ENCOURAGING "ESTABLISHED" FACULTY TO ADOPT A "NEW" GAMES AND SIMULATIONS PEDAGOGY

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ABSTRACT

This paper describes a training session to introduce faculty to experiential learning techniques as an alternative to passive learning pedagogies. This training session was conducted during a teaching conference at a large mid-western university and used a "learning by doing" method to demonstrate to faculty from many different disciplines the use of games and simulations in the classroom. Two experiential exercises were used to demonstrate communications-based learning and critical thinking objectives to demonstrate how simulations can be used across multiple disciplines.

INTRODUCTION

The Association to Advance Collegiate Schools of Business (AACSB) is the premier accrediting body for colleges of business and one of many bodies that have mandated educational reforms intended to move institutions away from teacher-centered education and refocus them on student-centered education (AACSB, 2009). The use of games and simulations has been shown to provide effective and efficient teaching and learning, but many faculty members in all disciplines lack the knowledge to use such techniques and have little or no access to learning how to use them. There may also be some faculty resistance to changing the status quo and existing "tried and true" methods. The opportunity to demonstrate games and simulations occurred at teaching conference that was convened at a large public university. The purpose of the conference was to introduce both new and experiences faculty to various types of active learning and critical thinking pedagogies.

LITERATURE REVIEW

The benefits of experiential learning have been known for some time(Wolfe & Byrne, 1975), but some faculty still are reluctant to adopt more active pedagogies (Goosen, Mauri, Richie, & Wolfe, 2001). People are creatures of habit, and after a "new" faculty member finally figures out how to teach a class "properly", he or she can be reluctant to adopt new pedagogical approaches that would require a new learning curve for the instructor. Some faculty members actively seek to discover different methods that work for both themselves and their students, but learning these new techniques take time, and some may find it difficult to commit more of their already limited classroom time to experimentation. Faculty with longer tenure can be more set in their ways than junior faculty because they already know the "best way" to teach the material. Older faculty also seem more inclined to passive teaching methods involving lecture, self study, demonstration, and examination. The use of dynamic experiential learning techniques must be advocated if faculty members are to be made aware of the potential benefits.

Wolfe and Byrne also identify the importance of the debriefing portion of any experiential exercise (Wolfe & Byrne, 1975). The debriefing creates the context of the intended learning objectives and emphasizes where and if the learning took place. Without the debriefing participants may not develop the linkages between their actions during the exercise and observations of those activities and the intended learning objectives. The debriefing teaches participants to apply course based concepts and theory to real world action in a way that makes "learning by doing" possible. It is absolutely essential that sufficient time be allocated for a thorough debriefing.

This paper describes a training session that introduced games and simulations to a diverse group of faculty members in an attempt to encourage the adoption of experiential learning methods. The session employed a "learning by doing" methodology in which faculty participated as students in activities designed to teach course concepts to show how active learning methods can be used in the classroom. Two experiential exercises were used to demonstrate different type of learning outcomes. Both exercises featured communications-based learning objectives and were chosen because communications-based learning objectives are applicable across a wide range of disciplines. "The Market Game" is a simulation used to teach communications in the context of various market

structures (Brozik & Zapalska, 1997). "Its Puzzling" is a game for teaching students about passive and active communications in the context of market cooperation and competition (Cassidy & Brozik, 2006). The goal of the teaching session was to stimulate interest in experiential learning by involving the participants as learners as well as teachers.

DESCRIPTION OF THE TRAINING SESSION

The training session consisted of a two hour block of time in which both experiential exercises were conducted. Initially 27 participants signed up for the session and 32 actually attended. Each exercise was allotted 50 minutes including 40 minutes for the exercise and 10 minutes for the debriefing. The debriefing conducted for each exercise demonstrated how to conduct a debriefing and emphasize the learning objectives for each exercise. An overall debriefing of the training session lasted 20 minutes and included a broader discussion of games and simulations and how they can be used as part of an established class.

The Market Game requires groups of participants to trade with other groups for goods within an unknown market structure. In this case, the market chosen was livestock because most people can understand the concept of trading a horse for a cow or some chickens. One important concept in the game is "price discovery". The participants have no prior knowledge of the value of their holdings, and the game is usually constructed so that some non-intuitive price structures exist, say a duck is worth ten horses. This is a barter economy in its simplest form. In developed countries, people are more dependent on currency for the exchange of goods and services and the lack of currency makes the task of trading more difficult. The first time most participants play this game, they assume that there is an invariable or fixed price for goods and that it is only necessary to find the true price. With each trade, the participants increase their knowledge of the market structure and revise their opinions of the value of the various commodities. This dynamic aspect of the market is the first time that many of the participants actually participate in negotiating prices.

The primary theme of the Market Game deals with communications skills. All participants must seek out and identify relevant information concerning the supply and demand in the market for their various items and translate that information into a trading strategy that will enable them to maximize their wealth. Each new piece of information changes the pricing structure of the market, and participants necessarily operate with incomplete information and make suboptimal decisions. A further though less noticed aspect of the game is the recording of information to create a record of transactions. Participants who have business training and experience with accounting concepts routinely fail to create a record of transactions that can be used to audit their trades. In virtually all cases, the class winds up

losing or creating trading items; in this case animals disappeared or were born during the session. The trading techniques are also subject to scrutiny. Teams that dash head first into the market make trades with no information and often swap shortage items for surplus items with no idea of the relative worth of each item. Teams that wait to collect information before trading often find that the things they need are no longer available. There is a tension between action and knowledge that creates an atmosphere of dynamic interaction where people who think they know what is happening realize that they are not in control.

This version of the Market Game was similar to previous sessions. Though participants held advanced degrees, they made the same mistakes made by college freshmen. Their behavior was virtually identical to that seen before, and their use of simple bookkeeping was just as flawed. The debriefing of the session highlighted the good, the bad, and the ugly aspects of their trading and showed the importance of developing and applying communication skills. The debriefing focused on mistakes that were made, and a few participants were at times a bit defensive of their actions, but they listened to the comments and were able to recognize the validity of even less-than-complementary observations. Overall, the game was well received, and some participants requested materials so that they could conduct similar exercises in their own classes.

It's Puzzling asks participants to perform a simple task, assembling a children's puzzle. Participants are divided into teams, and in each round the team that completes the task first is declared the winner and receives a certain number of points. Each round imposes barriers that make the task more difficult and force participants to adapt their behavior to changing environmental conditions. Each barrier is designed to highlight an aspect of communication that is often taken for granted, and once this barrier is established, participants must use their creative thinking abilities to compensate for the new, more restrictive conditions. Communications skills are multilevel and include verbal, aural, visual, and tactile factors. By systematically removing these factors, participants are able to identify the wide range of skills necessary to communicate with team mates in order to achieve the assigned task.

Each team is given a large bowl that contains the pieces to a simple child's puzzle. The task of the team is to assemble the puzzle on a table on the other side of the room. Two general rules for all rounds are that participants can only handle one piece of the puzzle at a time and that no excess puzzle pieces are allowed at the work site; if the piece does not link to a piece already at the work site, the participant must wait until enough pieces are linked so that the piece can be played, or the pieces must be returned to the bowl. In the first round, players are required to use their non-dominant hand; all other forms of communication are allowed. This is an easy round designed to accustom the players to the game. The second round requires the players to assemble the puzzle in silence; any vocal sounds result in a penalty of removing a piece from the puzzle and returning

it to the bowl. The second round makes the participants realize how important vocal communications are to any group problem solving process.

Participants are divided into pairs within the teams for subsequent rounds. In the third round, one member of the pair is blindfolded, and this is the only person who can touch the puzzle. The sighted member of the pair must lead and tell the puzzle builder exactly what to do. The sighted person is allowed to touch the puzzle builder only on the upper arm to provide guidance. This round demonstrated the major role that vision has in communications and problem solving. The blindfolded and sighted members of each pair change roles for the fourth round. In this round, no vocal communications is allowed. Participants are given one minute to create a system of hand signals so that the sighted member can tell the blindfolded member how to place the puzzle piece. This highly restricted round shows how the various types of communications skills actually reinforce each other in practice. The scores assigned to the wining team get progressively larger with each round (the exact values are unimportant). By the fifth round, it is possible that one two teams have sizable leads, so it is important to assign a point value to the final round that is greater than the highest existing team score in order to keep all participants involved. The fifth round returns to the rules of the first round, and all forms of communication are allowed. What has changed is that the assembly area for the puzzles has been moved to the floor in a corner of the room, and all assembly areas are within a few inches of each other. The close proximity of the assembly areas and the "winner take all" nature of the last round bring out highly competitive behavior on the part of the participants.

The educational attainment of the participants once again made little difference in the conduct of the game. The first and second rounds went relatively smoothly. The third and fourth rounds required a level of coordination and cooperation that was similar to that seen in sessions conducted with undergraduate students. Round five tends to bring out very aggressive behavior, and so it did here. The competitive nature of the players resulted in pieces of someone else's puzzle being "missing" or the assembly process of a neighboring puzzle being disturbed by an "accidental" bump. No physical blows were exchanged, though some players seemed to be considering doing so. The debriefing session focused on how each round focused on some aspect of the communication process and how participants adjusted to the restrictions imposed. The participants again had the opportunity to make observations about what they had done and seen other people do. The systematic removal of communications factors caused the participants to recognize the independent yet interrelated nature of the process and created a better understanding for the difficulties faced by people who may suffer physical impairment.

OVERALL DEBRIEFING

The training session was designed to introduce faculty members to experiential learning techniques by making them participants in two separate exercises. While each exercise had its own contextual debriefing, the overall debriefing focused on the use of experiential exercises and what the participants had learned from the process. The discussion also identified ways to design new exercises or tailor existing exercises to meet the student learning objectives in specific courses and disciplines. The participating faculty members were encouraged to consider the use of experiential exercises in their classes and were given information on how to contact the session leaders for support in design and conduct of simulations for their specific classes.

Verbal and non-verbal feedback during the session suggested that the participants had little experience with experiential exercises. The debriefing discussion indicated that the participants had not considered using experiential exercises to teach in their respective disciplines. This characteristic was more pronounced in fields with an actual performance component. The disciplines in the natural sciences conduct lab experiments. Musicians play instruments. Nurses learn a substantial amount through on-the-job training. Several faculty members in these areas seemed to perceive experiential exercises as being too distant from the performance dimension of their discipline to be of substantial benefit. Others seemed willing to consider the benefit and only asked for help in clarifying that benefit.

Surveys were administered to determine how well the participants received the teaching conference and whether they felt that experiential learning was appropriate for their needs. Twenty-seven participants provided feedback. Respondents represented most colleges on campus and included the natural sciences, the social sciences, business, fine arts, and nursing. All twenty-seven respondents rated the presentation as either "Good" or "Excellent", with seventeen responding "Excellent" and ten responding "Good". Twenty-seven of the respondents and stated that they would recommend this type of training to others and twenty-six responded that additional training would be beneficial. Specific comments are listed in Appendix 1. The results indicate that while there may not be widespread understanding of experiential learning that instructors can see its value and would like to be able to use it in their own disciplines, when appropriate. It also seems that there is a need to educate instructors that experiential exercises can lead to topics like critical thinking can be treated at various levels in different exercises. The overall nature of the feedback was quite positive, especially when considering the previous background of the participants.

CONCLUSION

Games and simulations are robust teaching techniques that can be used in a variety of situations. These experiential learning methods are most frequently used in business education, but there is no reason that they need to be restricted to such applications. This paper describes a training session in which faculty members, both new and old, from various disciplines were given the opportunity to participate in two simulations that were designed around the general themes of communications and critical thinking. Though most participants had never before experienced this type of teaching, they all enjoyed the session, and some became more interested in using these techniques in their own classes. While not all disciplines are appropriate for such exercises, they can be used on a wider scale than they are now.

The landscape of college teaching is continually changing. Decreasing budgets and increasing course loads make it imperative that all teachers have access to the widest range of teaching techniques possible in order to create vital classroom learning environments. Experiential learning methods are one more arrow in the quiver of the instructor, and it is important that faculty members of all disciplines be aware of games and simulations. It is the responsibility of those with experience in games and simulations to introduce the broader faculty to the benefits of games and simulations. Doing so can only strengthen the bonds between faculty of all disciplines.

REFERENCES

AACSB (2009). *AACSB International-The Association to Advance Collegiate Cchools of Business*. Retrieved Nov 16, 2009, from AACSB International: http://www.aacsb.edu/

Brozik, D., & Zapalska, A. (1997). The market game: Interactive learning through market simulation. *Development in Business Simulation & Experiential Learning* , 24, 166-171.

Cassidy, C., & Brozik, D. (2006). It's puzzling: Communications Competititon and Cooperation. *Developments in Business Simulation and Experiential Learning* , 22, 191-196.

Goosen, K., Mauri, A., Richie, W. J., & Wolfe, J. (2001). Helping new game adopters: Four perspectives. In K. S. Pittenger, & M. J. Vaughan, *Developments in Business Simulation and Experiential Learning*, 28, 80-91.

Wolfe, D. E., & Byrne, E. T. (1975). Research on experiential learning: Enhancing the process. In R. Buskirk, *Business Games and Experiential Learning in Action,* 2, 325-336.

Survey Instrument
Appendix 1

Session respondents were asked the following questions
Q1: What is your department? Open Answer
Q2: Rank the overall quality of the Session/Presentation? Poor, Average, Good, or Excellent
Q3: Do you think additional training/presentations about this topic would be beneficial? Yes or No
Q4: Would you have recommended this session to others? Yes or No
Q5: What additional topics would you like to see offered in future teaching conferences? Open Answer

Survey Results

#	Q1:	Q2:	Q3:	Q4:	Q5:
1	Art and Design	Good	yes	yes	
2	Biology	Excellent	yes	yes	
3	Biology	Excellent	yes	yes	
4	Biology	Good	yes	yes	
5	Biology	Good	yes	yes	Teaching dynamics
6	Biology	Good	no	yes	
7	Chemistry	Excellent	yes	yes	If focused on non-sociology/econ disciplines would be useful
8	Classics	good	yes	yes	
9	Communications Studies	Excellent	yes	yes	not sure
10	Computer Science	Excellent	yes	yes	More Simulations and its implementation
11	Family & Consumer Sciences	Excellent	yes	yes	
12	Fine Arts	Excellent	yes	yes	Additional session not just to participate in the games and simulations but to learn how to teach them
13	Journalism	Good	yes	yes	good rubrics
14	Learning English for Academic Progress	Excellent	yes	yes	
15	Learning English for Academic Progress	Good	yes	yes	More applicable lists of games and activities
16	Marketing	Excellent	yes	yes	
17	Math	Excellent	yes	yes	
18	Modern languages	Excellent	yes	yes	Perhaps additional connections to pedagogy
19	Music	Excellent	yes	yes	
20	Nursing	Good	yes	yes	
21	Nursing	Good	yes	yes	
22	Political Science	Excellent	yes	yes	
23	Psychology	Excellent	yes	yes	
24	Psychology	Excellent	yes	yes	
25	Psychology	Excellent	yes	yes	
26	Psychology	Good	yes	yes	
27	Not Reported	Excellent	yes	yes	Ways to teach large classes and distance learning sites