

Increasing Global Awareness with Team-based Learning

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This paper describes utilizing team-based learning to present global concepts in an Information Systems course, MIT 310, in an AACSB Business School to help instructors design and revise courses and programs that increase students' global awareness. Drawing on teamwork and globalization literature, this paper reviews key themes in teaching/learning as it relates to both business school curricula, and, more specifically, information systems and technology courses. The paper concludes by discussing the implications for fostering global literacy via team-based learning and provides a framework that instructors may utilize in their revision of teaching materials in both business and information systems courses.

INTRODUCTION

Background

This paper describes utilizing team-based learning to present global concepts in an Information Systems course in a School of Business that is accredited by the Association to Advance Collegiate Schools of Business International (AACSB). The course, Managing Information Technology (MIT) 310—Business Information Systems and Technology--requires students to become members of a team that researched the use of Information Systems in a business organization within an international country. Each team member researched a company within an assigned country. Team members synthesized their results and made a group presentation to the class as well as an individual report for the professor on their international company findings. Employer and student surveys were conducted to determine the importance of global IT education to various stakeholders.

Significance of the Study

Information Systems faculty need to utilize pedagogical tools that enhance teaching/learning in information systems courses. Due to the prevalent use of teamwork in business and industry, business school faculty are expected to not only deliver relevant content but to also prepare students to work effectively in teams. Therefore, this paper seeks to combine instruction in globalization concepts through team-based learning. This, this paper illustrates the success of combining globalization with team-based learning to enhance the teaching/learning process in Information Systems courses.

Course Description

Managing Information Technology (MIT) 310: Business Information Systems and Technology engages students in the study of information systems and development concepts, information technology,

and business application software. MIT 310 is one of several breadth courses in Information Systems that School of Business majors can elect to complete their program requirements.

MIT 310 is an upper-level business course that students generally elect during their junior year. MIT 310 fulfills various learning objectives for Business majors. First, MIT 310 requires students to work in teams and demonstrate team leadership. Second, MIT 310 requires students to demonstrate decision-making skills by applying quantitative and qualitative reasoning in analyzing a problem or opportunity. Third, MIT 310 requires students to analyze actual business processes and problems and design practical solutions that achieve individual, group, and organizational objectives. Fourth, and most important, MIT 310 requires students to demonstrate an understanding of the structure of an information system and its associated architecture, the methodologies for developing information systems, and the use of information systems to support organizational goals.

MIT 310 builds upon the knowledge gained in the Introduction to Information Systems course. In MIT 310, students further extend their study of information systems and technology, and its impact on organizations by investigating information systems at a macro organizational level. In particular, students are exposed to international information systems and global business environments through a team-based learning team that is the focus of this paper.

LITERATURE REVIEW

Drawing on both teamwork and globalization literature, the literature review is presented in four sections to illustrate the need to present globalization concepts in various formats in colleges and universities including liberal education, but more specifically, business school and information systems curricula. In particular, the literature review notes that teamwork enhances the learning experience and provides critical skills when compared to a traditional learning environment.

Education and Globalization

The Association of American Colleges and Universities (AAC&U), one of the leaders in the call for a renewed look at how universities truly help prepare students for life, cites a need for global learning, to ensure that students receive "an education of lasting value." AAC&U wants students to become "intentional learners who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their lives." AAC&U states that colleges and universities should prepare students to live and work in a diverse global community. (Greater Expectations, 2002)

Business Schools and Globalization

Critics of business education point out that new skills are required for managing diversity, globalization, downsizing and restructuring; skills that are lacking in today's graduates (Mason, 1992). Business schools have long been criticized for not addressing the needs of today's global competitive business environment. Globalization, entrepreneurship, environment, change management, ethics, and human resources are all listed as critical areas of study for business school students to insure a solid and diverse academic background. (Mason, 1992)

Business schools have also been criticized for omitting training in skills necessary to developing the ability to function as a generalist rather than a specialist in business (Chanko & Roberts, 1996).

Likewise, Morris cites the importance of an international curriculum that is challenging as well as rewarding is essential to developing globally competent students and future managers trained to thrive in the increasingly diverse global economy. The development of new and innovative courses ensures that students are receiving leading business knowledge to make them globally competitive. (Morris, 2003)

Research also cites the importance of utilizing hands-on, experiential approaches in business courses to help students with little or no organizational experience to develop a better understanding of the connections between themselves and business (Lamb, Lee, & Vinton, 1997). Thus, team-based learning as described in this paper follows this model of providing experiential learning while gaining knowledge of working with global companies and countries.

Likewise, other business schools are educating students on international technology. In fact, Carmel and Mann (2003) describe an "IT Landscape Respository" that MBA students utilize to conduct research on Information Technology in various nations. In addition, at Old Dominion University in Norfolk, Virginia, the business school has made internationalization a major focus of its mission by offering a course titled, "Information Systems for Global Business." (Carmel, 2003)

Information Systems and Globalization

Information Systems (IS) is not exempt from this movement. According to Yellin, there are few university courses which deal solely or even largely with the issues of global IS. There is also a lack of shared knowledge about suitable content and pedagogy for instruction in this area. His research addresses this deficiency by describing a model course in global IS aimed at MBAs majoring in Information Systems. Furthermore, his research cites that both practitioners and government officials clearly believe that "international business is the wave of the future and that global IS is what makes this wave possible." (Yellin, 1998)

Klein states that the challenges inherent in developing, implementing, and supporting information systems in organizations with global operations have led to an increased focus on the incorporation of global issues in information systems curricula. Klein utilizes a spreadsheet team to integrate global issues in the introductory MIS course. After completing the assignment, students used a cooperative learning technique to examine global issues in information systems. Klein's research supports the need to cover global issues in business school curricula and, more specifically, to the importance of incorporating global issues in information systems curricula. (Klein, 1999)

Finally, the MSIS 2006 Curriculum Preview Committee concurs with the need to strengthen the emphasis on globalization in information systems curricula in its preview report. In addition, they recommend the development of courses that teach students how to apply information systems and technology to facilitate innovative, competitive, and global business solutions. (Gorgone, 2005)

Teamwork and Learning

The literature on teamwork is extensive and notes that the increase in teams in corporations has been dramatic over the last two decades (Applebaum & Blatt, 1994). Likewise, the use of teamwork in business schools has expanded to provide the skills that businesses seek from their new hires. Teamwork develops skills such as communication, collaboration, problem solving, and time management (Tarricone & Luca, 2002).

Numerous learning benefits accrue from group projects. Specifically, researchers note that greater learning through retention of information, improved student motivation, and development of critical reasoning skills occurs in teams as compared to traditional learning environments (Ashraf, 2004).

While the literature notes that faculty have incorporated teamwork and group projects into their curricula, it also suggests that business and professional schools need to train students on teamwork skills to maximize the learning experience (Deeter-Schmelz, Kennedy, and Ramsey (2002). In particular, Hansen reveals that when introducing student team projects, faculty need to emphasize the importance and relevance of learning teamwork and leaderships skills (2005). In addition, he notes that assigning reasonable workloads and clear goals, requiring assigned roles, requesting multiple feedback points, and using peer evaluations are critical for successful teamwork learning to occur (Hansen, 2005).

Research Methodology

Two sections of the course, Business Information Systems and Technology were chosen to participate in this research study. Both classes were taught by the same professor during the 15-week Spring semester of the 2005 academic year. All 56 students in both sections of the course were randomly assigned to a team comprised of four or five students. Students were introduced to a unit on globalization and information systems by the professor and were asked to participate in a team-based globalization project as part of the course requirements. To determine the effectiveness of teaching global concepts in a

team-based approach, a student evaluation instrument was developed and completed by all students at the end of the semester to rank learning outcomes.

In addition, a random telephone survey was conducted of potential employers as identified by the Office of Career Services. Employers with ten or more employees who had hired one or more graduates of the School of Business were randomly selected to participate in the survey. A total of 30 calls were made to employers to determine their interest in students acquiring knowledge of international information systems by utilizing team-based projects.

Team Description

All enrolled students in Managing Information Technology 310 during the 2005 academic year were randomly assigned to a team comprised of approximately four or five students during a typical 15-week semester at the college. Teams are introduced to the team by the professor and shown completed teams by students from previous semesters to gain an understanding of the depth and detail of the team as well as the team's time constraints. The team's first assignment is to identify a country that they would like to investigate in the area of Information Systems. Teams are advised to do some preliminary research to insure that all team members are in agreement before submitting their international country choice for the team. In the event that another group within the class selects the same country, groups are requested to reconsider their selections to insure that each group researches a unique international country. Typical international countries that have been selected for this team include Germany, Australia, Italy, France, England, Japan, Canada, Ireland, and Brazil.

Each team member of an international country (Team France, Team Germany, etc.) is required to select and investigate an individual company—using library and internet resources—within the country to synthesize their findings with other members of their team. Teams can opt to tailor their research to one industry, such as automotive, or to select a different industry for each team member. While the majority of students enrolled in MIT 310 have had prior experience working in teams, students reactions to the international assignment were generally positive although many admitted to having some initial reservations based on the uniqueness of the team.

Team Deliverables

Each international country team is required to organize a group presentation to the class on their international country findings. The team is required to prepare a PowerPoint presentation that includes web-based company research to illustrate their findings to the class. The group oral presentation requires all team members to participate in the group presentation. Typical format for group presentations include an introduction to the international country, individual company presentations, and a summary of the information systems in the international company that was researched.

While all team members are required to present their individual company findings, international teams are encouraged to select various individuals within their group to present the introduction and summary sections of the presentation to the class. Team members are instructed to select those students who are most effective in oral reporting to lead and summarize the international team's presentation. Group presentation vary in time but typically last anywhere from 30 minutes to 60 minutes in length. Finally, the team's PowerPoint presentation is required to be submitted to the professor on a disk for review and grading purposes.

In addition, each team member submits an individual paper to the professor on their company findings. The individual report requires students to present their own research in a structured research paper format that is assigned by the professor. A summary section in the individual report requires that students synthesize their research findings with other team members. Such a synthesis includes a summary of the country's information systems detailing the strength/weaknesses and similarities/differences with other team members' companies in the selected international country. This required individual report insures that the student has completed their individual contribution to the team and allows the professor to assign an individual grade to the student contribution to the team effort.

Thus, two distinct team deliverables are required: a group presentation of the information systems in the assigned international country and an individual research paper of the specific company researched within the international country. In addition, all group members complete peer reviews of their team members which provide important feedback to the professor when determining team contribution grades.

FINDINGS

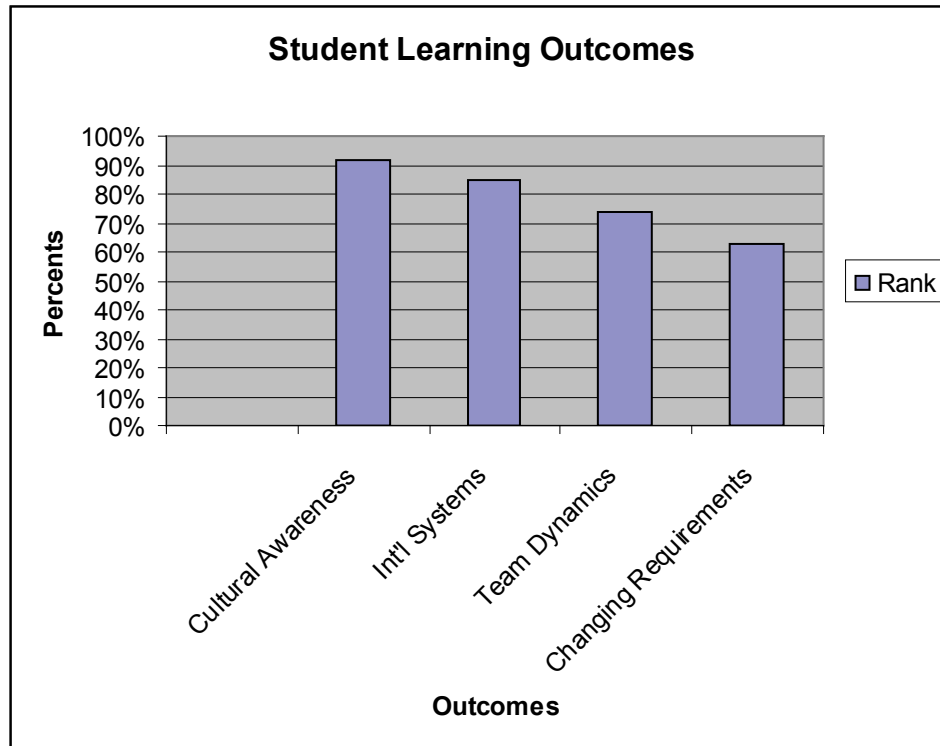
Employer Survey

To ascertain if employers felt that graduating business students should study international information systems, a random telephone survey was conducted of potential employers. Employers with ten or more employees who had hired one or more graduates of the School of Business were randomly selected to participate in the survey. A total of 30 calls were made to employers to determine their interest in students acquiring knowledge of international information systems. Seventy percent (70%) of the employers felt that knowledge of international information systems was essential. In addition, all the employers (100%) remarked that any study of international business and global concepts would provide students with an edge in today's global marketplace. In particular, employers commented that they liked the use of teams to learn globalization concepts. Thus, the employer survey concluded that both Information Systems students as well as Business School majors benefit from learning global concepts in a team-based environment in an Information Systems course.

Student Survey

Upon completion of their International Teams, students were asked to rank the learning outcomes they attributed to the assignment. Using a rating scale of Most Important, Important, and Least Important, MIT 310 students were asked to rank the learning outcomes they acquired from their participation in the international team teams. The learning outcomes included in the survey were Changing Requirements, Cultural Awareness, International Information Systems, and Team Dynamics. MIT 310 students ranked Cultural Awareness and International Information Systems knowledge as "Most Important," Team Dynamics as "Important," and Changing Requirements as "Least Important." Further discussion with students regarding their ratings revealed that, in general, students are required to work in teams in various business courses and thus, team dynamics is viewed as "Important" rather than "Most Important" because of their increased team work experiences. In addition, the designation as "Least Important" to Changing Requirements appears to match their perspective on change, i.e., it is a fact of life and does not really faze them as much as older adults who are typically more resistant to change. Figure 1 below presents the student learning outcomes. The following section describes the learning outcomes attributed to the international teams in more detail.

FIGURE 1



Learning Outcomes

Cultural Awareness

International Information Systems teams enable students to experience the culture, language, economic, and political realities of an international country without the expense of traveling abroad. Groups become immersed in the culture of a country and present their findings to other class members. Students learn about the people, their occupations, lifestyle, and the corporate culture of the various international companies that they investigate. Culturally diverse workforces have the potential to solve problems better because of the different perspectives that are brought to bear on an issue (Carr-Ruffino, 2003).

International Information Systems

In addition to the cultural awareness, students learn that information systems in foreign countries contain both similarities and differences to comparable United States companies. Student reports include descriptions of the international companies' hardware, software, network, communications, and intranet and internet architecture. Descriptions of the corporate mission, policy, procedures and organization are typically included in the team teams. In addition, student reports provide a detailed look at a company's products and services as well as their financial condition. Employment requirements in information systems, position descriptions, and end-user support services are typically detailed and compared with American organizations

Team Dynamics

Team work is an integral part of today's organizations. Employees are required to work in team teams and learn the essentials of team dynamics which include interpersonal, communications, and problem-solving skills. Thus, students working in team teams gain experience in team dynamics which are a

requisite business skill. At various times, team members are faced with uncooperative or autocratic individuals that must be dealt with. Dealing with difficult situations in team teams is an experiential learning situation. Members of the group learn how to deal with unusual situations and/or difficult individuals as part of the learning experience. Occasionally, difficult or uncooperative individuals require team members to make decisions regarding individual group members.

Dealing with unusual situations requires both problem-solving and interpersonal skills of team members. Teams are encouraged to seek the advice of the professor should intolerable situations present themselves. Teams are given the power to “fire” an individual should their performance warrant that action. However, teams are advised to provide adequate notification to an individual in the event that the team deems an individual’s performance to be lacking.

Changing Requirements

Another valuable aspect acquired by students working in teams is the experience of dealing with changing or fuzzy requirements. Changing requirements can refer to any changes that occur in the team due to group dynamics, limited resources, or instructor directives. Fuzzy requirements include unclear or changing conditions that often exist in the workplace. Learning to deal with changing conditions and/or unusual circumstances is another desired experiential learning skill that students acquire when working with team teams. For example, students encountered difficulty in websites that were in foreign languages and had to use translators and other resources to decipher the information. Harris and Moran (2000) report that leading business schools are now rushing to include international and intercultural education in their curriculums because learning to manage people from different cultures is attractive to both business students and recruiters.

CONCLUSIONS

Globalization literature illustrates the importance of educating the next generation of graduates to perform successfully in global markets and societies. Furthermore, the literature on globalization emphasizes the need to increase multicultural awareness and global-mindedness in business schools and information systems curricula. Overall, the literature review concurs that preparing business students and IS students for an era in which information systems are largely oblivious to national boundaries is critical to future employment success. Finally, coverage of global issues is also mandated by AACSB standards for the accreditation of Schools of Business.

Due to curriculum requirements that limit course offerings, a separate course in International Information Systems is not always feasible in many graduate and undergraduate business schools. However, knowledge of international information systems can be incorporated in Information Systems courses via team-based learning.

Utilizing team teams and student research to learn international information systems is a valuable educational tool. Teamwork provides students with essential experiences that will benefit them in their future employment. Learning interpersonal, problem-solving, and communication skills—both written and oral—are vital ingredients for successful employees.

Learning how to deal with change while working in a global marketplace are essential elements students can offer to future employers. Employers stated unanimously that any instruction in international business and global concepts provides students with an edge in today’s global economy. Likewise, students ranked the learning outcomes of cultural awareness and international information systems as “Most Important” while also ranking team dynamics as an “Important” learning outcome acquired from the international teams. The end of the semester assessment provided additional anecdotal information that provided insight into the success of students taking Business Information Systems and Technology.

Information systems students gain confidence in the knowledge acquired from the international teams. The similarities and differences and strengths/weaknesses analyses of the team’s international companies provide a rich reservoir of information for all class members. Providing such experiential learning teams in an information systems course enables students to compete in a global workplace.

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