Facilitating On-line Learning Communities:

The Educator and the Student

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LT785 – Research Methods in Educational Technology: Final Project

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I- Statement of the Research Question/Problem

What does research indicate about facilitating on-line learning, roles of the educator, and student responsibilities?

II – Summary of the Literature

Facilitating On-line Learning Communities:

The Educator and the Student

Distance Education and e-learning have become increasingly popular buzz words since the rise of the computer age with Internet making its way into homes and schools in the early nineties. Students no longer have to base their lives around furthering their education, but rather have the opportunity to base their education around their daily lives due to the increasing popularity of distance education and e-learning. An analysis of several studies reveal the challenges that are faced by students and teachers, as well as, the best practices for facilitating learning on-line.

According to *The American Heritage Dictionary*, the basic definition of Distance Education is, "Education in which students take academic courses by accessing information and communicating with the instructor asynchronously over a computer network." *Webster's Dictionary states*, "E-learning or electronic learning is the process of learning online, esp.

via the Internet and email." Milligan & Buckenmeyer (2008) stated, "The idea that working adults – people with families and strenuous day-to-day responsibilities - can go back to school and earn certificates and degrees without having to travel for it appeals to a huge number of individuals" (¶ 1).

Before we can understand what a virtual classroom is, we must first gain an understanding of what a distance learner is, what qualities and characteristics they must posses, and what is typically expected of them. Moore (1986) described the distance learner as someone who "must be a self-directed learner, one who has the conscious intent to learn, develops a goal, and carries it through to completion (as cited in Milligan & Buckenmeyer, 2008, ¶ 2). In order to have a successful on-line learning experience, students need to be aware that they may not be a good candidate for on-line learning. Maddux (2004) identified four characteristics of the successful online learner: (a) independent and actively motivated to learn; (b) enjoys working independently; (c) skillful in structuring managing study time around other responsibilities; and (d) possesses excellent verbal and written communication abilities (as cited in Milligan & Buckenmeyer, 2008, ¶ 3). He also stated, "A lack of self-direction, lack of confidence in being able to follow directions, lack of support services, or a strong desire for personal interactivity among classmates and with the instructor certainly can negatively affect students' attitudes and willingness to participate in distance learning"

as cited in Milligan & Buckenmeyer, 2008, ¶ 5).

After further investigation in understanding what a good candidate for on-line learning is, evidence shows one college requiring a pre-test in order to enroll in on-line courses. Osborn (2001) provided research that suggests that computer confidence is one of the top factors in predicting completion or noncompletion of online courses. Milligan & Buckenmeyer (2008) stated, "at Purdue Calumet, we realized that assessment before allowing registration for distance-learning coursework had to become a crucial step in the advising process in order to place students in the learning environment [on-line or the physical classroom] best for them….the best preassessment should test basic technical skills, study skills, and dispositions so that students understand what they are getting into and faculty and advisor understand whether or not a student is ready for online coursework" (Milligan & Buckenmeyer, 2008). Buchanan (1999) noted that such questions as, "ability to work independently, to manage their time, to understand their own learning styles and develop study strategies appropriately, and to use computer technology effectively…literacy and written communication skills" (as cited in Milligan & Buckenmeyer, 2008, ¶ 12), should also be included on such a pretest.

Becoming a good candidate as an instructor can also be a challenge. With a pretest, the instructor could gain a better knowledge of who their class is and where they are in their

learning abilities. Milligan & Buckenmeyer (2008) stated, "Effective instructional design – developing a course that aligns objectives, instruction and assessment – is dependant upon knowledge of student characteristics." Once students have been enrolled in an on-line course, instructors can begin to create a successful online learning environment based on their needs by using a few simple strategies.

"Advertise the program with inclusions of necessary student competencies for success; develop a culture…that is just as academically rigorous and full of social opportunities as traditional classroom environments, provide plenty of information well in advance [so students are able to prepare what is expected of them], ensure that student's understand the rules, policies, codes of conduct, and procedures for the course, offer a one-time face-to-face orientation, maintain a course structure that provides plenty of incentive and instruction, arrange materials with nonrepetitive exercises and well-paced activities with clear and concise instructions, implement…evaluation rubrics, emphasize that students need to log into the course delivery system regularly and stay in continuous contact with the instructor and their classmates, and offer on-line chat services and resources for additional tutoring" Milligan & Buckenmeyer, 2008).

These are all wonderful tips, tools, and techniques, but just how do we go about getting them implemented all while getting students involved? Andrew Topper devised a study that

explores student participation in electronic learning, specifically in an educational technology program, using discourse analysis methods to help understand online student's participation patterns. Andrew Topper (2005) suggests, "The results are promising with regard to the potential of web-based environments to challenge students and promote conceptual learning through discussion" Discourse, according to Topper is, "used to represent the students and instructors participating on-line through postings to a discussion board, e-mail exchanges, chat sessions, assignments, and final projects" (Topper, 2005). Research done by Vonderwell and Zachariah (2005) showed that students assigned roles on message boards were more likely to maintain a presence and participate more in discussion board threads. If participants were given roles, such as facilitators and critical reviewers, they became more involved and took more of an ownership role in the discussions. That being said, there were cases of the critical reviewer struggling with what to post and how much to post without upsetting their classmates.

Moore (1989, 1991) identified four kinds of interaction in an online course: learner-content, learner-instructor, learner-learner, and learner-interface (as cited in Topper, 2005, ¶ 5). Interaction has been studied in various ways but it is hard to tell which of the four interactions work best for any one classroom give that no two classrooms are alike. Research by LaPointe and Reisetter (2008), indicates that students tend to favor learner-instructor

interaction and place less value on learner-learner interaction. Parker and Gemino (2001) compared outcomes from an asynchronous learning network (ALN), defined as an interactive virtual seminar and a traditional face-to-face course and found "no significant differences in students' overall score on a final exam...students in the ALN course scored significantly higher in the conceptual contribution but lower in the technique contribution on the exam" (as cited in Topper, 2005, ¶ 8). Picciano (2002) found a "strong positive relationship between student perceptions of interaction and their perceptions of quality and quantity of learning" (as cited in Topper, 2005, ¶ 10), when exploring the relationship between performance in an online course and student interaction. Ahern, Peck, and Laycock (1992) investigated the style of discourse used by instructors in online courses and found "informal, conversational styles of discourse produce higher levels of student participation with a more complex interaction pattern and higher frequency of learner-learner interaction with more sophisticated responses" (as cited in Topper, 2005, ¶ 12). According to Andrew Topper's research on the above and other implications, there are two emergent themes seen in all four of the interactions: Instructor playing devil's advocate and instructor revoicing student comments to keep them participating actively. As the devil's advocate, the instructor is able to keep students involved in a topic conceptually by agreeing while providing constructive criticism in a way offering a rebuttal or oppositional view of a statement made. Instructors may also ask others

to respond to a statement, giving credit to the student, which then pulls other students into the meaningful discussion. Because of this interaction, one of the student's in Andrew Topper's study states, "the degree of interaction with and awareness of the thoughts of other students is unlike any other course I've encountered….although the lack of physical presence was initially disconcerting, I realized that I was getting way more information about way more people than in a regular class" (Andrew Topper, 2005). If the instructors allow their students to become the instructor while they sit back as a learner and visa versa, there is more meaningful conceptualization which leads to higher level thinking and learning. Topper (2005) stated, "it also seems likely that when students are exposed to critical and thoughtful consideration of complex issues and ideas associated with technology use in the K-12 classroom, modeled by the instructor, some will appropriate these critical ways of thinking themselves as they anticipate how technology might impact their own teaching."

III – Summary and Conclusions

The questionable aspects of on-line learning are: 1) Who will benefit from on-line courses, 2) how do we as educators cater to student needs, and 3) how do we as educators facilitate effective learning communities that compare to the physical classroom.

Those that benefit from on-line learning are independent, eager to learn, self-motivated

and skillful. Prior on-line experience is also very important for distance learning. In order to make aware the responsibilities of on-line learning, educators may want to prep their students by having them complete a pre-test that establishes whether or not they are ready for distance learning.

Educators can cater to student needs by using the same pretest as a guide to gain understanding of whom there class is as a whole, and how skilled they are with on-line learning and technology. Educators can play several roles when facilitating on-line learning. They can use constructive criticism and revoicing to gain the interest of their students, and they can even take on a student role themselves allowing their students to become the facilitators.

IV – Application of the Research in a Typical School

The best application of this research would be trial and error. Work for student involvement in an on-line atmosphere. Have students get to know their peers by creating interesting and debatable questions that pertain to their studies. When questions on issues with on-line learning arise, do your best to accommodate to your students and their abilities. Follow student pre-tests and perhaps introduce a post-test to see how you can better on-line learning for your class in the future. Give your students plenty of opportunities to talk to

you, and provide them with many resources that allow them to continue their learning while adding to your requirements jointly.

As technology develops, educators need to be aware of how they can incorporate technology into the classroom in order to foster student involvement in an on-line atmosphere. Watkins (2006) lists eight different technology based examples that can be used to accomplish this goal: (1)instant messaging, (2)e-mail, (3)shared online calendars, (4)track-changes feature in word processing software, (5)chat rooms, (6)online groups, (7)cell phones, and (8)desktop video-conferencing. He also discusses that in order for these examples to be successful, teachers must use a gradual, natural transition when incorporating technology so that the students will learn to value the ability to use everyday technology to assist them in their learning.

Jace Hargis may have written it best in the article, "Collaboration, Community, and Project-Based Learning-Does it Still Work Online?" Hargis (2005)stated, "A virtual educational community must provide tangible, useful products or rewards for the user. Simply offering websites as resources is insufficient, most average web-users can browse and identify useful sites for their needs. A virtual community needs to include other parameters, ones that the student cannot locate or achieve on their own."

V – List of References

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Hargis, Jace. (2005). Collaboration, community, and project-based learning-does it still work online? *International Journal of Instructional Media. 32*(2), 157-161. Retrieved December 12, 2008, from ProQuest Education Journals database. (Document ID:)

LaPointe, L., & Reisetter, M. (2008). Belonging Online: Students' Perceptions of the value and efficacy of an online learning community. *International Journal. on E- Learning*, 7(4), 641-665.

Milligan, Anastasia T., & Buckenmeyer, Janet A. (2008). Assessing students for online learning. International Journal on ELearning, 7(3), 449-461. Retrieved December 10, 2008, from Research Library database. (Document ID: 1552846421).

Topper, Andrew. (2005). Facilitating student interactions through discursive moves: An instructor's experience teaching online graduate courses in educational technology. Quarterly Review of Distance Education, 6(1), 55-67, 86. Retrieved December 11, 2008, from ProQuest Education Journals database. (Document ID: 975834961).

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Watkins, Ryan. (2006). The value of technology tools in team projects. *Distance Learning, 3* (1), 59-61. Retrieved December 12, 2008, from ProQuest Education Journals database. (Document ID:)

Appendix A – Article Analysis

ARTICLE #1: Michael Fischer

Bibliographic Citation (APA Style)

Vonderwell, S., & Zachariah, S. (2005). Factors that influence participation in online learning. *Journal of Research on Technology in Education, 38* (2), 213-230. Retrieved December 12, 2008, from ProQuest Education Journals database. (Document ID: 940306511).

Type of Research:

Casual-Comparative

Survey

Evidence from article you used to determine Type of Research

The research was based comparing two different groups. Each of the groups involved had different characteristics and their involvement in the research was compared to determine the results. One of the major ways that information was obtained was through the use of questionnaires. The use of these questionnaires would classify as a use of a type of survey.

Purpose of the Research

The authors of this article, Vonderwell and Zachariah, did the research to determine what factors influence participation in online learning. The participation that they were looking at in this research was participation in online discussions.

Instruments Used

Instruments used during the research included two questionnaires, asynchronous discussion transcripts, student-to-instructor e-mail transcripts, and asynchronous discussion reflections.

Validity and reliability of Instruments Used

The validity and reliability of the instruments used during this research are questionable. The research was conducted at only one university during one semester. Another issue is that the research only involved 25 subjects. In order to increase the validity and reliability the researchers could have increased the number of subjects involved in the research as well as involving students at more than one university.

Subjects

The research included 25 members from two section of a graduate online course. One group included 13 students; the other group included 12 students. One of the groups was made up entirely of in-service teachers. The other group included in-service teachers, higher education workers, and a worker at a non-profit educational organization. The members of the first group had no experience in facilitating online discussions. The second group involved members with varying level of experience in facilitating online discussions.

Results and Conclusions

The research showed that several factors affect online participation in a learning community consisting of two sections of a graduate online course at a Midwestern university. These factors include technology and interface characteristics, content-area experience, student roles and tasks, and information overload. The research showed that the subjects preferred to use multiple threads instead of long, linear discussions. Content-area experience affected how much the subjects participated in online discussions in that those with background experience that was related to the discussion topic tended to be more actively involved in the discussion threads. Part of the research involved assigning different roles, such as facilitator and critical reflector. The subject's involvement in the online discussions was affected on what role they had and the responsibilities of that role. The last factor of information overload played a part in the amount of discussion that took place by the subjects. Those students who felt overloaded with assignments tended to feel that the discussion board was time consuming and stressful. Therefore, they tended to participate in the online learning community less.

Possible Influence of Extraneous Variables

A major extraneous influence in this research deals with the fact that the subjects came from a variety of backgrounds. The amount of involvement in discussion boards for online graduate classes could be affected by any other responsibilities the participants may be involved with.

If the subject has a lot going on in their lives, they may find that they have less time to become involved in online discussions.

Possible Threats to Internal and External Validity

One of the main threats involved with this research is the fact that it included only one university that was located in the Midwest. The results may in deed be representative of students at Midwestern universities but most likely is not a true representation of students at universities around the country.

Generalizability of Results to Local Issues

The world of education is in a state of change. Gone are the days in which all learning takes place in the classroom. This is being replaced by learning environments that include online learning communities. One of the main components of online learning communities are discussion boards. Many of the ideas presented by the researchers are issues that all in education need to be aware of. Teachers who use online learning communities as part of their classroom instruction can take the results of this research and apply them in their classroom.

ARTICLE #1: Shannon Palmlund

Bibliographic Citation

Milligan, Anastasia T., & Buckenmeyer, Janet A. (2008). Assessing students for online learning. International Journal on ELearning, 7(3), 449-461. Retrieved December 10, 2008, from Research Library database. (Document ID: 1552846421).

Type of Research:

Applied Non-empirical Research

Purpose of the Research

The purpose of the research is to inform others of a proven and comprehensive system that helps to achieve increased percentages of program completers in the distance learning environment. It gives characteristics and skills needed by the student to achieve in an on-line atmosphere.

Instruments Used

Surveys, Interviews, Course Grades

Validity and Reliability of the Instruments Used

I believe the validity is very good, but the reliability may be a concern. The accuracy of students' self-reporting, course content changing, advisor changes, and personal life experiences are all concerns.

Subjects

Students at Purdue University

Results and Conclusions

There has been an upward trend in the average final percentages earned by students in the distance section. The beginning average was around 79.8% with 8 students failing the course and 16 dropping out. In 2005 the beginning average percentage was 82.5 with a total of 7 failing.

Possible Influence of Extraneous Variables

As stated above, course content changes, advisor changes and personal life changes can all have an effect on the research.

Possible Threats to Internal and External Validity

There is a great deal of threat on the internal validity of the research due to the extraneous variables mentioned above. External Validity that could be caused is that the research is fairly recent so there is a possibility that it needs to be tested for a longer period of time.

Generalizations of Results to Local Issues

This research is important because it can help us to better understand how to make the most of on-line learning for students. A lot of teachers post readings, quizzes, and homework assignments on-line. This information will tell us how to better suite the needs of our

students. It also helps us to gain a better understanding of how to judge whether a student is ready for the on-line classes opposed to the physical classroom.

ARTICLE #2: Shannon Palmlund

Bibliographic Citation

Topper, Andrew. (2005). Facilitating student interactions through discursive moves: An instructor's experience teaching online graduate courses in educational technology. Quarterly Review of Distance Education, 6(1), 55-67, 86. Retrieved December 11, 2008, from ProQuest Education Journals database. (Document ID: 975834961).

Type of Research:

Applied Non-empirical Research

Purpose of the Research

The study explores student participation in electronic discourse in several graduate-level courses in an educational technology program using discourse analysis methods to help understand online students' participation patterns.

Instruments Used

Surveys, Interviews, a study, self logs

Validity and Reliability of the Instruments Used

I believe the validity is very good, but the reliability may be a concern. The accuracy of students' self-reporting, and a limited space for participants could play a role in the reliability of the data.

Subjects

Students in on-line courses

Results and Conclusions

92% of students believed they learned as much in on-line courses as they did in the physical classroom. 31% of students felt the quality of the course was high, while 69% felt the quality of the course was average. In subsequent surveys, after the teacher had adjusted his expectations, 59.9% of students rated the quality of the course as high, while 40.1% rated it as average. Overall 90% of students felt they learned as much in the on-line environment as they did in the actual classroom. When asked about their level of participation as compared to the first class, an average of 67.74% reported that they participated more in the online learning course and 90% indicated that they would be interested in taking another on-line course in the future.

Possible Influence of Extraneous Variables

Personal life changes can have an effect on the research.

Possible Threats to Internal and External Validity

There is a threat to the external validity because only a small sample was used. Internal validity may be affected due to the class limitations and the self-reporting.

Generalizations of Results to Local Issues

This research is important because it can help us to better understand how to make the most of on-line learning for students. A lot of teachers post readings, quizzes, and homework assignments on-line. This information will tell us how to better suite the needs of our students. It also helps us to better understand the set-up needed to make an on-line class worth while.

ARTICLE #1: Tammy Ruscher

Bibliographic Citation

LaPointe, L., & Reisetter, M. (2008). Belonging Online: Students' Perceptions of the value and efficacy of an online learning community. *International Journal. on E- Learning*, 7(4), 641-665.

Type of Research

Quantitative and narrative and comparative. Survey

Evidence from article you used to determine Type of Research

Graduate students were asked to contrast their online and face to face settings to determine if they had the same expectations for both types of learning. This survey was given to 412 graduate students enrolled in online graduate courses through state institutions in a rural upper Midwest state for their spring semesters courses.

Purpose of the Research

The research was intended to give graduate students the opportunity to assess the importance of online learning communities for their learning.

Instruments Used

Demographic information was asked, a 5-point Likert scale measuring the value and importance of learning communities, and qualitative data was designed using eListen software.

Validity and reliability of Instruments Used

The volatility and reliability is not the greatest. 412 students were surveyed electronically but they were in one state and only from the state universities. There was also a low response rate tot eh online survey, only 18 percent.

Subjects

The majority of the respondents were 21-40 years old, working on a master's degree and living over 25 miles from campus. Most of the students described themselves as part time, full-time students with full-time jobs and families to take care of.

Results and Conclusions

The results showed the students value exchanges with instructors in both online courses and face to face courses. The results also show they have little value for exchanges with peers in the two different settings. Learners wanted interactions with the instructor in the form of questions, comments, and feedback. They also wanted to know the knowledge of the instructor and their experiences and examples were important. They felt that class discussions were not.

Appendix B – Shared Participation in Writing the Final Paper

Student:Michael Fischer

Research Paper:

I – Statement of the Research Question/Problem—provided input

II - Summary of the Literature—added information from articles

III - Summary and Conclusions—provided input

IV – Application of the Research in a Typical School/Classroom—added information from article

V - List of References—created article references

Appendix A: Analysis of Articles

Article #1 : Factors that Influence Participation In Online Learning

Appendix B: Compilation of my information

Student:Shannon Palmlund

Research Paper: Did the compiling of our teams information.

I – Statement of the Research Question/Problem – helped create.

II - Summary of the Literature – Created a summary of my articles and literature.

III - Summary and Conclusions – Added my personal info to the conclusion.

IV – Application of the Research in a Typical School/Classroom – Added my personal input to this section as well.

V - List of References – Added my references and pasted my teammates' references in.

Appendix A: Analysis of Articles

Article #1 : Assissing Students for Online Learning

Article #2 : Facilitating Student Interactions through discursive Moves.

Appendix B: Compilation of my information.

Student:Tammy Rusher

Research Paper:

I – Statement of the Research Question/Problem

II - Summary of the Literature

III - Summary and Conclusions

IV – Application of the Research in a Typical School/Classroom

V - List of References

Appendix A: Analysis of Articles

Article #1 :

Appendix B: