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**DESIGNING AND IMPLEMENTING MIXED-MODE (BLENDED)
LEARNING FOR COLLEGE STUDENTS: A CASE STUDY**

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Abstract

The challenges in the information age include restructuring the teaching and learning process—changing the role of higher education teachers from presenters of prefabricated facts to facilitators of active learning. Two research questions were: Is designing for a mixed-mode course different than designing for a stand-alone course, and how do students respond to mixed-mode learning if it is offered as a research course? This case study is a real-life application, and four methodical processes were utilized: (a) designing a mixed-mode course; (b) creating an effective course syllabus; (c) aligning assessments with learning objectives; and (d) implementing the course: students completed an opinion survey essay about the impacts of their participation. Factors contributing to student satisfaction in mixed-mode learning are strongly associated with the instructor’s feedback to students. Although both summative and formative assessments are linked with instructional practices in the course, formative assessments are beneficial to modify “pedagogical” methods of the mixed-mode course and to facilitate active learning.

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Keywords: Mixed-mode learning, blended instruction, student-centered learning, course and syllabus design, “formative assessment, student self-assessment



1. Introduction

The information age is coupled tightly with the advent of personal computers (TeachTarget, 2014). The shift from teacher-centered to learner-centered approach is a tremendous change in higher education. Accordingly, the challenges in today's new age include restructuring the teaching and learning process to reflect the use of information in the real world—changing the role of higher education teachers from presenters of prefabricated facts to facilitators of active learning as collaborators for the effective use of information resources (also known as electronic resources). Higher education teachers now have multiple tasks, including facilitating online learning communities as well as teaching online.

Especially during the recent years, “learning practices which have been implemented by blending, face to face, and online methods together are often faced” (Eryilmaz, 2015, p. 251). The term “mixed-mode” is synonymous to other terms, such as blended, melted, integrated, multi-method, flexible, or hybrid (Jovanovic et al., 2015). While fully online courses almost entirely rely on technology to mediate the learning environment, mixed-mode (blended) courses are classes where a portion of the classroom-based format is replaced by the online resource-based format.

It should be noted that a well-developed mixed-mode course is not just a matter of transferring a portion of the existing face to face course to the online format. It should be also noted that mixed-mode learning “within a flexible learning framework offers a unique opportunity to fully integrate pedagogy and technology with teaching and learning” (Smythe, 2012, p. 1). Contemporary college students, who have grown up with interactive and media technologies, nevertheless, seem comfortable with a large classroom based lecture as an approach to transmitting information: but they expect a relevant and engaging learning experience (Garrison & Vaughan, 2008).

2. Problem Statement

Although mixed-mode courses should be able to provide more differentiated instruction than students might get in traditional face-to-face classrooms, providing pedagogically sound, collaborative online learning opportunities for students is most important in mixed-mode learning (Boerema, Stanley, & Westhorp, 2007). It is indeed that “pedagogy” (defined as the method and practice of teaching) is the one which might be the most difficult part of designing mixed-mode courses.

By employing an active learner model (such as a constructivist approach), the proposed mixed-mode education research course should be designed to demonstrate new knowledge to the learner as well as revisiting prior knowledge as a foundation for new knowledge.

Most important, the following instructional strategies should be utilized effectively in the mixed-mode course: active demonstrations of skills; a student-centered approach based on active learning and cooperative interaction; and encouraging students' progressive mastery of skills by providing them with ample opportunities to practice and to apply what they learn in the course.

3. Research Questions

This case study is a real-life application involving four methodical processes of building blended instruction: (a) designing a mixed-mode course; (b) creating an effective course syllabus; (c) aligning

assessments with learning objectives; and (d) implementing the course. After the initial course offering, students completed an opinion survey essay about the impacts of their participation.

Two research questions established for the study were: Is designing for a mixed-mode (blended learning) course different than designing for a stand-alone course, and how do students respond to mixed-mode learning, if it is offered as a college course?

4. Purpose of the Study

This study provides a detailed description of the design, development, and implementation of a mixed-mode education research course for student-centered learning (which moves students from passive receivers of information to active participants in their own discovery process through learning activities and assessments): showing why learning activities and assessments are so closely intertwined that it is impossible to discuss one without the other, in optimal mixed-mode coursework.

The above-mentioned course introduces graduate students to the field of qualitative research methods and prepare them with the skills and knowledge necessary to undertake an individual research project. The course—a semester long (16 weeks), three credit hour course targeting K-12 public and private school teachers—is organized week by week and navigated by the Modular Object-Oriented Dynamic Learning Environment (Moodle), which is a widely used course management system. One concern in moving to mixed-mode learning is that “a lack of in-person experience could diminish the students’ overall sense of community and social presence in class” (Harrison & West, 2014, p. 290). The Moodle course shell provides an “open door” to the virtual classroom by building a sense of community among class members.

5. Research Methods

5.1. Developing a Mixed-Mode Course in Four Stages

5.1.1. STAGE 1: Course Design Plan

The key to the success of any mixed-mode course is viewed to move from an emphasis on technology and process to an emphasis on “context” and “content.” Designing and developing mixed-mode courses requires a lot more than just putting course materials on the website. The goal of this qualitative research methods course is to create an environment in which students become actively engaged with the topics of each chapter of the text.

The first week (Week 1) focused on a team building component. Students become familiar with the virtual learning environment. Course materials posted on the Moodle shell included: the instructor’s welcome message to students; library form for students to access online resources; student biographical form; topical outlines with time on topic (based on the textbook); and online exercises.

Starting with Week 2, new materials were posted on a weekly basis. To facilitate students’ active construction of new knowledge (and learning activities and outcomes are aligned, for example, with Bloom’s Taxonomy), course materials posted each week included: guidance, describing how to approach the content and navigate the chapter; PowerPoint slides, considered to be the equivalent of a classroom lecture; a link to the instructor guided discussion forum; a link to the peer led discussion forum; links to

other websites, for further readings and so on. And the last week (Week 16) was used for students to prepare final project papers.

Finally, it was thought that “student-instructor” interaction could be enhanced in many ways: for example, by providing regular question and answer sessions on assignments; and by providing office hours with flexible scheduling for students who work full time.

5.1.2. STAGE 2: Effective Course Syllabus

A course syllabus is recognized as a document that outlines everything that will be covered in a course. Facilitating teaching and learning, a syllabus can “communicates the overall pattern of the course, so a course does not feel like disjointed assessments and activities, but instead an organized and meaningful journey. A good course syllabus clarifies the relationship between goals and assignments” (Slattery & Carlson, 2005, p. 159); furthermore, “a good syllabus creates an effective structure for both faculty and students, allowing all parties to recognize where they need to go and what they need to do to get there” (p. 160).

In addition to the regular items (such as office hours, required text, course description, goals and objectives, assessment plan, schedule of activities, and reading list), class policies and expectations were stated in the course syllabus as follows:

INSTRUCTIONAL APPROACHES:

About 40 percent of learning activities in this course will be conducted using the online format (mainly based on an online learning community—a virtual community whose members interact with each other primarily via the Internet). Students need basic digital literacy skills: create and save Microsoft Word documents; find electronic resources and references on the Internet; create and organize files and folders on the computer; and send, receive, and manage e-mail messages.

NETIQUETTE & DISCUSSION EXPECTATIONS:

Professional demeanor is important in this course. To maintain productive online discussions, please participate actively throughout the semester. When responding to others’ comments, show respect for differing points of view. Respectful consideration of alternatives is the main purpose of an online learning community. Each student’s effort will account for most of what he or she gets from this course, and it will affect the outcomes obtained by others, too.

LATE ASSIGNMENT POLICY:

No credit will be given for any assignment that is more than one week late unless prior arrangements have been made. If there are circumstances that will prevent the student from submitting an assignment on time, he or she should discuss the situation with the instructor to arrive at a mutually agreeable alternative deadline before the assignment becomes overdue.

PREVENTING PLAGIARISM:

To prevent plagiarizing someone else’s work, credit for the words and ideas must always be given. Students should not copy whole portions of text from another source as a major component of papers or projects; should identify the title, author, page number or webpage address, and publication date of works when directly quoting small portions of text, articles, or websites; should appropriately identify the source of information when paraphrasing ideas from texts, articles, or websites; and should follow the guidelines of the American Psychological Association (APA) style manual when referencing research sources.

In this qualitative research methods course, the course syllabus provides the details of the course goals, learning objectives, course assignments, and how mastery were assessed utilizing formative and summative assessments, as shown in Table 1.

Table 01. Learning Activities and the Evaluation System

Graded Learning Activity	Assessment Type	Percentage	Due Date
Instructor Guided Discussion (2)	Formative	10%	Weeks 3 & 10
Peer Led Discussion (2)	Formative	10%	Weeks 5 & 14
In-Class Exam (1)	Summative	20%	Week 16
Critical Review Paper (1)	Formative/Summative	10%	Week 10
Fieldwork and Field Notes (1)	Formative	20%	Week 12
Revised Written Fieldwork Report (1)	Summative	20%	Week 16
Fieldwork Report Oral Presentation (1)	Summative	10%	Week 15
Class Attendance (Extra points, but at least 90 percent attendance)			Weeks 1, 2, 4, 6, 8, 11, 13, 15,16

5.1.3. STAGE 3: Learning Activities and Assessments

This mixed-mode course provides opportunities to attain practical, hands-on experiences with developing qualitative research questions and techniques for data collection and data analysis. The following three activities were the core coursework assignments: conducting face to face interviews and observations taking field notes; revising draft fieldwork reports based on the instructor’s and peers’ feedback by participating in an online learning community; and disseminating findings gained from the fieldwork (observations and interviews) by delivering classroom presentations.

Good rubrics describe the types of mistakes students tend to make, as well as the ways in which good work shines—and so, giving students valuable information about the task they are about to undertake, and taking the guesswork out of understanding what counts as high quality work (Andrade & Valcheva, 2008). Scoring rubrics (Table 2) were used for grading the above-mentioned three inter-connected core assignments, addressing the issue of how best to evaluate student learning outcomes based on the criteria-referenced assessment.

Table 02. Qualitative Research Methods Course: Goals, Objectives, Activities, Assessment Methods, and Learning Outcomes Aligned with Bloom’s Taxonomy

Course Goals	Learning Objectives	Learning Activities	Assessment Methods	Taxonomy*
Learn about the historical and philosophical foundations of qualitative research in education	Enhance knowledge of the underlying philosophical assumptions and theoretical perspectives of qualitative research and case study applications in education	Online Learning Community: Participate in Instructor Guided Discussion (setting up a Forum in Moodle); Participate in Peer Led Discussion (setting up a Forum in Moodle)	Both discussion forums are graded based on the criteria (“Satisfactory” or “Needs Revision”) using a scoring checklist which will be shared with students (Formative Assessment)	Levels 1 & 2
	Understand how to deal with validity, reliability, and ethical issues in qualitative research and case study applications in education	In-Class Exam: Take objective test questions (selected-response items) on validity, reliability, and ethics	The exam is graded based on the specific, predetermined answers (Summative Assessment)	Levels 1, 2 & 3
Develop “hands on” understanding of techniques and tools used in educational qualitative research	Demonstrate basic skills of reading and critiquing qualitative research studies, evaluation studies, or case studies in education	Critical Review Paper: Write a critical review of a journal article (qualitative research and case studies in education) (setting up an Assignment in Moodle)	The paper is graded based on a rubric (grading criteria in the rubric will be shared with students at the beginning of the course) (Formative/Summative Assessment)	Levels 4 & 5
	Enhance substantial understanding of qualitative research data collection and analysis methods in education	Fieldwork and Field Notes: Conduct observation and write field notes; Conduct a face-to-face interview and write field notes	Notes are graded based on the criteria (“Satisfactory” or “Needs Revision”) using a scoring checklist which will be shared with students at the beginning of the course (Formative Assessment)	Levels 3 & 4
	Demonstrate knowledge of writing and reporting qualitative research by collecting data using observation and interview methods	Fieldwork Report (Final): Revise the field notes; Present the revised field notes as a final project (in class)	Written report and oral presentation are graded based on a scoring rubric which will be shared with students at the beginning of the course (Summative Assessment)	Levels 4, 5 & 6

5.1.4. STAGE 4: Pilot Implementation of the Course

This course was implemented with the enrollment of eleven graduate students (five male and six female). All the students were school teachers. The results of the inter-connected assignments could be summarized as follows: students generally chose topics they were really interested which motivated them to be careful observers and effective interviewers as well; but some students’ revised reports showed insufficient attention to feedback previously provided by the instructor, or to feedback from other students in the course, as they revised their reports. Providing answers to each individual student’s questions (via emails or Moodle) is time consuming but students would often expect answers within moments of their sending their emails.

Today teacher educators face challenges to produce a new generation of teachers capable of addressing the demands of twenty-first century classrooms (Albhnsawy & Aliweh, 2016). Consequently, this course provided students with ample opportunity for students (in-service teachers) to become familiar with the resource-based twenty-first century learning.

6. Findings

This study indicated that factors contributing to student satisfaction in a mixed-mode teaching and learning environment were strongly associated with the quality of online instruction, the instructor's feedback to students (e.g., using formative assessment effectively). The study also indicated the quality of relationships between the instructor and students: it is important for instructors who not only become facilitators of learning but also motivators for students in mixed-mode courses.

It is usually not possible to satisfy everyone in online or blended teaching and learning environments. Students have emotional reactions to the work, and they are often very vocal about them. Nevertheless, the following student's comment encouraged the instructor (the author of the present paper) and it may also offer encouragement to others who are considering a mixed-mode teaching and learning environment.

“This mixed-mode class allowed flexibility and independent thinking and group learning. Class meetings allowed social interactions among students and each participant contributed in clarifying questions and confusions in the learning process. Importantly, one of the most positive aspects in this mixed-mode course was that the instructor made herself available either in class or online. The instructor kept us posted all the time regarding upcoming activities, due dates, upcoming assignments, and feedbacks on our work.”

Moreover, typical comments from students were:

- “This class has given me strength to complete assigned task independently.”
- “It helped me become more technologically oriented and literate.”
- “The textbook, forums, exercises, and online assignments were all aligned with the course's expected learning outcomes.”
- “The course format is convenient for graduate students who are full-time teachers.”
- “It provided a great opportunity for students to work at their own pace when tackling assignments.”
- “It encouraged student interaction and electronic contact with the professor beyond the confines of the classroom.”
- “the mixed-mode course gave me the flexibility to complete and submit assignments online anytime from anywhere.”

This study might be an example which described some ways in which technology allowed the instructor to promote student-centered learning, rather than curriculum-centered learning. Through feedback on students' performance generally originated from the instructor, students could also play an

important role in the learning and assessment process through self-evaluation and, in particular, students learned most when they accepted responsibility for their own learning.

This mixed-mode course offering strongly confirmed the results of Napier, Dekhane, and Smith's (2011) study: "Students taking mixed-mode learning courses reported some challenges with the instructional format. However, overall, students reported high levels of interaction with their instructor, and student satisfaction with the course increased by the end of the semester" (pp. 30-31).

7. Conclusion

Summative and formative assessments were both linked with instructional practices in the newly developed mixed-mode course. Yet this study indicated that formative assessments are particularly useful to modify pedagogical methods of the course so that students can get maximum benefits from the instructor's feedback. Now computer skills are just as important for higher education teachers as building teaching skills, classroom management skills, and other commonly cited elements of successful teaching (cf. Tokmak & Karakus, 2011). To optimize mixed-mode (blended) learning, it is important "to integrate technology, pedagogy, and content knowledge (TPACK) into teaching. TPACK is a type of integrative and transformative knowledge teachers need to be effectively and adequately prepared to integrate in ICT use in the classroom" (Qasem & Viswanathappa, 2016, p. 264).

Any future research should focus on enhancing mixed-mode learning courses that include content and methods of delivery that promote the mixed-mode teaching and learning environment, while also engaging a diverse student population. One major concern in online learning is the lack of empirical evidence for learning enhancement (Macdonald, 2008). For that purpose, design research might be appropriate. Design research requires that instructors should define pedagogical outcomes and create learning environments that address them, emphasize content and pedagogy rather than technology itself, and modify the teaching and learning environments until the pedagogical outcomes are reached (Reeves, Herrington, & Oliver, 2005).

As a final point, as Wang and Hannafin (2005) argue, any future research should help to document both the effectiveness of local designs and the generalizability of research results to date. The instructional design summarized in this paper offers one contribution to this process.

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