The Impacts of Web 2.0, Web 3.0, and Web 4.0 Technologies Used in Distance Education

by

Julia Kimbrell

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Director of Thesis: Dr. Maureen Ellis

Major Department: Business and Information Technologies Education

## Abstract

Many factors influence distance education teaching and learning experiences. This study was explored using two experiments. The first experiment examined tools of Web 2.0 technology (blogs, wikis, and podcasts), Web 3.0 technology (virtual reality), and course framework (course design, technical problems, instructor feedback, peer collaboration, and student needs). Technical problems overwhelmingly contributed the most to a negative learning experience. Results identified factors that impacted positive and negative learning experiences for distance education students. However, technical problems overwhelmingly contributed the most to a negative learning experience. The second experiment examined tools of Web technologies (Web 2.0 and Web 3.0) and instructor planning (course preparation and instructor feedback). The results identified factors that impacted positive and negative teaching experiences for distance education instructors. Inadequate training contributed the most to a negative learning experience. The future of Web technologies in distance education will one day become Web 4.0. Data suggest that developments are progressing towards 3-D printers, 3-D holographs, and the ability to control a computer with ones' thoughts.

# The Impacts of Web 2.0, Web 3.0, and Web 4.0 Technologies Used in Distance Education

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Julia Kimbrell

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by

Julia Kimbrell

APPROVED BY:

DIRECTOR OF THESIS: _____
Maureen L. Ellis, Ph.D.

COMMITTEE MEMBER: _____
Elizabeth B. Hodge, Ph.D.

COMMITTEE MEMBER: _____
Shelia Y. Tucker, Ph.D.

COMMITTEE MEMBER: _____
Scott A. Williams, Ph.D.

CHAIR, DEPARTMENT OF BUSINESS AND INFORMATION TECHNOLOGIES EDUCATION

_____
Ivan G. Wallace, Ph.D.

DEAN OF THE GRADUATE SCHOOL _____
Paul J. Gemperline, Ph.D.

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# CHAPTER ONE: INTRODUCTION

According to Allen and Seaman (2013), over 30% of all college students take one or more courses through distance education using one or more Web 2.0 technology tools. Online education experiences vary from student to student; however, the integration of Web 2.0 technology has made significant enhancements towards improving options for distance education. Unfortunately, with all the benefits that Web 2.0 technology offers, some students still face undesirable learning outcomes. Undesirable outcomes with regard to technology include underutilized and undervalued technology, misuse of technology, poor quality of lecture in podcast, mobile platform not available, slow web-sites, instructional time spent familiarizing students with the software, instructors who had a difficult time keeping up with the technology, high demands on hardware and connection speeds for some software, technical glitches seen as unfair to students, and some technologies not useable on all platforms. Undesirable outcomes with regard to course design include focus more on quantity rather quality for posting, not enough varied learning method, unorganized and cluttered information, and ambiguous directions. Undesirable outcomes with regard to instructor feedback include vague feedback, sense that instructor does not care, and not receiving help needed for difficult material. Undesirable outcomes with regard to peer collaboration include forced student interaction and difficulty with participation in group projects. If negative impacts can be limited, the chances that students will have a good learning experience with current as well as future Web technologies can increase. Therefore, it is important to delineate negative factors that impact the quality and delivery of curriculum embedded with present and next generation Web technologies, (Web 3.0 and Web 4.0). The purpose of this study is to explore factors impacting

post-secondary distance education through the use of Web 2.0, Web 3.0, and Web 4.0 technologies.

**Terms and Definitions**

For the purpose of this study the following terms have been defined: Web 2.0, Web 3.0, Web 4.0, blogs, wikis, and podcast.

*Web 2.0* is a "second generation web services emphasizing online collaboration and sharing among web users" (Akbulut & Kiyici, 2007, p. 6).

*Web 3.0* is an "evolving extension of www, in which the information can be shared and interpreted by other software agents to find and integrate applications to different domains. The web is transformed into a database whereby the data published in the web is reusable and can be queried" (Padma & Seshasaayee, 2011, p. 162).

*Web 4.0* is "a web of intelligence connections" (Aghaei, Nematbakshs, & Farsani, 2012, p. 8).

*Blogs* are "straightforward content management tools primarily used to build diaries or web sites around some theme or subject area" (Benson & Avery, 2009, p. 243).

A *wiki* is "an online writing space designed to be created and edited by groups of persons. The term derived from the Hawaiian word *wiki*, which means 'quick'" was defined by Simonson, Smaldino, Albright, & Zvacek (as cited in Rogers-Estable, 2009, p. 58).

*Podcasting* is "a digital recording of a radio broadcast or similar program, made available on the internet for downloading to a personal audio player" ,as defined in the New Oxford American Dictionary (as cited in Benson & Avery, 2009, p. 242).

## CHAPTER TWO: LITERATURE REVIEW

At the heart of Web 2.0 technologies is its ability to allow online users to come together and share information (Akbulut & Kiyici, 2007). Usluel and Mazman, (2009) have suggested that some Web 2.0 technology tools, such as blogs, wikis, and podcasts, are beneficial because they encourage collaborative learning, provide and receive feedback, and facilitate active learning. Interactions in distance education do not have to be solely dependent upon the technology, nor are interactions limited to student-instructor. The researchers also noted that students must feel some sort of connectivity with the distance education instructor as well as with peers. Effective two-way communication has become a necessity with advancing Web technologies.

Kim, Kwon, & Cho (2011) suggested that learning and course satisfaction is hampered for students who are not receiving the interactions they need. Their study examined how social presence and learning satisfaction were correlated. They found that when it came to both social presence and learning satisfaction, the instructor's quality of teaching and media integration was important. However, peer collaboration was important to only social presence and had little effect on learning satisfaction. Kim, Kwon, & Cho (2011) also discovered that instructors can increase personalized interactions with their students by contacting them via e-mail or phone calls when participation was slipping. Other interactions that are beneficial to students include timely feedback, being provided motivation and guidance, and feeling valued for their contributions. Learning experiences can also be advanced through mandatory participation in class activities.

Paechter, Maier, & Macher (2010) examined aspects of e-leaning considered important by students in regard to learning achievements and course satisfaction. They proposed that when

it came to expectations, student achievement goals ranked higher in importance than learning material design or the user friendliness of the technology. Instructors can further encourage achievement goals by providing ways for students to measure progress throughout the course, such as self-tests. With regard to student experiences, instructors' knowledge, counseling, and support were important for learning achievement and course satisfaction. Instructor knowledge can be furthered though continued training to sharpen skills for the implementation of online courses. Counseling and support are important to increase a student's span of knowledge and skills. Instructors have many decisions to make when designing an online course. It is these decisions that will affect student learning achievements and course satisfaction. Some important considerations for instructors are learning material, online environment, student-instructor interaction, student-student interaction, student self-regulation of learning, course outcomes of learning achievements, and course satisfaction.

While student achievement and satisfaction is an important indicator of how engaged a student will be in course activities, it is also important to examine both student and instructors' experiences using Web 2.0 technology. Appropriate media integration should not be taken lightly by the instructor. Student learning experiences depend upon the variety of media tools used (Kim et al., 2011). Virkus and Bamigbola (2011) have experimentally examined students' perception, preferences, and experiences of using Web 2.0 technology. They concluded that students' experiences in using this technology vary and can be broken down into four different categories: communication, educational, professional, and multi-purpose. Even though there are many Web 2.0 technology tools available, certain tools were favored depending on the needed usage. Overall, the Web 2.0 technology tools that were favored were Skype, Yahoo! Messenger, and Facebook. One challenge facing instructors is incorporating the most effective and most

beneficial Web 2.0 technology tool into the course design to support integration of technology into teaching as well as support the different learning style needs of the student. Benson and Avery (2009) reported that the implications of using Web 2.0 technology in education were not always embraced by instructors. Some instructors look at new technology as a burdensome administrative duty. To help overcome this resistance, technology has to be simple enough that both the instructor and the student will embrace it, affecting both teaching and learning strategies.

Instructors must prepare for the integration Web 3.0 technologies into distance education. Web 3.0 is also known as the Semantic Web. The web of the future will not just display information but will understand the data in a meaningful way (Morris, 2011). Lal & Lal (2011) found that Web 3.0 will allow intelligence, personalization, interoperability, and virtualization. Once integrated into distance education, Web 3.0's success will rely upon its ability to optimize data integration. Intelligent search engines will only find the relevant matched keyword in the search versus hundred of irrelevant searches. Web 3.0 technology offers a more open approach to learning. Some of these approaches include the combining of reality and virtual environments to create 3D wikis, 3D labs, 3D worlds and avatars. Padma and Sashasaayee's (2011) analysis of Web 3.0 technology discovered that it will make for a more sophisticated audience, will make use of artificial intelligence, and will personalize the web for the user. What this could mean in terms of educational use is that the student can interact with an intelligent agent or tutor. The intelligent agent can take on a look of avatar that is specified by the student. To be successful, the student will need to be completely interactive. The intelligent agent will assess the intelligence level and preference of the student. Based on that assessment, the intelligent agent will deliver information sought by the student.

Web 4.0 technology is still just an idea in progress and has not been thoroughly defined. However, it is imagined that human and machine will be in symbiosis (Aghaei, Nematbakhsh, Farsani, 2012). It is important that instructors of today prepare for the next generation of students whom are leading this technology. Some developments in progress that could become a part of distance education of the future are 3-D printers, 3-D holographs, and for the severely disabled students, the ability to control a computer with their thoughts ("Web 4.0 Era", 2008).

When examining the role technology plays in online education, three questions came to mind: How does the use of Web technologies affect experiences, both positive and negative, of distance education students? How does the use of Web technologies affect experiences, both positive and negative, of distance education instructors? And, how can these positive and negative experiences be used to improve distance education experiences with the use of future Web technologies? Unfortunately, to date, there does not appear to be comprehensive empirical research of published literature on how current distance education experiences with Web technologies can be used to improve distance education courses as the next generations of Web technologies are integrated. Factors prohibiting research in this area could include how recently Web 3.0 technology has begun integration into distance education and Web 4.0 is just a concept at this point.

Since the researcher was unable to indentify experimentally-oriented literature examining how current online experiences with Web technologies can be used to improve distance education as the next generations of Web technologies are integrated, the first goal of the researcher was to discern what positive and negative experiences affect distance education students. The next goal was to discern what positive and negative experiences affect distance education instructors. It was predicted that communication between instructor-student and

student-student would contribute the most to negative distance education experiences for students and instructors. To assess what would be the most contributing factor to a negative learning experience for students and a negative teaching experience for instructors in a distance education environment, online surveys were utilized. Survey instruments were utilized for the two distinct groups of participants. In addition to communication interactions between instructor-student and student-student, the surveys also assessed other factors that contribute to both positive and negative experiences. Some of these other experiences included use of the technologies, technical problems, course design, and student personal needs (motivation, expectations, and satisfaction).

# CHAPTER THREE: GENERAL METHOD

## Procedures

Two online, electronic surveys were given to participants in this study. The first survey was given to distance education students and the second survey was given to instructors. Prior to filling out the survey, participants were notified by survey link e-mail that there is no compensation for responding nor is there any known risk. Participants were also informed that the information provided will be confidential and used only for research purposes. In addition, completion and submittal of the survey indicated the participant's consent to participate in this study. During the survey, participants had the option to selectively answer questions; they were not forced to answer any question(s) in which they did not want to answer. Participants were given two weeks to complete the survey. Responses from the online survey were recorded through an automated computer system. Participation was anonymous and voluntary. This information was provided at the beginning of the survey.

## Data Analysis

The primary source of data came from a researcher-made five-point Likert scale survey questionnaires (Appendices A & B). Prior to sending out the survey to participants, the questions were reviewed by East Carolina University faculty to ensure validity and reliability. Participants were asked to submit their responses by selecting one of five possible response options of 1 "Strongly Agree", 2 "Agree", 3 "Neither Agree nor Disagree", 4 "Disagree", and 5 "Strongly Disagree". Participants were also asked to provide short-answer and open-ended responses. The secondary sources of data came from published literature relating to Web technologies and distance education.

# CHAPTER FOUR: EXPERIMENT ONE - STUDENTS

The purpose of the first experiment was to examine factors impacting student post-secondary distance education learning experiences, making it either positive or negative. Experiences were broken into 11 categories, which were then broken down further into factors that were examined. It was predicted that communication between instructor-student and student-student would contribute the most to negative learning experiences for distance education students.

## Method

**Participants.** The total number of students requested to participate was 9899 and 561 reported back, resulting in a 5.7% response rate. The participants in this study consisted of distance education students from East Carolina University, North Carolina. They included a combination of graduate, undergraduate, and non-degree seeking students. Collectively, these students are enrolled in courses from a wide variety of specialties such as education, health, finance, and science, to name a few. There were 143 (25.5%) male and 417 (74.3%) female, (0.2% missing value, n=1). Their average age was 35.6 years old, ranging from 18 to 63 years old.

**Experimental Materials.** The researcher utilized a 30 item quantitative survey that asked distance education students to assess how Web 2.0 and Web 3.0 technologies affected their distance education learning experience (see Appendix A). Twenty-two questions concerned experiences in Web 2.0 technology use, Web 3.0 technology use, course design, technical problems, communication with the instructor, and interacting with other students. Also included were questions on student motivation, expectations, and satisfaction. Six short-answer demographic questions asked for information pertaining to gender, age, length of taking distance

education courses, number of distance education course taken, and most current distance education course taken. The two open-ended responses consisted of requests for participants to give personal positive and negative experiences as a distance education student and to also provide suggestions for improvements to online courses.

**Results**

The data obtained from the five-point Likert scale concerning positive and negative experiences of the distance education student in the areas of Web 2.0 technology (blogs, wikis, and podcasts), Web 3.0 technology (virtual reality), and course framework (course design, technical problems, instructor feedback, peer collaboration, motivation, expectations, and satisfaction) were analyzed. The results from this part of the study revealed 10 out of the 11 experiences were more positive than negative for distance education students. Technical problems experienced were more negative than positive. Descriptive statistics are represented in Table 1.

Table 1

Descriptive statistics of student online learning experiences

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Liked Blog Use in Curriculum | | | 560 |
| 1. Strongly Agree | 18 | 3% | |
| 2. Agree | 110 | 20% | |
| 3. Neither Agree/Disagree | 340 | 61% | |
| 4. Disagree | 65 | 12% | |
| 5. Strongly Disagree | 27 | 5% | |

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Liked Wiki Use in Curriculum | | | 559 |
| 1. Strongly Agree | 18 | 3% | |
| 2. Agree | 73 | 13% | |
| 3. Neither Agree/Disagree | 411 | 74% | |
| 4. Disagree | 41 | 7% | |
| 5. Strongly Disagree | 16 | 3% | |
| Like Podcast Use in Curriculum | | | 557 |
| 1. Strongly Agree | 33 | 6% | |
| 2. Agree | 150 | 27% | |
| 3. Neither Agree/Disagree | 334 | 60% | |
| 4. Disagree | 32 | 6% | |
| 5. Strongly Disagree | 8 | 1% | |
| Liked Virtual Reality Use in Curriculum | | | 558 |
| 1. Strongly Agree | 10 | 2% | |
| 2. Agree | 63 | 11% | |
| 3. Neither Agree/Disagree | 432 | 77% | |
| 4. Disagree | 22 | 4% | |
| 5. Strongly Disagree | 31 | 6% | |
| Clear Course Design | | | 559 |
| 1. Strongly Agree | 148 | 26% | |
| 2. Agree | 321 | 57% | |
| 3. Neither Agree/Disagree | 51 | 9% | |
| 4. Disagree | 32 | 6% | |
| 5. Strongly Disagree | 7 | 15% | |

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Technical Problems Occurred Often | | | 559 |
| 1. Strongly Agree | 25 | 4% | |
| 2. Agree | 99 | 18% | |
| 3. Neither Agree/Disagree | 69 | 12% | |
| 4. Disagree | 254 | 45% | |
| 5. Strongly Disagree | 112 | 20% | |
| Timely Instructor Feedback | | | 559 |
| 1. Strongly Agree | 122 | 22% | |
| 2. Agree | 335 | 60% | |
| 3. Neither Agree/Disagree | 35 | 6% | |
| 4. Disagree | 51 | 9% | |
| 5. Strongly Disagree | 16 | 3% | |
| Student Collaboration part of Curriculum | | | 556 |
| 1. Strongly Agree | 188 | 34% | |
| 2. Agree | 291 | 52% | |
| 3. Neither Agree/Disagree | 23 | 4% | |
| 4. Disagree | 39 | 7% | |
| 5. Strongly Disagree | 15 | 3% | |
| Motivation Harder for Online vs Traditional | | | 559 |
| 1. Strongly Agree | 66 | 12% | |
| 2. Agree | 176 | 31% | |
| 3. Neither Agree/Disagree | 49 | 9% | |
| 4. Disagree | 173 | 31% | |

| | | | |
|---|---|---|---|
| 5. Strongly Disagree | 95 | 17% | |
| Experiences | N | % | Total Responses |
| Online Learning Expectations Met | | | 558 |
| 1. Strongly Agree | 170 | 30% | |
| 2. Agree | 316 | 57% | |
| 3. Neither Agree/Disagree | 32 | 6% | |
| 4. Disagree | 31 | 6% | |
| 5. Strongly Disagree | 9 | 2% | |
| Online Learning Satisfaction Met | | | 559 |
| 1. Strongly Agree | 197 | 35% | |
| 2. Agree | 289 | 52% | |
| 3. Neither Agree/Disagree | 35 | 6% | |
| 4. Disagree | 27 | 5% | |
| 5. Strongly Disagree | 11 | 2% | |

Answers to open-ended responses were also examined in a more qualitative manner. Although participants varied in their answers as to what they considered positive or negative, it seemed clear that the participants were able to provide more insight into specific factors that affected their distance education learning experiences. Three out of the 11 experiences were reported as more negative than positive. Of the 369 participants who responded to providing positive and negative experiences: (1) nine of them noted course design as positive, while 17 participants noted it as a negative experience; (2) student collaboration had four participants who noted positive experiences, while 10 of them noted it as a negative experience; and (3) technical problems nine noted negative experiences, and as expected, zero incidences of positive experiences were given.

## Discussion

The results of this study strongly support the idea that certain learning experiences are more positive or more negative for students when using Web 2.0 and Web 3.0 technologies in distance education courses. The overall distance education experience for students is positive when it comes to Web 2.0 technology, Web 3.0 technology, and course framework aspects. Furthermore, the results were similar to data found on the course framework attributes of course design, technology, instructor feedback, peer interaction, expectation, motivation, and satisfaction as reported by Paechter et al. (2010). More specifically, the research of Paechter et al. (2010) showed that the interaction between the student and instructor highly contributed to students having a more positive learning experience compared to a negative one.

Contrary to expectations, communication between instructor-student and student-student were not what contributed the most to negative learning experiences. This study revealed that technical problems overwhelmingly contributed the most to a negative learning experience. This may be due to the fact that this study provided participants with more learning experience options to evaluate in one concentrated analysis than many other studies examining just a few of the learning experience options (Benson & Avery, 2009; Musawi, 2011; Paechter et al, 2010; Usleul & Mazman, 2009).

While this study did not contain an all inclusive of every possible experience a student can have, it did provide the participants with enough experience categories to cover the most common experiences of distance education students. Since the participants cited at least some evidence in their feedback to open-ended responses, it seems reasonable to believe that their specific positive and negative experiences were on target with the 11 experience categories

listed. It should be noted, however, that feedback from open-ended responses tended to lean more towards negative experiences. It is possible that evolution has wired humans to focus on negative information that can be seen as harmful. If so, then the participants may have chosen a positive option on the five-point Likert scale but decided to divulge a negative experience in the open-ended responses. As a result, the open-ended responses may have neglected to give fair consideration to positive experiences. This idea is purely speculative, however. Additional research would be needed to ascertain if there is any validity behind the theory.

**Web 2.0 technology.** It can be inferred from the data that certain factors affect a student learning experience, making it either positive or negative, when using Web 2.0 technology. The following positive and negative factors of blogs, wikis, and podcasts have been cited by the participants. Some factors of blog usage in distance education courses have resulted in positive learning experiences. First, blogs allow for discussion in an open forum where students can interact with other students and the instructor about assignments/topics related to the course. It gives the opportunity for students' ideas to develop and their voices to be heard. Second, the distance education course was found more enjoyable when the instructor participated, as well as, a better quality of dialog. Blogs were also found to have some factors that lead to negative learning experiences. First, it was felt that blogs were underutilized and the value was not always readily seen with their use. Even when students were required to post a blog, it transformed into another Web 2.0 technology tool - a discussion board. Like blogs, discussion boards are used to post ideas. Second, the misuses with assignments; they were sometimes posted as long as five pages, which makes the experience time-consuming. The point was to post a thread and not an attachment. A third complaint of participants was that the discussion should be more focused on

the quality of the task rather than quantity so that it does not become students just repeating each other. This had led to students believing that posts are just busy work and thus, unrewarding.

Another Web 2.0 technology that has contributed to a positive learning experience is wikis, where all were available to contribute to the final document for group projects. No specific factor was given for negative learning experience for wikis. However, one participant said, "wikis are pools of ignorance". Of the Web 2.0 technology tools surveyed, wikis were used the least while Podcast use was the most used.

Podcasts were also analyzed for factors that impact student learning experiences. Some factors of podcast usage in distance education courses resulted in positive learning experiences. The first factor was that students felt like they were part of the class and not an outsider. One way this was accomplished was through a recorded lecture where an instructor got into more details rather than just posted documents or a PowerPoint presentation. It was found beneficial when instructors taped the face-to-face lectures so that the distance education students could view them. One participant remarked how much it was a help when viewed, the screen was split; one screen on the instructor and the other screen was on the problem being worked. Material that was unclear could be reviewed to refresh a memory. A second factor discovered that podcasts were useful for verbal reinforcement of what was read. It put a voice to the words, which could not be gotten from documents. Podcasts were also found to have some factors that lead to negative learning experiences. The first factor was that the lecture could not be understood. Lectures that were long and unfocused lost the attention of the student. Also, recordings that were muffled, of poor quality, or of irrelevant information, did not lend to quality work in return. The benefits of gestures, expression, and body language were lost when the video camera did not follow the instructor around the classroom. A second factor was that for

some students, podcasts were not their preferred method of learning. One participant noted that it would be more beneficial to just have reading assignment versus having to sit down and listen for an hour to someone. Research by Virkus and Bamigbola (2011) noted that it was a challenge to incorporate Web 2.0 technology into the course design and support students' different ways of learning. A third factor was that students did not always have the option for the convenience to load a podcast on to an iPod. That can hamper students today who want to view podcasts from whenever and wherever. Although Web 2.0 technology is used widely in distance education, Web 3.0 technology is making its mark in distance education courses.

**Web 3.0 technology.** The Web 3.0 technology of virtual reality was examined from the study for how it impacted student learning experiences. Participants were on opposite ends of the spectrum with virtual reality. They either liked it or they did not and they gave reasons for both positive and negative experiences. Some factors of virtual reality usage in distance education courses have resulted in positive learning experiences. One factor was that it gave the feeling of being in a room with other people. It provided students with the ability to mimic real life classroom situations. Virtual reality was also found to have some factors that lead to negative learning experiences. The first factor was that virtual reality was seen as unnecessary. It is unnecessary in that it can further isolate students. The second factor is that many distance education courses are set up for asynchronous learning. This type of learning can be difficult to incorporate virtual reality in which students would have to meet online at a specific time. This was difficult for certain students such as those in the military or police. A third factor was that virtual reality software, such as *Second Life*, can be seen as not very professional. The avatars were viewed as juvenile and some of their clothing had sexual connotations. No matter what

Web technology was being used, the participants attested that to have an effective class, the course and learning materials must be made clear and well structured.

**Course framework**. Course framework includes course design, technical problems, instructor feedback, peer collaboration, and student personal needs. No matter what technology was used, participants agree that a clear course design has made the difference between having a positive or negative learning experience. One factor that had resulted in positive learning experiences started with upfront expectations from the instructor. This was accomplished by the instructor being very organized and having all the course work seen from the beginning of the course; it was located in a single place where all assignments and due dates were clearly posted. Students liked to be informed of course requirements through an updated syllabus, class schedules of assignments, and due dates. Factors that have lead to negative learning experiences resulted from information being located in multiple places making it unnecessarily unclear. Cluttered information made students confused as to what information was needed for an assignment or even where to submit an assignment. A second factor includes ambiguous posting instructions on certain length, certain number of posts to meet, or specified response number. Although good or bad course designs were apparent from the beginning of the class, technical problems arose throughout the course.

Technical problems were inevitable even with the best of planning when dealing with an environment that thrived in Web technologies. Participants had a lot of experiences dealing with technical problems. The first factor that led to negative learning experiences was that technical problems take up valuable time that the student did not have. A second factor was that a web site ran slow, causing student productivity to decrease. A third factor included the hours of instructional time that had to be used to teach students how to use particular software. A fourth

factor was that even if the technology itself was working correctly, some instructors seemed to have difficulties keeping up with the technology, which made it awkward for some assignments. A fifth factor was that it fell upon each student to find a way to get access to a technology that has pretty high requirements in terms of hardware and connection speed. A sixth factor is that some students found it unfair that instructors could reschedule or redo any particular part of a lesson (lecture/podcast/posting), when students did not get the same courtesy, although both were at the mercy of technical glitches. A seventh factor was that not all technologies could be used on multiple formats and operating systems such as Mac, PC, and Linux. As frustrating as it was to have technological application not give output, it was worse when communication with the instructor was hampered.

Instructor feedback made the difference between a positive or negative learning experience. One factor for a positive learning experience was when the instructor would give the option to chat via the telephone or Skype during set office hours. One participant suggested that when feasible, probably best for instructors with small classes, some sort of video feedback. The first factor for a negative learning experience was when emails were rarely answered and feedback was vague. Even when the entire curriculum was set well in advance, feedback was hardly provided for the entire course or it was given in a manner that felt demeaning when asking for clarification. A syllabus posted at the beginning of the semester and basically being told, "OK - turn in your work. I'll post grades" gave the feeling of not being like a "real" student. A second factor was when mass information was sent out, with no real teaching or any sort of personal interaction. This has given students the sense that the instructor does not care. A third factor was not receiving the attention needed in order to be successful. Instructors did not always

realize just how difficult the material was to actually comprehend. Just as feedback from instructors is important, so is communication from other students.

Student collaboration had a positive learning experience. It was socially oriented, helping distance education students to not feel so alone. Factors that lead to negative learning experiences were given by the participants. The first factor was when the student collaboration was not used in the curriculum purposely. Posting just to post was a waste of students' time as it took much time to read all of the posts. A second factor was when instructors tried to make online courses just like face-to-face courses in which there were scheduled class times. It felt like unnecessary forced interactions in group discussions. A third factor was when group projects were part of the curriculum. It was difficult for students to keep in contact and to get together to edit the paper. Without some kind of one-to-one contact, such as at least a phone call, a student just received, at best, a bunch of e-mail exchanges. Also, the projects turned into where the majority of the work was done only by a few and response in e-mails was lacking. Personal needs were as individual as students themselves.

The personal needs of student motivation, expectation, and satisfaction were examined. Although there was only a 5% difference, motivation was found to be not harder for distance education students versus traditional taught students. Motivation was kept high when the student had engaging and varied assignments to keep interest. Paechter et al. (2010) found that motivation should be influenced by providing self-regulated learning and self-test to measure progress. This study presented evidence that the majority of the participants had their course expectations and satisfaction met. Kim et al. (2011) demonstrated that learning satisfaction was increased when distance education courses were varied with diverse media integration and

quality instruction. It was suggested that instructors opened asynchronous discussions, facilitated quality interaction, and added useful resources (audio or video files).

# CHAPTER FIVE: EXPERIMENT TWO - INSTRUCTORS

The purpose of the second experiment was to examine factors impacting instructor post-secondary distance education teaching experiences that affect the student's experience, making it either positive or negative. Experiences were broken into six categories, which were then broken down further into factors that were examined. It was predicted that communication between instructor-student and student-student would contribute the most to a negative teaching experience.

## Method

**Participants.** The total number of students requested to participate was 452 and 73 reported back, resulting in a 16.2% response rate. The participants in this study consisted of distance education students from East Carolina University, North Carolina. There were 26 (35.6%) male and 46 (63%) females (1.4% missing value, n=1). Their average online instruction time was 7.5 years, ranging 1 to 18 years. The average online courses taught was 19, ranging from 1 to 400.

**Experimental Materials.** The researcher utilized a 24 item quantitative survey that asked distance education instructors to assess how Web 2.0 and Web 3.0 technologies affected their distance education teaching experience (see Appendix B). Seventeen questions dealt with experiences in Web 2.0 technology use, Web 3.0 technology use, technology training, online versus traditional classroom preparation, and communication with the instructor. Also included were questions on course motivation, expectation, and satisfaction. Four short-answer demographic questions asked for information pertaining to gender, years as instructor, years as online instructor, and number of courses taught. The two open-ended responses consisted of

requests for participants to give personal positive and negative experiences as a distance education instructor and to also provide suggestions for improvements to online courses.

**Results.**

The data obtained from the five-point Likert scale concerning positive and negative experiences of the distance education instructors in the areas of Web 2.0 technology (blogs, wikis, and podcasts), Web 3.0 technology (virtual reality), and course framework (course preparation and instructor feedback) were analyzed. The results from this part of the study revealed that the Web 2.0 technology tools of blogs, wikis, and podcasts were more likely to be used on limited bases in distance education courses. Descriptive statistics are represented in Table 2.

Table 2

Descriptive statistics of instructor online teaching experiences

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Limited Blog Use in Curriculum | | | 72 |
| 1. Strongly Agree | 11 | 15% | |
| 2. Agree | 28 | 39% | |
| 3. Neither Agree/Disagree | 9 | 13% | |
| 4. Disagree | 17 | 24% | |
| 5. Strongly Disagree | 7 | 10% | |
| Limited Wiki Use in Curriculum | | | 73 |
| 1. Strongly Agree | 15 | 21% | |
| 2. Agree | 21 | 29% | |
| 3. Neither Agree/Disagree | 15 | 21% | |
| 4. Disagree | 15 | 21% | |
| 5. Strongly Disagree | 7 | 10% | |

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Limited Podcast Use in Curriculum | | | 73 |
| 1. Strongly Agree | 13 | 18% | |
| 2. Agree | 21 | 29% | |
| 3. Neither Agree/Disagree | 11 | 15% | |
| 4. Disagree | 19 | 26% | |
| 5. Strongly Disagree | 9 | 12% | |
| Liked Virtual Reality Use in Curriculum | | | 73 |
| 1. Strongly Agree | 6 | 8% | |
| 2. Agree | 8 | 11% | |
| 3. Neither Agree/Disagree | 14 | 19% | |
| 4. Disagree | 23 | 32% | |
| 5. Strongly Disagree | 22 | 30% | |
| Adequate Blog Training | | | 73 |
| 1. Strongly Agree | 2 | 3% | |
| 2. Agree | 18 | 25% | |
| 3. Neither Agree/Disagree | 15 | 21% | |
| 4. Disagree | 25 | 34% | |
| 5. Strongly Disagree | 13 | 18% | |
| Adequate Wiki Training | | | 72 |
| 1. Strongly Agree | 2 | 3% | |
| 2. Agree | 11 | 15% | |
| 3. Neither Agree/Disagree | 15 | 21% | |
| 4. Disagree | 29 | 40% | |
| 5. Strongly Disagree | 15 | 21% | |

| Experiences | N | % | Total Responses |
|---|---|---|---|
| Adequate Podcast Training | | | 72 |
| 1. Strongly Agree | 4 | 6% | |
| 2. Agree | 13 | 18% | |
| 3. Neither Agree/Disagree | 15 | 21% | |
| 4. Disagree | 75 | 38% | |
| 5. Strongly Disagree | 13 | 18% | |
| Online Required More Class Prep Time Than Traditional | | | 73 |
| 1. Strongly Agree | 30 | 41% | |
| 2. Agree | 22 | 30% | |
| 3. Neither Agree/Disagree | 16 | 22% | |
| 4. Disagree | 5 | 7% | |
| 5. Strongly Disagree | 0 | 0% | |
| Timely Instructor Feedback | | | 73 |
| 1. Strongly Agree | 29 | 40% | |
| 2. Agree | 36 | 49% | |
| 3. Neither Agree/Disagree | 4 | 5% | |
| 4. Disagree | 3 | 4% | |
| 5. Strongly Disagree | 1 | 1% | |

Answers to open-ended responses were also examined in a more qualitative manner. Although participants varied in their answers as to what they considered positive or negative, it seemed clear that the participants were able to provide more insight into specific factors that affected their distance education teaching experiences. Of the 53 participants who responded to

providing positive and negative teaching experiences, nine of them noted online course preparation as negative. Five of the participants noted that the mode of instruction and technological applications should be dependent on the course and target student audience.

**Discussion**

The results of this study strongly support the idea that certain factors can impact an instructor's teaching experiences, either positively or negatively, in post-secondary courses using Web 2.0 and Web 3.0 technologies. Furthermore, the results were similar to data found on the instructor planning of the course as reported by Benson & Avery (2009). More specifically, Benson & Avery (2009) research revealed that some distance education instructors found learning a new technology can be difficult and challenging.

Contrary to expectations, communication between instructor-student and student-student were not what contributed the most to negative learning experiences. Inadequate technical training overwhelmingly contributed the most to a negative teaching experience. This may be due to the fact that this study provided participants with more learning experience options to evaluate in one concentrated analysis than many other studies examining just a few of the teaching experience options (Barbour & Hill, 2010; Benson & Avery, 2009, Paecher et al., 2010).

While this study did not contain an all inclusive of every possible experience an instructor can have, it did provide the participants with enough experience categories to cover the most common experiences of distance education instructors. Since the participants cited at least some evidence in their feedback to open-ended responses, it seems reasonable to believe that their specific positive and negative experiences were on target with the six experience categories

listed. Like in experiment one, feedback from open-ended responses tended to lean more towards negative experiences; additional research would be needed to ascertain the reason.

**Web technologies.** From the results of the study, Web 2.0 technology (blogs, wikis, and podcasts) and Web 3.0 technology (virtual reality) were found to have some factors that led to negative teaching experiences as cited by the participants. One factor was that instructors were overwhelmed by inadequate basic training of Web technologies. Instructors would like to have more training in the technologies useful for online teaching as well as see it modeled. The training would be more beneficial if it taught how to use the technologies effectively in instruction in addition to the technology itself. Paecter et al. (2010) supported the importance of further instructor training in implementing e-learning. Instructors found that other colleagues and the college's IT consultant were much more useful in regards to set up of the class and assistance with technical problems. A second factor was the difficulty in finding the time to keep up with the technologies needed to stay current for online teaching. Relief can be given by being provided release time to learn how to teach online courses well. A third factor was not always having the license to use particular software and having to download 30 day trials. Downloads take a long time for students who do not have faster Internet capabilities. A fourth factor was not utilizing the appropriate technology for the content. Newer technology is not always better. Technology should not be integrated for the "wow" factor, rather it should be based on a need and finding a purpose. Each course and instructor is different and there is no "one size fits all" solution. Mandating blogs or other items takes away academic freedom; plus, it may be appropriate for a discussion class, but it likely to be less useful in a number-crunching (outcome-oriented) class. A fifth factor was how time consuming it was to train students on software use. Despite the fact that there was an entry tutorial for use of Blackboard for the distance education

students, the instructor spent an inordinate amount of time orienting them to the online environment.

**Instructor planning.** The study investigated how distance education affects instructor teaching in distance education. One factor that led to a positive experience was that it helped with being more organized. Assignments require a lot of forethought in which documents cannot be uploaded and students expected to learn. One factor that led to a negative learning experience was that online classes are more labor and time intensive for the instructor. The amount of preparation was higher and was hard to realize in the beginning. Another factor was that it was difficult to juggle between assigning enough work so that students fully comprehended the material and the amount of students. One participant chose to keep the amount of writing in their online courses fairly high as they have found that it made a big difference in the student's learning of the material. However, it was very hard to maintain and the instructor considered making cuts in the writing assignments to help balance the teaching load.

Although the majority of the participants felt that they provided feedback in a fast manner, there were some factors affecting the teaching experience in a negative way. One factor was that communicating was more time consuming due to lack of face-to-face contact. Students often expected feedback (graded essays or projects) within 24 hours. Traditional face-to-face students do not seem to have the same expectation. A second factor was that the students can seem, at times, as if not real to the instructor. The instructor does not actually know if there was a "ghost" writer sitting in for the student. A third factor is that students did not read closely enough in online courses. Instructors spent a lot of time creating resources and preparing materials, but the students did not always take the time to access or process them. Thus, the

instructor spent a lot of time answering questions and explaining material that was thought to be already answered.  Even when pointed to the resources, they still were confused.

# CHAPTER SIX: CONCLUDING DISCUSSION

The overall results of this study have revealed that certain factors impact student and instructors, both positively and negatively, in distance education courses using Web 2.0 and Web 3.0 technologies. It was hypothesized that the number one reason for a negative experience would be lack of interaction between student-instructor and student-student. While the hypothesized expected results were not obtained in this study, the overall outcome nonetheless, did yield factors that gave insight into what led to either a positive or negative experience for students and instructors. The open-ended responses tended to lean more towards negative learning experiences, while the data obtained from the five-point Likert scale tended to lean more toward positive learning experiences in experiment one. The participants from experiment two also tended to give negative teaching experiences in the open-ended responses.

Admittedly, this study had some limitations. First, the samples were only collected from one university in North Carolina, which limits generalization of the study results. Second, because the survey was done online, it did not control non-respondent bias. Those who did not respond to the survey might be the ones that felt instructor-student and student-student interaction was lacking. The study on non-respondents needs to be examined to see how their experiences are different from those who responded to the surveys.

Despite those limitations, the following participants' consolidated responses were discovered in the study as impacting factors that led to positive distance education learning experiences for students using Web technologies:

- interaction with other students and the instructor through the technology
- instructor participation using the technology
- wikis can allow for all in the group to contribute to final project

- feel like part of the class
- verbal reinforcement (podcasts) of reading assignments
- feeling of being in a room of people
- upfront expectations from the instructor
- feedback via telephone or video conferencing
- motivation with engaging assignments
- expectations can be kept if student accepts that technology has challenges
- satisfaction by taking responsibility for learning

The following participants' consolidated responses was discovered in the study as impacting factors that led to a positive distance education teaching experience for instructors using Web technologies:

- planning makes instructor better organized

The following participants' consolidated responses were discovered in the study as impacting factors that led to negative distance education learning experiences for students using Web technologies:

- underutilized and undervalued technology
- misuse of technology
- focus is more on quantity then quality for posting
- poor quality of lecture in podcast
- not enough learning method varieties
- mobile platform not available
- virtual reality seen as unnecessary
- asynchronous set-up hard for students to meet at one specific time

- virtual reality can be seen as not professional
- unorganized and cluttered information confuses
- ambiguous directions
- technical problems can be time-consuming
- slow web-sites
- instructional time spent familiarizing students with the software
- some instructors have a difficult time keeping up with the technology
- high demands on hardware and connection speeds for some software
- technical glitches seen as unfair to students
- some technologies not useable on all platforms
- vague feedback
- sense that instructor does not care
- not receiving help needed for difficult material
- collaboration not used purposefully
- forced interaction
- group projects are difficult to get full participation from all members

The following participants' consolidated responses were discovered in the study as impacting factors that led to negative distance education teaching experiences for instructors using Web technologies:

- overwhelmed by inadequate basic technology training for instructors
- do not have the time to learn new technologies
- not having the technology needed for the course
- not utilizing the appropriate technology for the content

- time consuming for instructor to train students
- online course are more labor intensive
- teaching load can be heavy
- more time consuming due to lack of face-to-face contact
- students can seem as not real
- spends a lot of time re-explaining material

Based on the data, it can be speculated that improvements to enhance the distance education experience with the use of Web technologies is a shared responsibility between students and teachers. The basic elements of a distance education course discussed in this study (Web technologies, course design, communication, and student needs) each have challenges to either embrace or overcome. Although some factors are just inherent features of the world of distance education, such as technical problems, there are some factors that are within the grasps of student and instructors to change from a negative to a positive experience. From the perspective of the instructors, it should be the student's responsibility to take responsibility for learning. Students should recognize that there are challenges that they must be prepared for in order to be successful in an online environment. There is an element of self-teaching that students need to be ready for. Instructors are there to facilitate learning, not to spoon feed. Because the student should take more responsibility for accessing and navigating the materials provided, an instructor's online version is often more difficult. From the perspective of the students, instructors must communicate, have a purposeful curriculum, and learn the Web X technology applicable to the course. Clear communication should be given in the form of unambiguous directions in assignments and feedback that is not vague. Students do not like using technology just for the sake of using it, especially if its purpose is for forced student

interactions. Also, instructors should have the training they need to be technically proficient enough to know how to use the technology effectively if it is going to be a part of the course. However, institutions need to provide appropriate training for instructors teaching in an online environment. Distance education is a partnership between students and instructors that must work together to make the overall experience enjoyable for both.

A future experiment in this area could attempt to discern if teaching experience of the instructor affects the distance education learning experience for students. An experiment might be accomplished by comparing the experience of the instructor to the experiences of the students within the same course and utilizing similar experiences in a survey or case summaries from the perspective of both the instructor and the student. For example, if the instructor does not embrace the technology, the instructor is likely to have a negative teaching experience by having difficulty in using the technology. How would this impact the way the instructor taught? How would this impact the learning experience of the student? Additionally, this area of study could benefit from comparing factors that affect student learning experiences between the different Web technologies, including Web 4.0 technologies. Such a study could compare Web 4.0 technologies to past Web technologies to ascertain whether improvements are being made in distance education courses that affect learning experiences or are the same factors repeating themselves from one Web generation to the next. In other words, are we learning from our mistakes?

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## Appendix A – IRB Documentation

**EAST CAROLINA UNIVERSITY**
**University & Medical Center Institutional Review Board Office**
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/irb**

### Notification of Exempt Certification

| | |
|---|---|
| From: | Social/Behavioral IRB |
| To: | Julia Kimbrell |
| CC: | Maureen Ellis |
| Date: | 10/18/2012 |
| Re: | UMCIRB 12-001850<br>Impacts to Web X.0 |

I am pleased to inform you that your research submission has been certified as exempt on 10/18/2012. This study is eligible for Exempt Certification under category #1&2.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification request at least 30 days before the end of the five year period.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

**APPENDIX B – STUDENT SURVEY**

East Carolina University. Student Project

This survey is for students who have taken or are currently taking one or more online courses. The purpose of this survey is find out what, if any, experiences have impacted you while taking online courses to include blogs, wikis, podcasts, or virtual reality in those courses. Additionally, this survey would also like to know what improvements can be made in online courses to enhance learning experiences.

This survey consists of short answer multiple choice.
Please take up to one week to complete the survey.

The creator of this survey is firmly committed to maintaining the confidentiality of individual respondents' data obtained. This information will be used strictly for use of the study only and will only be seen by the conductor of the study.

Please take up to two weeks to respond

Thank you for participating in the survey!

---

I am

---

- ○ Male
- ○ Female

My age is

---

[ ]

How long have you been taking classes online?

---

[ ]

The number of online that I have taken is

---

[ ]

The most recent online course(s) I have taken or are currently taken is/are

I prefer taking online courses versus traditional face-to-face courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, the course and learning material were made clear and were well structured

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, technical problems were issues I had to deal with often (e.g. software errors, internet access)

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Blogs should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I liked courses in which blogs were part of the curriculum. Select 'Neither Agree nor Disagree' if situation does not apply to you.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I felt safe posting information

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Wikis should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I like courses in which Wikis were part of the Curriculum. Select 'Neither Agree nor Disagree' if the situation does not apply to you.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Wikis are a reliable source of information

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Podcasts should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I like courses in which Podcasts were part of the Curriculum. Select 'Neither Agree nor Disagree' if the situation does not apply to you.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I prefer to receive recorded instructional information from the instructor through Podcasts versus live classroom instruction

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I like courses in which virtual reality (e.g. Second Life) was part of the curriculum. Select 'Neither Agree nor Disagree' if the situation does not apply to you.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I prefer courses taught in Virtual Reality

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I received fast advice/feedback from my instructor.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I would of preferred personal (face-to-face) contact with my instructor.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that lack of personal contact with my instructor affected my online course performance

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I collaborated with other students in multiple online forums (e.g. e-mail, chat, etc)

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the online courses that I have taken, I would of preferred personal (face-to-face) contact with other students

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that lack of personal contact with other students affected my online course performance

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Motivation is harder for online students to maintain versus students in traditional classes

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that my expectations of taking courses in an online setting has been met

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that I am satisfied with online learning experience

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Please provide both positive and negative experiences (be specific as possible) you have had with online courses

Please provide any suggestions for improvements in the areas of online courses, including but not limited to blogs, wikis, podcasts, and Virtual Reality. Other suggested topics: current teaching methods that need improvement or other technologies you would like to see incorporated into online courses in the future.

Thank you for your time spent taking this survey.

Your response has been recorded.

**Appendix C – Instructor Survey**

East Carolina University. Student Project

This survey is for students who have taken or are currently taking teaching one or more online courses. The purpose of this survey is find out what, if any, experiences have impacted you while teaching online courses to include blogs, wikis, podcasts, or virtual reality in those courses. Additionally, this survey would also like to know what improvements can be made in online courses to enhance learning experiences.

This survey consists of short answer multiple choice.
Please take up to one week to complete the survey.

The creator of this survey is firmly committed to maintaining the confidentiality of individual respondents' data obtained. This information will be used strictly for use of the study only and will only be seen by the conductor of the study.

Please take up to two weeks to respond

Thank you for participating in the survey!

---

I am

- ○ Male
- ○ Female

I have been an instructor for

- ○ 0-9 years
- ○ 10-19 years
- ○ 20 or more years

How long have you been teaching online classes?

[ ]

The number of online that I have taught is

I prefer teaching online courses versus traditional face-to-face instruction

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Blogs should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the courses that I have taught, I used blogs sparingly as part of the curriculum

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I was given adequate training of blogs for class use

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Wikis should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the courses that I have taught, I used Wikis are used sparingly as part of the curriculum

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I was given adequate training of Wikis for class use

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Podcasts should be used in online courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

In the courses that I have taught, I used Podcasts sparingly as part of the curriculum

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I was given adequate training of Podcasts for class use

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I like to incorporate Virtual Reality into my curriculum/courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I prefer to teach using Virtual Reality versus other online methods

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I will continue/would like to teach using Virtual Reality

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Online class preparation is more time consuming than traditional classroom preparation

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that I give fast advice/feedback to my students

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Motivation is hard for most students to maintain in online courses versus traditional courses

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that I have met my students' online learning expectations

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

I feel that most of my students are satisfied with their online learning experiences on the online courses I teach

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Please provide both positive and negative experiences (be specific as possible) you have had with online courses

Please provide any suggestions for improvements in the areas of online courses, including but not limited to blogs, wikis, podcasts, and Virtual Reality. Other suggested topics: current teaching methods that need improvement or other technologies you would like to see incorporated into online courses in the future.

Thank you for your time spent taking this survey.

Your response has been recorded.