team project assignments and working alone.

The students overwhelmingly preferred individual assignments over team project assignments. This was the prevalent opinion of students without regard for student maturity (freshman vs. seniors), cultural background, male or female, et al. The students reported they are very busy (most students work at least part time) so individual assignments were preferred. We have a long way to go.

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