

EXPERIENCES OF FACULTY AND LEARNERS PARTICIPATING IN A DISTRIBUTED LEARNING ENVIRONMENT

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Abstract

The purpose of this study is to investigate the experiences of faculty and learners participating in a project-based distributed learning environment, the MBA Without Boundaries program, at Ohio University. The qualitative data were collected through interviews with 54 learners/program graduates and 12 faculty members, participant observation during residencies, asynchronous interactions in the program's databases, and document analysis.

Both faculty and learners consider that teamwork skills, communication skills, computer skills, and tolerance for ambiguity in the project problems are needed to teach and to study in a project-based distributed learning environment. Self-discipline and time management skills are significant for learners as well to make commitments in a distributed learning environment.

The time and place flexibilities of the online environment, adult learners with different business backgrounds, and the combination of online interactions with residencies are reported as the most important advantages by both faculty and learners. Also, active participation in the learning process, experience with authentic problems, and transferability of learning issues to the work place are significant for most learners. Faculty members consider the creation of a learning community with motivated adults, and the experiment with project-based teaching in an online environment to be other advantages.

The learners (13 out of 54) report the teammates who do not make enough contributions to a team project as the most common problem. Some learners complain about the distance barriers and technological failures due to modems and local Internet service providers. Also, several faculty members are concerned about the workload and the time they devote to the program. However, most learners and faculty highly value the program and feel positive experiences outweigh the disadvantages. A combination of project-based approach and distributed learning complements the teaching and learning activities, and this combination is more effective in active learning than a simple delivery of a course content through the Web.

Introduction

Computers and telecommunication technologies have promoted the development of the Internet and new media such as the World Wide Web, hypermedia and virtual reality. These media have enabled teachers and learners to experience new types of communications, interactions and experiences. Interpersonal interactions across the network channels, for instance, lead to the formation of online learning communities. New educational approaches, e.g., project-based learning, empowered by the recent media, messages and experiences have caused an evolution of distance education into an alternative schooling: distributed learning (Dede, 1996). Seidel and Chatelier (1994) define the term distributed learning as "multi-way knowledge dissemination among teams crews, etc." However, in this study the researcher adapts the definition of distributed learning as an educational format that involves multidimensional interactions (e.g., collaborations, discussions, feedback, lectures, etc.) among teachers and learners, at a distance, utilizing a variety of computer and telecommunication technologies.

The field of distributed learning has a lot of potential for educational purposes and lifelong learning. Although some studies are emerging, most current research is about course-based distance or distributed learning environments. Thus, in this study the researcher investigated the experiences of faculty and learners participating in a project-based distributed learning environment, "Master of Business Administration Without Boundaries (MBAWB)" program, at the College of Business, Ohio University.

The Ohio University MBAWB program, launched in March 1997, is an online learning community on the Internet. The program uses a problem-based learning format with a theoretical base in cognitive constructivism that involves the learner in projects and work situations (Milter & Stinson, 1998). There are nine major learning projects. Seven of them are

group projects and two are individual projects. Each project begins and ends during a residency period. During the two-year commitment, the learners come to the Ohio University Athens campus every three months to present their projects and to be introduced to the next project (Milter & Stinson, 1998). There are three one-week-long residencies, one in the beginning, middle and end of the program, and three extended weekend residencies during each of the two years. Residency periods concentrate on development of interpersonal skills (e.g., presentation, leadership, communication, technology skills, etc.), project presentations and deliverables, evaluation of project deliverables, assessments of student learning, and introduction of the next project. Once the project plan is set up and the teams are formed randomly for a project, the learners leave the campus in order to do online interaction and collaboration on their projects through the electronic databases on the program's Intranet. They do not see each other for three months until the next residency (Milter & Stinson, 1998).

Research Question

The research question of this study was, "What are the experiences of faculty and learners participating in a project-based distributed learning environment (DLE), MBAWB program, at Ohio University, and what is the meaning, e.g., values, thoughts, they give these experiences?"

Specifically, the researcher investigated: (a) faculty members' teaching experiences, (b) how teaching in a project based DLE is different from teaching in a conventional classroom environment, (c) roles and skills that are necessary to work and to teach in the program, (d) kinds of problems faculty have in this program, (e) advantages of teaching in a DLE, (f) disadvantages of teaching in DLE, and (g) extent to which faculty value their experiences in the program.

In addition, the researcher wanted to gain an in-depth understanding regarding learners' experiences in the program, and the meanings (e.g., values, thoughts) they give these experiences. The researcher investigated: (a) learning experiences, (b) how learning in a project based DLE is different from learning in a conventional classroom environment, (c) kinds of skills and roles that are necessary to study in the program, (d) the kinds of problems they face in the program, (e) advantages of studying in a DLE, (f) disadvantages of studying in a DLE, (g) extent to which the learners value their experiences in the program.

Methodology

The research methodology of this study is based on qualitative inquiry, which helps investigators understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible (Merriam, 1998). A qualitative research methodology, field investigation, was used to collect related data to answer the research question. The field investigation approach employed four sources of data: interviews with 9 faculty members, interviews with 54 learners and program graduates, fieldnotes from participant observation during the residencies and asynchronous online interactions among the faculty and learners, and document analysis about the program. Also, triangulation of data from these different data sources was applied to achieve trustworthiness (Denzin, 1989).

The research was conducted from July 2000 until middle of December 2000. When the researcher conducted his research the program had three classes identified by the starting dates: March 1999 class, December 1999 class, and July 2000 class. There were 67 continuing learners in these three classes during the data collection period. However, since the researcher included two graduated classes, March 1997 class (22 learners) and February 1998 class (20 learners), the target population of the research was 109 learners and program graduates, but the researcher was able to interview a total of 54 participants and 46 of them were interviewed twice. A majority of the learners (42) were interviewed through e-mail. Also, 7 learners wanted to have face-to-face interviews when they were on-campus, and 5 of them wanted to have telephone interviews. All the face-to-face and telephone interviews with the learners were recorded after the permissions were given by the interviewees.

In addition, there were 13 faculty members who taught in the different projects from the March 97 class until the third project of the July 2000 class. The researcher was able to interview 12 faculty members in face-to-face meetings, and 9 of them were interviewed twice. However, two faculty members did not wish to record the interviews.

The collected data were analyzed through the category construction method that consisted of organizing the data sources, reducing the text and generating conceptual categories, themes and patterns by coding units of the data (Bogdan & Biklen, 1992; Merriam, 1998). Then, the researcher reported the data around the themes, patterns and categories generated during the data analysis.

Findings

The learners and the faculty members addressed a set of various experiences: residency experiences, experiences at a distance, communication and online interactions, and teaching and learning experiences. The learners and the faculty also identified some differences between the MBAWB environment and regular classroom environment. They discussed some skills that are needed to teach and study in a project-based distributed or online learning environment. Furthermore, they addressed some problems, advantages, disadvantages, and challenges and difficulties of teaching and learning in a project-based distributed learning environment.

The residencies in the MBAWB program are social and educational meetings, in which the learners and the faculty have opportunity to do some activities (i.e., launching a project, developing a project plan, presenting a project, interacting at social settings) that are difficult to do online. Many faculty and the learners thought that residencies are necessary component of the program since residencies allowed the them to know each other better and to develop more effective and in-depth online interactions.

The experiences of the learners at a distance consisted of library and online research, online collaboration and project-work. Most learners mentioned that they work on their commitments late nights and weekends since they are busy with their other responsibilities during the day. Also, both faculty and the learners reported that they take their laptop computers with them when they travel or go on a vacation to join and follow the discussions in the electronic databases.

Communication and interactions among the learners and the faculty were held mostly through discussion and project databases when they were at a distance although the other options of both asynchronous (e.g., e-mail) and synchronous (e.g., Microsoft Netmeeting) communication available. The learners used synchronous communication tools when they needed to reach a consensus as a team, other times they used their team discussion databases. The learners and the faculty used e-mail and telephone for individual and personal interactions, but all other academic interactions were held in the databases because of the time and place independence and encouragement of the faculty so that they could monitor the directions of the discussions.

The teaching and learning experiences in the MBAWB program were associated with experiences found in a constructivist learning environment. The faculty members described their teaching experiences as coaching, guiding, and facilitating the learning rather than lecturing and directing the learners through the process. The learners described their learning experiences as project-based learning, self-directed learning, practical learning, applied learning, hands-on learning, experiential learning, team learning and individual learning. Most learners considered their learning experiences as a combination of project-based, self-directed, individual and team learning experiences. The learners also mentioned that they were active participants in the teaching and learning process and more responsible for their learning in comparison to the traditional classroom learning environment. The learning experiences were meaningful for most learners since they were able to transfer and apply their learning issues to their work place and real-life. In addition, several faculty members discussed that they gained new teaching skills after their involvement in the project-based teaching environment.

Also, the learners addressed the skills to study in a project-based online learning as time-management, self-discipline, teamwork, communication, computer and tolerance for ambiguity. The faculty members discussed the skills to teach in the program as coaching, guiding, communication, basic computer, teamwork, and skills to deal with ambiguous situations. The findings of the study indicated that some of the skills (i.e., teamwork, communication, computer, tolerance for ambiguity) were the same for both the faculty and the learners.

The learners identified the teammate problem as the most common problem. Twenty-four percent of the learners (13 learners out of 54) mentioned a teammate problem. Also, some learners discussed the other problems as: the lack of face-to-face interactions online, technological failures due to insufficient local service providers and slow modems, and technological problems (i.e., slow typing, limited online research) due to the lack of skills. Similarly, the technology failures at times, the lack of face-to-face interactions in the online learning environment were considered to be problems by some faculty members. Some other problems that the faculty addressed were associated with combining the learning outcomes of a project with the learning outcomes of a particular discipline, assessing student learning, and determining and conceiving the knowledge base of a project and transferring it to the curriculum. Also, the diversity among the learners in terms of readiness and background level in the business subjects, and the lack of time during the intense residencies were addressed as problems by several faculty members.

Furthermore, the learners addressed some challenges and difficulties of studying in the project based online learning environment. The lack of face-to-face interactions at a distance, family and work responsibilities, and sustenance of self-discipline when working and studying were discussed by some learners to be the challenges. Also, the learners mentioned managing time, sustaining self-discipline and meeting family and work responsibilities while studying as the difficulties as well. The faculty members addressed the difficulties that they faced to be finding time between their on-campus and on-line commitments, experimenting with new pedagogy, and working as a team.

The learners discussed the most important advantages as attending a graduate school while working, and studying while maintaining everyday activities and taking care a family. Also, for most learners experience with authentic problems, active participation in the discussions and projects, and applicability of the project-based learning in the work place were other advantages. In addition, both faculty members and the learners discussed that interaction with adult learners with different business backgrounds and experiences, and combination of online interactions with residencies, and the time and place flexibilities were other advantages of working and teaching in the MBAWB program. Also, according to the faculty members, creating a learning community with motivated adult learners, and experimenting with new educational approaches (i.e., Web-based instruction, project-based teaching) were other advantages for them.

Several learners discussed that the lack of face-to-face interactions and the lack of immediate response during the online interactions as disadvantages. Some learners addressed the same issue as a challenge or difficulty. A few learners identified the irresponsible teammates who do not put adequate effort in a team project to be a disadvantage as well. In addition, some learners and faculty referred to a lack of scheduled break or vacation during the two-year commitment as a disadvantage. Also, the faculty members thought that the workload of the projects, the amount of time they devote to the program, and the overlap of the MBAWB schedule with their other on-campus schedules and responsibilities were disadvantages. Overall, a majority of the learners and the faculty members view the MBAWB program and their teaching-learning experiences positively.

Recommendations

The findings of this study yield some recommendations for the MBA Without Boundaries program, for the field of distributed learning and for future research. Thus, the recommendations of the study are provided in three sections.

Recommendations for the MBAWB Program

The experiences of the learners in the MBAWB program indicated that the most common problem was related to teammates. Thirteen learners out of 54 (24%) complained that some of their teammates did not pull their weight on their team projects. As the literature (i.e., Fishbaugh, 1996) demonstrates and as learners experienced in their previous learning environments, lack of responsibility or ownership can cause problems in team projects. However, as the literature in constructivist psychology (i.e., Miller & Miller, 2000; Hannafin, et al., 1999) suggests, teamwork is very effective in an online learning environment to increase the collaboration among the learners and to avoid limiting the interactions between only learner and teacher. Also, most learners thought that collaboration with professionals

from different business backgrounds on a team project was a great advantage for them since they learned about each other's experiences and expertise. Thus, the findings from this study and the literature recommend that teamwork is a very effective method to increase collaborative learning and interactions among the participants in a distributed or online learning environment. However, eliminating the teammate problem will increase the quality of the collaboration and the team project. Thus, as one of the learners suggested, monitoring the team databases more carefully may give an indication to the faculty members about who is contributing more and who falling short on a team project. Also, the researcher thinks that increasing the effect of peer evaluation on final grade from 5 percent to 10 percent can encourage the teammates to be more responsible for the team projects.

Although the majority of the learners did not face any significant technological problem since they had already acquired related skills in their work place, some learners reported some problems in the beginning due to lack of skills such as slow typing and limited online research. In addition, some faculty members and learners mentioned that some computer skills such as Internet, Word, PowerPoint, Excel will help both learners and faculty in a project-based online teaching-learning environment. Also, Driscoll (1998) discussed that the learners participating an online learning environment must have some computer, browser and Internet skills. Thus, although the participants in the MBAWB program receive some basic training about the use of their laptop computers and some application programs in the beginning of the program, participants who lack some skills should be provided with more assistance to improve their skills.

Moreover, some learners experienced technology failures due to inadequate local Internet service from providers and modems. After they experienced some problems with the March 97 class, the MBAWB program solved the problem of incompatibility of hardware and software among the learners and the faculty members by providing the same IBM compatible laptop computers and software to everyone. Thus, the program may recommend the participants to use digital subscriber line (DSL), or more efficient Internet service provider and higher-speed modem (e.g., cable modem) as well to avoid technological failures when connecting online and downloading a large document.

Moreover, some learners complained about the lack of immediate feedback and responses from the faculty and teammates. According to Kearsley (2000) and Driscoll (1998), asynchronous discussions may require time for instructors and the learners to read discussions and add comments to the responses posted by others. The faculty members and the learners in the MBAWB environment are supposed to access the databases at least once every two days. Therefore, the researcher thinks that the learners should be informed about the possible delays (i.e., one or two days) in asynchronous discussion environments. However, if someone is not responding within two days, that can be considered late, and a follow-up posting can be made.

Moreover, many faculty members complained about working without a scheduled break, the heavy workload and the time they devote to accessing the databases, monitoring the discussions, giving feedback and evaluating the deliverables. A faculty member mentioned that they made a decision to work on shifts in projects to provide a break for the faculty. Also, another faculty member suggested that involving more faculty members in the program and working alternatively will be effective in decreasing the faculty members' workloads during the projects.

Some faculty members discussed that combining the learning outcomes of a discipline (e.g., accounting, marketing, etc.) with the learning outcomes of a particular project can be a problem sometimes. A faculty member mentioned that once they skipped some of the learning outcomes of a particular discipline since they did not match up with the learning outcomes of a project. He also added that some of the learners had difficulties in achieving further learning outcomes since they did not have those priority outcomes or skills. Therefore, the researcher thinks that if a learning outcome is skipped an extra support or additional learning activity should be provided to the learners who did not have an opportunity to acquire that outcome.

Recommendations for the Field of Distributed Learning

The learning experiences (i.e., problem-based learning, applied learning, and team or collaborative learning) and teaching experiences (i.e., coaching and guiding) were

associated with the educational approach (i.e., project-based approach) and the theoretical base (i.e., constructivism) behind the approach. The online feature of the environment was associated with communication and interaction experiences such as asynchronous discussions in the databases and synchronous interactions through net meetings. But, as the learning experiences indicated, learning occurred when learners were actively involved in the projects, and solved the problems structured in the projects. Also, according to constructivists, technologies are not effective if they are used to relay instructional messages or deliver information. Thus, technologies should be used to involve learners in active learning, constructive learning, cooperative learning and authentic learning (Jonassen, Peck, & Wilson, 1999). Also, Bostock's (1997) study indicated that simply placing lecture content on the Web provides flexible access to the learners but does not make any contribution to active learning. Thus, the findings of this study and the literature indicated that learning is related to educational approach (i.e., project-based approach) and the theoretical base (i.e., constructivism) behind it rather than to the method of delivery. In other words, a combination of project-based approach and distributed learning complements the teaching and learning activities, and this combination is more effective in active learning (e.g., discussion, collaboration, problem-solving, etc.) than a simple delivery of a course content through the Web to a passive learner. Therefore, the researcher recommends that in a distributed or online learning environment, priority and emphasis should be given to the educational approach and theoretical base behind it rather than to the method of delivery and online technology.

However, experiences of some learners and the literature (i.e., Driscoll, 1998; Kearsley, 2000) indicated sufficient technological infrastructure is very important for an efficient and effective online interaction and collaboration. For instance, some learners mentioned that they experienced problems when they were downloading a large document and connecting online because of inadequate local Internet service and slow modems. Thus, the researcher recommends that participants in a distributed learning environment should have adequate technological infrastructure (e.g., an efficient Internet service provider, higher-speed modem).

Also, as the MBAWB program experienced in the first program, incompatibility among the hardware and software can cause problems when exchanging files and communicating with others. The program solved that problem by providing the same Windows laptop computers furnished with the same software. Therefore, the researcher recommends that people in a distributed learning environment apply compatible hardware and software to increase the quality of collaboration and interaction.

Moreover, experiences of the learners and the faculty members indicated that residencies were important components of the MBAWB program to share some activities (i.e., presenting a project, setting up a project plan, determining discussion topics, and interacting in face-to-face social settings), which are difficult to do online. Thus, residencies provided the faculty and learners an opportunity not only to organize their online activities, but also get to know each other personally. As a result, they had a chance to become familiar with individual differences and similarities and online interactions became easier and effective. Also, the discussions became more organized and in-depth after planning the activities. Thus, the researcher recommends that learners and faculty members in a distributed learning environment have residencies or at least social meetings on a regular basis to plan and organize online activities and to get to know each other personally.

Recommendation for Future Research

The findings of this study indicated that project-based learning experiences (e.g., active involvement in the projects, authentic problem solving) in a distributed learning environment were meaningful for adult learners because of transferability or applicability of the learning issues to the work place or real life. However, this study did not indicate whether the project-based approach is effective in an undergraduate distributed learning environment since the researcher focused on the experiences of the adult learners and the faculty members in an online graduate program. Thus, investigation of learners and faculty members' experiences in an undergraduate level project-based distributed learning environment can provide a comparison of the experiences found in this study and a better understanding of whether the project-based approach is applicable in both undergraduate and adult distributed learning

environments.

Conclusions

The findings of this study indicated that experiences of the learners and the faculty members in the distributed learning environment were not only limited by experiences at a distance and online interactions, but also the residency experiences, project-based teaching and learning experiences and theoretical base (i.e., constructivism) behind these experiences were important components of the distributed learning environment. The combination of project-based approach and distributed learning complements the teaching and learning activities, and this combination is more effective in active learning (e.g., discussion, collaboration, problem solving, etc.) than a simple delivery of a course content through the Web to a passive learner.

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