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## Instructor Experiences with Implementing Technology in Blended Learning Courses in Higher education

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# Background

- The Internet and technological tools are providing innovative ways for teachers to teach and students to learn (Fillion, Limayem, Laferriere, & Mantha, 2009; Graham & Robison, 2007; Moore, M. C., 2006; Wang, 2007).
- Students, who use the Internet and technology for communication, entertainment, and collaborative learning, express dissatisfaction with the traditional face-to-face lecture format (Conole, de Laat, Dillon, & Darby, 2006; Donnelly, 2010; Garrison & Vaughn, 2008; Roberts, 2008; Vignare, 2007; Wang, 2007; Wuensch, Azia, Ozan, Kishore, & Tabrizi, 2007).
- According to Allen and Seaman (2007b), there is a "9.7 percent growth rate for online enrollments [that] far exceeds the 1.5 percent growth of the overall higher education student population" (p. 1).
- The rate of students completing online courses is higher in e-learning and blended learning courses than in traditional learning programs (Allen & Seaman, 2007a; Vignare, 2007).

# Problem Statement

- Students expect instructors at institutions of higher education to use online learning for instruction because students use the Internet regularly (Donnelly, 2010; Wuensch, et al., 2007) and work full time (Allen & Seaman, 2007a; Vignare, 2007).

- **The general problem is the increasing pressure placed on organizational leaders in institutions of higher education to improve instruction and learning to meet the needs of the 21st century student (Donnelly, 2010; Eynon, 2008; Fox, 2007; Gillard, Bailey & Nolan, 2008; Mars & Ginter, 2007; Morote Wittmann & Kelly, 2007; U.S. Department of Education, 2008; Vignare, 2007).**

# Support for Problem Statement

- With student demand for blended and e-learning courses, administrators in higher education expect faculty to adopt technology and teach blended learning courses (Donnelly, 2010; Garrison & Vaughan, 2008; Jiang, Parent & Eastmond, 2006; Markey, Holmes, Edgar & Schmidt, 2007; Shemla & Nachmias, 2007; Vignare, 2007).

- **The specific problem is that administrators in institutions of higher education require faculty to teach blended learning courses without fully understanding the experiences instructors have had implementing technology in campus-based blended learning courses worldwide (Donnelly, 2010; Groff & Mouza, 2008; Judge & O'Bannon, 2008; Lareki, de Morentin & Amenabar, 2010; Swain, 2005; Vignare, 2007).**

# Purpose Statement

- Instructors' attitudes toward the use of technology for instruction and learning are important because instructors carry weight in the success of e-learning programs (Fox, 2007; Meletiou-Mavrotheris & Mavrotheris, 2007; Tabata & Johnsrud, 2008; Woods et al., 2007).

- **The purpose of this qualitative phenomenological research study was to explore the experiences instructors had implementing technology in blended learning courses in campus-based institutions of higher education worldwide.**

# Significance of Study to Leadership

- Understanding instructors' experiences with technology may provide information on how to (a) prepare professional development courses, (b) teach blended learning courses, and (c) provide support for instructors in institutions of higher education (Fox, 2007; Zhao, Rosson & Purao, 2007).

- Exploring instructors' previous experiences with technology in blended learning courses may determine future adoption of the tools (Zhao et al., 2007).

- Instructors' attitudes toward the use of technology for instruction and learning may affect student performance (Keengwe, 2007; Kim et al., 2009; Mitchell & Honore, 2007; West et al., 2007; Zhao et al., 2007) because instructors carry weight in the success of e-learning programs (Fox, 2007; Meletiou-Mavrotheris & Mavrotheris, 2007; Woods, Badzinski & Baker, 2007).

# Significance of Study to Leadership (cont)

- The themes and patterns gleaned from the research study may reveal insights on ways to cater to the needs of instructors and learners in blended learning courses.

- Administrators and designers of professional development programs should consider instructors' attitudes and experiences with technology in blended learning courses (Donnelly, 2010; Lareki et al., 2010; Lawless & Pellegrino, 2007; Mitchell & Honore, 2007; Zhao et al., 2007; Vignare, 2007).

# Research Question

- **The main question that guided the study was: What experiences have instructors had in implementing technology in blended learning courses?**
- Sub-questions
  - Feelings and experiences with technology
  - Experiences with blended learning courses
    - Support or no support
  - Time devoted to face-to-face and online
    - Formally organized or not
    - University requirement or not
  - Kind of technology used and implementation
    - CMS
    - Blogs
    - Wikis
  - Affect of blended learning and technology professionally and personally and sharing
    - Family and colleagues
  - Anything else?

# Research on Technology and Blended Learning

- Teachers, who taught blended learning courses, became aware of their roles as facilitators and the positive impact of relinquishing control to the learner (Dziuban, Hartman & Moskal, 2007; Evans & Henricksen, 2008; Kaleta, Skibba & Joosten, 2007).

- Instructors' decision to implement technology in blended learning courses depends on faculty preparedness in learning "to effectively facilitate and manage both online and face-to-face discussion and interaction" (Kaleta, et al., 2007, p. 124).

- There is need for more research studies on "the role for technology in the blended learning environment" (Dziuban, et al., 2007, p. 284) and on instructors' attitudes toward the use of technology in instruction and learning (Kurtz, 2007; Power, 2008; Ruiz, et al., 2006).

# Scope and Limitations of the Study

- The scope of this qualitative phenomenological research study was to understand the lived experiences of instructors who had implemented technology in blended learning courses in campus-based institutions of higher education worldwide.
- The phenomenological study applied a modified van Kaam method by Moustakas (1994) by choosing to interview 20 instructors or until reaching the saturation of responses.
- The population was a purposeful sample of instructors who had implemented technology in blended learning
- The data collection involved personal interviews conducted online via instant messaging using voice because of geographic challenges that did not enable face-to-face meetings.
- The individual interviews followed a semi-structured conversational format for developing a relaxed atmosphere that would encourage the research participants to share their experiences freely without guidance from the interviewer

# Limitations of the Study

- Geographic challenges limited the study's location, population, language, and culture.
- The population for this study was recruited using an online questionnaire that appeared on two social networks called Facebook and Ning.
- The target population was limited to a select group who had access to the online form.
- The study was limited to online interviews because the distance between the researcher and the participants' locations did not allow for face-to-face meetings or observations.
- The data were limited to the questions and the participants' responses.

# Delimitations of the Study

- Study delimitations included:
  - Target population
  - Sample size
  - Methods of collecting and analyzing data
- Reasons: Time and geographic challenges
- The researcher limited this phenomenological qualitative study to include 20 participants or until saturation of responses was reached (Moustakas, 1994). The researcher did not add to the sample size because of the nature of qualitative phenomenological studies and time constraints (Ritchie, Lewis, & Elam, 2003).
- The participants selected for the study were limited to instructors who had taught blended learning in campus-based institutions of higher education.
- The participants had to have taught at least three blended learning courses and had to have a postgraduate degree status.
- The present study did not include responses from administrators or students from institutions of higher education or from K-12 teachers
- The current study excluded face-to-face meetings, observations, group interviews, open-ended questionnaires, or reflective writings.

# Methodology

- A qualitative methodology was appropriate for the study because a qualitative research design could provide an inquiry-based approach that employs questioning, describing, and analyzing emerging themes (Creswell, 2005) for a deeper understanding of the experiences of the phenomenon (Ritchie & Lewis, 2003; Moustakas, 1990, 1994; Shank 2006; Patton, 2002; van Manen, 1990, 2002).
- Quantitative research is concerned with examining the relationship of known variables (Creswell, 2005; Ritchie & Lewis, 2003).

# Sample Utilized in the Study

- Twenty instructors from campus-based institutions of higher education worldwide who had taught at least three blended learning courses and had a postgraduate degree status.

# Data Analysis

- This phenomenological study applied a modified van Kaam method by Moustakas (1994) by choosing to interview 20 instructors or upon reaching saturation of responses.

- Process
  - Transcribed of the recorded interviews verbatim
  - Documented all statements relevant to the experience
  - Arranged according to questions
  - Coded and categorized statements
  - Clustered into thematic headings
  - Created a descriptive and structural description of the essence of the experience and meaning

# Demographics

Gender and Age (Table 1)

- The research respondents included 8 males and 12 females between the ages of 35 and 71.
- Fifty percent of the respondents were between the ages of 41 and 60.
- The age range for females was 45 - over 71 and for males 31-70.
- The respondents included instructors from seven countries (see Table 2).

# Demographics (continued)

Countries where respondents had taught blended learning courses (see Table 1)

| Country | Number of Respondents | Percentage of Respondents |
|---|---|---|
| United States | 9 (3 Male) | 45% |
| Canada | 4 (3 Male) | 20% |
| Venezuela | 3 (1 Male) | 15% |
| Mexico | 1 (Male) | 5% |
| Sudan | 1 (Female) | 5% |
| Japan | 1 (Female) | 5% |
| France | 1 (Female) | 5% |

# Demographics (continued)

Demographics of the research respondents

| Respondent | Country | Gender | Age | Education | Subject | Years Teaching |
|---|---|---|---|---|---|---|
| PA1 | Canada | Male | 31-40 | MA | Anthropology | 1-10 |
| PB1 | Mexico | Male | 31-40 | MA | EFL | 1-10 |
| PB2 | USA | Male | 51-60 | Doctor | Technology | 11-20 |
| PC1 | USA | Female | 61-70 | MA | Photography | 21 or more |
| PD1 | Venezuela | Female | 41-50 | Doctor | EFL | 11-20 |
| PE1 | Venezuela | Female | 41-50 | MA | ESP/EAP | 21 or more |
| PG1 | Canada | Male | 51-60 | Doctor | ICT Literacy | 11-20 |
| PH1 | Sudan | Female | 41-50 | MA | EFL | 11-20 |
| PJ1 | Canada | Female | 51-60 | Doctor | Counseling | 1-10 |
| PK1 | USA | Female | 41-50 | Doctor | Counseling | 11-20 |

# Demographics (continued)

Demographics of the research respondents (continued)

| Respondent | Country | Gender | Age | Education | Subject | Years Teaching |
|---|---|---|---|---|---|---|
| PL1 | USA | Female | 51-60 | Doctor | Education | 21 or more |
| PL2 | Venezuela | Male | 61-70 | Doctor | Social Sciences | 21 or more |
| PM1 | USA | Female | Over 71 | Doctor | Educational Technology Research Methods | 21 or more |
| PN1 | Japan | Female | 51-60 | Doctor | Biology & EFL | 21 or more |
| PN2 | France | Female | 41-50 | Doctor | EFL | 21 or more |
| PN3 | Canada | Male | 41-50 | Doctor | Education Technology | 11-20 |
| PP1 | USA | Female | 61-70 | Doctor | Student Teaching Captstone | 21 or more |
| PR1 | USA | Male | 31-40 | MA | ESL & Technology | 11-20 |
| PS1 | USA | Female | 61-70 | Doctor | Education | 11-20 |
| PS2 | USA | Male | 41-50 | Doctor | Geography | 11-20 |

# Demographics (continued)

- Education (see Table 3)
  - The research respondents were all university instructors who had postgraduate degrees from institutions of higher education worldwide. The majority of the instructors (70%) had a doctorate degree whereas 30% had an MA.
  -
- Teaching Experience (see Table 4)
  - The research respondents were experienced teachers who had taught a variety of subjects. Eighty-five percent of the respondents had from 11 to 21 years of teaching experience.
- Experience Teaching Blended Learning (see Table 5)
  - All of the respondents were instructors in institutions of higher education who had taught at least three blended learning courses as required for the study.
  - Seventeen (85%) had experience of over three years with teaching blended learning courses.

# Study Results

University Requirement to Teach Blended Learning

| Blended Learning Requirement | Gender | Number of Respondents | Percentage of Respondents |
|---|---|---|---|
| University requires | Male | 3 | |
| | Female | 8 | |
| | | 11 | 55% |
| University doesn’t require | Male | 5 | |
| | Female | 4 | |
| | | 9 | 45% |

# Study Results (continued)

University Requirement to Teach Blended Learning

| Responses to Interview Questions | Number of respondents | Respondents | Percentage |
|---|---|---|---|
| University doesn't require blended learning | 9 | PA1; PB1; PC1; PD1; PG1; PH1; PJ1; PL2; PN1 | 45% |
| University requires blended learning | 11 | PB2; PE1; PK1; PL1; PM1; PN2; PN3; PP1; PR1; PS1; PS2 | 55% |

Respondents who had been students of blended learning courses

| Responses to Interview Questions | Number of respondents | Respondents | Percentage |
|---|---|---|---|
| Blended learning as a learner | 4 | PH1; PJ1; PK1; PL1 | 20% |

# Study Results (continued)

Preference for teaching blended learning courses

| Responses to Interview Questions | Number of respondents | Respondents | Percentage |
|---|---|---|---|
| Prefer blended learning | 18 | PA1; PB1; PB2; PC1; PD1; PE1; PH1; PJ1; PK1; PL1, PL2; PM1; PN1; PN2; PN3; PP1; PR1; PS1 | 85% |
| Prefer face-to-face | 0 | - | 0% |
| Prefer online | 1 | PG1 | 5% |
| Prefer online or face-to-face separately | 1 | PS2 | 5% |

# Study Results (continued)

Teaching blended learning was difficult

| Responses to Interview Questions | Number of respondents | Respondents | Percentage |
|---|---|---|---|
| Blended learning difficult to teach due to lack of support from the university or students' inability to grasp it | 7 | PA1, PC1, PJ1, PN1, PN2, PS1, PS2 | 45% |

# Study Results (continued)

## Technology used in blended learning courses

| Responses to Interview Questions | # of respondents | Respondents | Percentage |
|---|---|---|---|
| Applications (PowerPoint, Photoshop) | 6 | PA1; PB1; PC1; PD1; PE1; PN1 | 30% |
| Forums and Groups (Discussion Forums, Google Groups, Google Wave, Yahoo Groups) | 4 | PA1; PH1; PK1; PL2 | 20% |
| Instant Messaging (Google, Yahoo, Skype) | 6 | PD1; PG1; PH1; PL2; PM1; PN1 | 30% |
| Social Networks (Ning, Facebook, Linkedin, YouTube) | 3 | PA1; PC1; PD1 | 15% |
| Course Management & Learning Systems (Angel, Blackboard, FirstClass, Moodle, Sakai, WebCT) | 16 | PA1; PB1; PB2; PC1; PD1; PE1; PG1; PJ1; PK1; PL1; PM1; PN3; PP1; PR1; PS1; PS2 | 80% |
| Web 2.0 Authoring Tools (Blogs, Google Docs, Voicethread, WebQuests, Wiki, YouTube) | 6 | PA1; PB1; PD1; PG1; PM1; PN3 | 30% |
| Web Conferencing (Elluminate, WiZiQ) | 10 | PC1; PD1; PJ1; PL1; PM1; PN1; PN3; PP1; PR1; PS1 | 50% |

# Study Results/Emergent Themes

- The analysis of the transcripts of the responses to the interview questions yielded 35 invariant constituents (see Appendix H).

- Four themes emerged from the 35 invariant constituents for describing the participants' experiences with implementing technology in blended learning courses:
  - Facilitating Instruction and Learning (11 invariant constituents)
  - Frustrating (7 invariant constituents)
  - Satisfying and Rewarding (12 invariant constituents)
  - Socially Connecting (5 invariant constituents)

# Study Results and Emergent Themes (continued)

Respondents' Preferred Mode of Teaching

| Mode of Teaching | Number of Respondents | Percentage of Respondents |
|---|---|---|
| Blended learning | 18 | 90% |
| Face-to-face | 0 | 0% |
| Prefer online | 1(Male) (11-20) (Canada) | 5% |
| Online of face-to-face separately | 1(Male) (11-20)(USA) | 5% |

# Study Results and Emergent Themes (Continued)

Theme 1: Facilitating Instruction and Learning

- All the respondents were enthusiastic about technology and perceived technology as facilitating instruction and learning and providing opportunities to learn.
- Eighty-five percent of the respondents reported that blended learning and technology engage learners, but only seventy-five percent of the respondents were enthusiastic about blended learning.
- The conclusion gained from the findings is that instructors are more enthusiastic about technology as a tool that facilitates learning than blended learning

# Study Results and Emergent Themes (Continued)

## Theme 1: Facilitating Instruction and Learning

| Response to Interview Questions | Frequency | Percentage |
|---|---|---|
| Technology offers opportunities to learn | 20 | 100% |
| Technology is part of/facilitates learning | 19 | 95% |
| Technology offers solutions | 19 | 95% |
| Technology is part of/facilitates teaching | 18 | 90% |
| Blended Learning and technology engage learners (content/teacher/peers) | 17 | 85% |
| Blended Learning offers hands on projects | 17 | 85% |
| Technology provides teachers with options | 14 | 70% |
| Blended Learning caters to many/diverse/individual learners | 13 | 65% |
| Technology empowers to be lifelong independent learners | 11 | 55% |
| Technology facilitates professional development | 10 | 50% |
| Technology facilitates personal development/growth | 9 | 45% |

# Study Results and Emergent Themes (continued)

Theme 2: Frustrating

- The second theme dealt with negative attitudes to technology and blended learning.
- Low responses to technology as frustrating (60%) indicated a positive attitude to technology in blended learning courses.
- 90% of the respondents reported that technology and teaching blended learning courses were time consuming
- 95% of the universities provided none or inappropriate support raised questions about the instructors' need for support in blended learning courses.

# Study Results and Emergent Themes (continued)

University Requirement to Teach Blended Learning

| Blended Learning Requirement | Number of Respondents | Percentage of Respondents |
|---|---|---|
| University requires | 11 | 55% |
| University doesn’t require | 9 | 45% |

# Study Results and Emergent Themes (continued)

Theme 2: Frustrating

| Response to Interview Questions | Frequency | Percentage |
|---|---|---|
| None/inappropiate support from the University for blended learning | 19 | 95% |
| Teaching/learning with technology and blended learning is time consuming | 19 | 95% |
| Technology can be frustrating | 12 | 60% |
| Success with blended learning is dependent on the instructor | 11 | 55% |
| Technology is only a tool at the hands of the user | 7 | 35% |
| Technology is addictive | 6 | 30% |
| Technology is not a solution improving instruction and learning | 1 | 5% |

# Study Results and Emergent Themes (continued)

Theme 3: Satisfying and Rewarding

- All the respondents reported that technology was satisfying and rewarding.
- The respondents perceived technology as part of life and felt comfortable with technology (90%).
- Blended learning received less favorable responses70% (14) reported that blended learning increased student satisfaction and achievement.
- Forty-five percent of the respondents stated that blended learning was transformational and provided the best of both worlds, the face-to-face and online environments.

# Study Results and Emergent Themes (continued)

## Theme 3: Satisfying and Rewarding

| Response to Interview Questions | Frequency | Percentage |
|---|---|---|
| Technology provides personal satisfaction | 20 | 100% |
| Go beyond university requirements | 20 | 100% |
| Enthusiastic/like/love/passionate/positive about technology | 20 | 100% |
| Technology is part of life/feel comfortable with technology | 18 | 90% |
| Technology is enabling | 17 | 85% |
| Technology is convenient | 17 | 85% |
| Enthusiastic/like/love/passionate/positive about blended learning | 15 | 75% |
| Blended learning increases student satisfaction and achievement | 14 | 70% |
| Technology provides professional satisfaction | 13 | 75% |
| Teaching with blended learning is transformational | 9 | 65% |
| Teachers feel excited watching learners interact with others and engage in learning | 9 | 45% |
| Blended learning is the best of both worlds | 9 | 45% |

# Study Results and Emergent Themes (continued)

Theme 4: Socially Connecting

- All the respondents perceived technology as enhancing social interactions and providing the opportunity to meet people worldwide.
- Eighty-five percent reported that technology helped engage in sharing of information.
- The respondents did not perceive blended learning as socially engaging. The reason is beyond the scope of this study.

# Study Results and Emergent Themes (continued)

Theme 4: Socially Connecting

| Response to Interview Questions | Frequency | Percentage |
|---|---|---|
| Technology enhances social interactions | 20 | 100% |
| Technology helps connect with (others) the world | 18 | 90% |
| Technlogy facilitates sharing information | 17 | 85% |
| Technology improves relationships | 14 | 70% |
| Technology facilitates collaboration | 11 | 55% |

# Recommendations

- Future studies could conduct a quantitative study using the 35 invariant constituents and four themes
- Future studies should replicate the study by using a larger sample size than 20 instructors and include administrators, course designers, instructional leaders, and students in higher education and K-12 sectors.
- Further studies could be conducted using more than one researcher for collecting and analyzing the data. The participants could also be used to analyze the data.
- Future studies could include instructors who had taught only one blended learning course and compare the results to more experienced instructors.
- Administrators, instructional leaders, and program planners needs assessment surveys to identify instructors that are finding blended learning frustrating so the instructors could receive ongoing support and professional development programs.
- Future research studies should explore the relationship between university requirements and the role support plays in blended learning courses.

# Recommendations (continued)

- Future studies could include face-to-face individual and group interviews, observations, and reflective writing of the participants
- Replication of the current study at specific universities to learn about faculty needs in teaching blended learning courses
- Future research should explore the relationship between support and ease of teaching blended learning courses
- Outlier negative experiences may be representative of the situation at other universities. Needs assessment surveys should be conducted to identify instructors that are finding blended learning challenging and provide support and professional development programs

# Questions?

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