



Using a Blended Learning Format to Extend the Influence of a Technological Literacy Course

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Abstract

In 2000, an interdisciplinary course was introduced that explores a historical perspective of the development of technology in a global context. This junior level course traces the interconnected events and cultures in which technology developed. It investigates how technologies are inter-related and how cultural factors affect the acceptance or rejection of technology. The intent of the course was to enhance the student's understanding of how technologies developed and why. This Technological Literacy course began with one instructor and only one section with 20 students. Gradually over the years, as new creative ways to present the material were implemented, the popularity of the course rapidly increased resulting in expansion of the number of sections offered and instructors participating. Currently over 14 sections are offered each academic year with over 700 students taking part in the learning process. Initially, the course was classroom based using the traditional model of lectures and discussions with a few videos included for variety. In the fall of 2001, a degree completion program was launched at a group of Community Colleges located throughout the State and Region. This extended the reach of the course by offering it in a distance-learning format utilizing electronic delivery initially over the statewide K-20 network and then using WebEx. This format included the use of a traditional classroom equipped with television cameras and sound equipment to transmit the learning experience to the distant Community Colleges. Students taking the course at remote Community Colleges could view the class live as it was happening and ask questions in a real-time fashion just as if they were sitting in the traditional classroom. In addition, a Learning Management System (LMS) allowed Internet access to course materials, asynchronous communication between the faculty member and students, along with a way to submit assignments and provide feedback. The first few course offerings were basic. However, as new technologies emerged and enhanced teaching methods were utilized this changed rapidly. This paper reviews the challenges encountered and describes the continuing efforts to extend the reach of a traditional technological literacy classroom course by utilizing a blended learning format.

Introduction

It is interesting that a course that traces the development of technology and its impact on society would actually utilize leading edge technologies as its delivery medium. It was as if the course itself became part of the subject matter studied. Blackboards, whiteboards, overhead projectors, mimeographed copies, along with other items from old-fashioned classrooms have been replaced by new multimedia devices capable of streaming information to students at remote sites. Other innovative technologies are continually being introduced and implemented that extend and enhance these capabilities to novel applications.

When the Technology in World Civilization course (Loendorf¹⁷, 2004) was first introduced in the fall of 2000, it utilized lectures, discussions, and chalk on blackboards. The same tools and methodologies that were used in classrooms full of students for centuries. Reminiscent of the

material covered in the course (Loendorf¹⁸, 2010), there was really nothing new in terms of the way the subject matter was delivered to the students. It was as if the course itself had traveled back in time to the distant past. However, this was about to change.

The course content included inventions and innovations in technologies that encompassed every aspect of engineering (Loendorf & Geyer²³, 2010). Almost every year new ways to present the material were introduced. Innovative visual content was added continually to the course lectures (Loendorf¹⁹, 2011). Stories that describe the historical aspects of technology were embedded directly into every lecture in order to gain and keep the students attention and boost their interest (Loendorf²⁰, 2012).

In 2008, a project was initiated to enhance the practical connections or hands-on aspects of past technologies by adding some active learning components to these technical literacy lessons (Loendorf & Geyer²¹, 2008). The traditional lectures were modified to include brief demonstrations of ancient technologies along with controlled exercises requiring student involvement and participation. The recreation of ancient and other historical artifacts (Loendorf, Geyer, & Richter²⁴, 2013) also included the building of scale models using the technologies of the period.

The collections of recreated artifacts, scale models, along with donated or purchased antiques grew rapidly to the point of creating a transportation problem. How could all of these items be brought into the classroom? The answer was found in repurposing an old technology. A number of old audio-visual (AV) carts were acquired from the University's Surplus Equipment Facility, cleaned, and decorated. The term "Educational Delivery Vehicle" or "EDV" (Loendorf & Geyer²², 2009) was devised to help convey the purpose of the AV carts.

These collections include Stone Age tools, ancient war weapons, Ancient Armor, Pioneer Technologies, electrical artifacts (Generator Simulators, Video Analyzer, Signal Generators, Oscilloscope, Tubes, Tube Tester, Multi-meters, Panel Meters, Circuit Simulators, etc.), Amateur Radio devices (Packard-Bell Radio Demonstrators), information storage (paper tape, records, magnetic tape, tape cartridges, film, Floppy Disks, Hard Drives, CDs, etc.), plastics, and other items. Some of these collections have so many items in them that two old display cases located in the Department's hallways were repurposed to contain them (Loendorf & Durfee²⁵, 2014).

Not only did the way the subject matter was presented change over the years, the technologies utilized did as well. The reach of the course was also extended by using technologies that allowed students to be located almost anywhere. In 2001, a distance education version of the course was launched that used a hybrid or blended approach. As a result, the restriction of having to be physically present in the classroom for lectures was removed. The student did not have to go to the educational opportunity, but rather the educational opportunity came to the student.

In 2000, one section of the traditional classroom version of the course was introduced. Over the fifteen years the course has been offered the number of sections has gradually increased. During the 2014 - 2015 Academic Year 14 traditional on ground sections and two-distance education blended learning sections were offered. Approximately 700 students enroll on the course each year with the majority of them in the traditional classroom version of the course.

Theoretical or Conceptual Support

The traditional method of teaching in a classroom environment of some type has been utilized since groups of humans first gathered. However, this format had the limitation that a person had to be physically present. This restriction was removed by using what at the time was new technologies. In the March 20, 1728 edition of the Boston Gazette Caleb Phillipps advertised to teach Shorthand on a weekly basis by correspondence (degreeinfo.com⁶, n.d.). Then in 1840, the English inventor of Shorthand, Sir Isaac Pitman offered postal service delivered correspondence courses (Matthews²⁶, 1999). The use of correspondence courses evolved over the years and is still available to some extent today. The limitation was the delay in the process caused by the postal system. In many cases, this could be days or perhaps as much as a week depending upon the distance between the instructor and the student. As new technologies emerged like the telephone, radio, television, audio tapes, and video tapes, they were quickly applied to distance learning activities (AdultLearner.com¹, 2002). However, the new technologies improved the instructional method and presentation of material but still relied upon the postal service for delivery along with its integrated delays.

The big leap forward came along with the development of the personal computer and the Internet becoming the center of life for distance education (Gaytan⁷, 2007). During the 1980s, numerous varieties of online type courses emerged (Baker², 2000). In the mid-1990s, Glenn Jones started the Mind Extension University offering full degree programs utilizing cable network broadcasted courses. Then in 1999, Jones International University received North Central Accreditation, the first fully online university to earn this accomplishment (Jones¹³, 2002). Today a wide variety of entirely online universities along with on ground universities offer courses using the Internet.

It is all about access to educational opportunities. The primary purpose is to offer educational services to students that may be place bound, unable, or unwilling to take part in campus-based learning. "Distance education is the most renowned descriptor used when referencing distance learning. It often describes the effort of providing access to learning for those who are geographically distant" (Moore, Dickson-Deane, & Galyen²⁷, 2011).

The literature contains numerous definitions of distance education. However, they all stress the remote aspect separating the student from the educational opportunity in some manner. Three representative definitions are presented below.

"Distance education includes the various forms of study at all levels which are not under the continuous immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization" (Holmberg¹¹, 2003).

"Distance education is the offering of educational programmes designed to facilitate a learning strategy which does not depend on day-to-day contact teaching but makes best use of the potential of students to study on their own. It provides interactive study material and decentralised learning facilities where students can seek academic and other forms of educational assistance when they need it" (Daniel⁵, 1996).

“Distance education is often defined as simply a form of education in which the learner and instructor are separated during the majority of instruction. But unlike independent or self-directed study, distance education usually implies the presence of an institution that plans curriculum and provides resources and services for its students” (Johnson¹², 2003).

Distance education describes the way that distance learning is facilitated. The distant student does the distance learning. That means the educator does the educating while the student does the learning. This is similar to what happens in the classroom, only now distance separates the educator or Professor from the student.

Distance Education course models have been given a variety of names over the years. Some of the more common models were "mixed-mode instruction," "hybrid," "technology-mediated instruction," "web-enhanced instruction," and "blended learning." These terms are often used interchangeably, however the term “blended learning” is most commonly used today.

Online instruction has expanded educational opportunities to all geographical locations removing artificial boundaries creating global access to learning and created a new age in distance education (Heinich, Molenda, Russell, & Smaldino⁹, 2003). It also offers flexible learning modes allowing students to control their learning path, pace, and possibilities (Hannafin⁸, 1984). Online instruction does have many favorable features. However, some drawbacks exist including its limited capability to engage students unless they were active learners and self-motivated (Daniels & Moore⁴, 2000). There is also an absence of community in online courses that hinders the development of shared feelings and emotions, which are some of the important factors influencing student satisfaction and the learning process (Sergiovanni²⁹, 1994).

In order to overcome the deficiencies of online courses and capture the strengths of both online and face-to-face instructional delivery modes, some instructors have adopted a hybrid or blended learning approach. “The major thrust of blended instruction is to overcome the shortcomings of online instruction and utilize various instructional sequencing and delivery strategies to enhance learner satisfaction while also achieving increased learning outcomes” (Lim, Morris, & Kupritz¹⁶, 2007).

“A blended course is defined as a course that combines face to face learning and distance learning to provide students with the best practices of both delivery methods” (Hijazi, Crowley, Smith & Shaffer¹⁰, 2006) “The main reasons for using the hybrid method were to improve student participation, preparation, and understanding as well as to encourage a more active rather than passive approach to learning which can be particularly difficult in large-sized, undergraduate courses” (Kenney & Newcombe¹⁴, 2011).

“Results indicate that student performance in the traditional and blended learning sections of the course were comparable and that students reported high levels of interaction with their instructor” (Napier, Dekhane, & Smith²⁸, 2011). However, faculty teaching blended learning courses must adopt new tools and new mindsets to increase the likelihood of positive outcomes (Leonard & DeLacey¹⁵, 2002).

Implementation

The Technology in World Civilization course was first introduced during the 1999 – 2000 academic year. It was a traditional lecture and discussion based classroom course that enrolled 20 students. At that same time a series of Memorandums of Understanding (MOU) were established with a group of Community Colleges across the State and Region. This was the beginning of a new degree completion program. This led to the development and implementation of a hybrid or blended learning version of the course that was introduced in 2001.

Students graduating from these Community Colleges with a technical degree could now continue their education and earn a Bachelor's Degree in Applied Technology while still attending classes at their current campus. This offered a convenience factor for the students allowing them to complete their Bachelor's Degree at their local Community College without having to commute to a university. In addition, the courses were offered in the evenings allowing the continuing students to work during the day and take courses at night.

The classes were offered in a distance-learning format utilizing electronic delivery over the statewide K-20 network. The format utilized a traditional classroom outfitted with two television cameras, television monitors, and sound equipment. The cameras were remote controlled by the faculty member with one focused on the front of the classroom while the other was pointed at the students. One of the monitors showed the image that was being transmitted to the Community Colleges while the other one displayed the students at the remote Community College back to the originating classroom. Since multiple Community Colleges were involved in each course, only the Community College with their microphone active was displayed on that monitor.

The remote classroom environment also consisted of two large television monitors, one camera that was pointed at the students in the class, and sound equipment. One monitor received the content transmitted from the originating university classroom while the other displayed the Community College classroom with their microphone activated. This allowed the students taking the course at remote Community Colleges to view the class live as it was happening and ask questions in a real-time fashion just as if they were sitting in the traditional classroom at the university. In addition, all of the sites could see and hear the students as they asked questions during the class session.

In addition, a Learning Management System (LMS) allowed Internet access to course materials, asynchronous communication between the faculty member and students, along with a way to submit assignments and provide feedback. A Learning Management System has the capability to administer, track, document, report, and deliver electronic educational technology courses to remote students. Initially Blackboard was utilized and then in 2012 the LMS was changed to Canvas.

The 2012 to 2013 academic year was a transition period from Blackboard to Canvas. As with any major migration, numerous implementation issues had to be resolved. The switch to Canvas was not completed until the Fall Quarter of 2013 and it is now in its second full year of use. The majority of the distance education students are still non-traditional creating a problem with the technological learning curve. In order to minimize the transition stress for the remote students,

the initial features were set to a minimum. The Canvas capabilities were limited to Assignments, Announcements, Grades, People, and Files.

The popularity of the new Applied Technology Degree completion program grew rapidly over the years. This demand quickly outgrew the capabilities of the one distance education classroom. To overcome this issue, additional class times were scheduled both earlier and later in the evening. This was a suitable temporary fix. However, it rapidly became apparent that an additional distance education classroom would soon be required.

The need for distance education classrooms once again exceeded capacity in 2012. In the fall of 2012, a second distance education enhanced classroom was added while the original classroom was updated with new equipment. Even with two distance education classrooms, it was difficult to keep up with demand. During that same year, utilization of the statewide K-20 network was complemented by adding the use of WebEx. This Cisco product provides collaboration for online meetings, conferencing, and other applications. One important new capability is the ability to record sessions for playback at a later time or repeated playbacks.

This collaborative use of technologies was actually beneficial in the classroom. The K-20 system was used for audio and instructor images, while using WebEx for everything that was presented on the instructor's computer. This combined system eliminated the need to use the whiteboard. It also allowed continued communication when technical problems were experienced with one method or the other. The overhead document camera was still utilized to present some of the artifacts used in the class. However, not all of the exhibits fit on the instructors desk requiring that some of the items were included in the lectures via a pictures during this time period.

In the beginning of the 2014 to 2015 academic year, WebEx was used exclusively for delivering the classes. This means we now have passed the boundary line with no requirement for on-campus residency. The WebEx functions were updated to include full audio and video capabilities. The overhead document camera was replaced by a portable medium resolution webcam allowing the distance students to view the instructor, whiteboard, PowerPoint slides, their classmates, along with the exhibits of collected or recreated artifacts.

The distance education classes are still delivered in real-time, directly to wherever the students are located at the time of the class. The minimum technological requirements for students are now a computer/tablet/phone with Internet connection (preferably not Wi-Fi), headphones, and a microphone. The instructor's face is still broadcast using a camera to avoid having a ghost or "headless instructor." Currently students are not required to have a camera on their Internet-connected device.

The University is now an approved State Authorization Reciprocity Agreements (SARA) institution in Washington State. SARA is an agreement among member states that establishes comparable national standards for interstate offering of postsecondary distance education. It is intended to make it easier for students to take online courses offered by institutions based in another state. As a result, distance education courses can now be delivered in all SARA authorized states with only reporting requirements. The University is currently fully authorized in 25 states, partial authorization in five states, and under review in 16 other states. However,

distance education courses cannot be delivered to the States of Arkansas, Maryland, North Carolina, and Wisconsin. As of this writing, the University has not yet taken advantage of this expansion capability.

When the distance education version of the Technology in World Civilization course was first offered, it was all about accessibility. Students located remotely across the State and the Region were able to take the course and even complete their Bachelor's Degree. Now because of the SARA agreement, the geographical boundaries have almost been completely eliminated. In the future it is highly likely that the availability of the course will be extended to a much larger geographic region. As a result, the reach of the course could soon extend from coast-to-coast.

Instructional Design

When the Technology in World Civilization course was first offered in a distance learning blended format, many obstacles were encountered. Even though the course was basically lecture and discussion based, some videos were also used. This created a problem because the technical capabilities to show them to the remote sites was not available. Typically, four exams were also given in class during the term causing another problem. The exams could be sent to the remote sites; however, there was no faculty member present to proctor the taking of the exams.

The on ground traditional version of this four-credit course meets for one hour four times a week. The hybrid or blended learning version only meets once a week for two hours. This time differential is made up by having the students spend more time outside of class reading material, conducting research, writing essays, and taking exams. As a result the amount of time a student spends doing course related work in either format is equivalent.

In order to resolve these and other issues the way the course was presented in the distance blended format would have to be modified from the traditional classroom version. Although less than ideal, it was a reality when dealing with the limited technical capabilities available 15 years ago. Great care was taken to insure that the content of the course would remain the same with a modified means of delivery.

During the first few years, the distance education version of the course did not use any PowerPoint presentations. Instead, the whiteboard was utilized for drawing objects, timelines, graphs, and listing important facts. The course reverted to the traditional lecture and discussion based format. This created quite the challenge for the instructor to insure that the material was delivered in an interesting and stimulating manner.

Since the ability to use videos in the distance education classroom was not available, the instructor described or drew on the whiteboard the main ideas and concepts. This created an even greater challenge for the instructor, especially when it came to creating accurate drawings on the whiteboard. In addition, an overhead camera focused on items placed on the instructor's desk and allowed the image to be transmitted to the remote sites. The use of these images allowed for static pictures, drawings, and other items to be presented to all the students.

The traditional classroom version of the course utilized four exams and four essays for evaluation and assessment methods for student achievement. Without the ability to give remote exams, the number of essays was increased to eight. An essay topic was assigned using Blackboard for distribution during the middle eight weeks of the ten-week course. Students would write the essay and submit it using the DropBox feature of Blackboard for grading. The instructor would then review them offering constructive feedback, assign a grade, and return the paper to the student using Blackboard.

In order to address these issues, the blended learning format was implemented. The Technology in World Civilization course in its traditional classroom format meets for four hours a week making it a four-credit course. In the blended format, it meets once a week for two hours. It is essentially an accelerated version with additional outside readings and work for the students. The lectures and discussions focus on the highlights of the material and the students are required to study the details on their own time.

The biggest dilemma centered upon how to present and display the many collections of artifacts in a distance education format. Many of the recreated or collected items were small and simply did not show well through the cameras. In other cases, much of the detail was lost that showed the craftsmanship involved in making them. Then the ability to pass the items around the classroom for close observation by the students was also not available. With the amount of face-to-face class time cut in half for the blended version of the course, it became a real challenge to fit all of the enhanced exhibits and materials into the shorter class time. This is one aspect of the blended learning environment that is still being struggled with.

Over the years, new technologies were developed and implemented that allow many of the distance learning deficiencies to be overcome. Video presentations became a vital part of the distance education courses and online versions of the exams were implemented. Additional technological advances enhanced the classroom experience for the remote students.

Exams were implemented remotely using Blackboard. The exams consisted of 50 multiple-choice questions that were randomly selected from an enhanced question bank with four randomized possible answers. The students were allowed 60 minutes to complete each exam with the questions delivered one at a time to insure the integrity and security of the exam. With these randomized effects, even two students sitting next to each other while taking the exams could not cheat. The questions used were from the same question bank as used in the classroom tests. As a reliability check, the average grades on the classroom version of the tests were within one percentage of those from the online version.

The use of new technologies continues to be a focus of the delivery process. In fact, it has also been incorporated as part of the class material since it represents advancement in technology and accessibility to educational material. As new educational technologies are developed and released, they will be reviewed for suitability and affordability with the most promising ones selected for implementation. The objective is to offer the distance students the same learning experience as if they were in the traditional classroom. With these new technologies, opportunities to learn now go to the learner, rather than the learner having to go to the classroom to obtain them.

Lessons Learned

Implementing and delivering the Technology in World Civilization course in both a traditional classroom version along with a hybrid or blended learning format was a real educational experience. This is especially true with the distance education form of the course. In the beginning, this type of format was relatively new and many innovative ideas were tried as experiments. It was just like working with any new technology, many things were learned by trial and error. In many cases, the failures led to more insight than the successes.

Several lessons were learned along the way. These included advantages and disadvantages of the blended learning format along with extending the reach of the class. Offering the course in a distance education format allowed students that were either place bound or could not commute to a university campus the opportunity to take the course. This in turn, opened the door for those students to continue their college education and complete a Bachelor's Degree.

Among the advantages mentioned by the students were the convenience, flexibility, and freedom allowed by the blended format. They also had more opportunities to interact with the other students in their class both in class and online. Improved skills in time management, critical thinking, and problem solving were also developed. Students liked the 24/7 access to course materials. In addition, fewer course withdrawals were noted while maintaining grades equivalent to the traditional classroom version of the course.

There were also disadvantages. Not all students adapted to the requirements of a blended learning environment. They did not or could not properly manage their time. They missed the daily regimentation that on ground traditional classroom courses offered. Reduced face-to-face communication with the instructor created problems for some students that could not adapt to the various forms of electronic communication.

From a faculty perspective, there were several success factors for teaching blended learning courses. Designing and facilitating or converting a traditional classroom course into a blended learning format for the first time is challenging. Faculty members need to realize that it requires a considerable time commitment to successfully redesign the course. They also need to understand that it is an alteration in teaching style. Developing assignments that support and build upon in class lectures and events take careful thought and planning. It is likely that faculty members will have to spend extra time beyond the in class time with students needing help.

It requires a transition for a student or faculty member new to the blended learning experience. The shift from a traditional classroom environment to a blended learning setting requires some training. For faculty members this could be from a mentor experienced and familiar with the format. For students the change can be more difficult and requires extra patience and effort from the instructor. Additional support from the instructor early on in the course can go a long way to helping a new student become familiar and comfortable with the blended learning format.

Some very important guidelines were presented by Chickering and Gamson³ (1987) and called the Seven Principles of Good Practice in Undergraduate Education. These principles "encourage

contacts between students and faculty; develop reciprocity and cooperation among students; use active learning techniques; give prompt feedback; emphasize time on task; communicate high expectations; and respect diverse talents and ways of learning.” These guidelines are just as applicable to a blended learning format as they were years ago to a traditional classroom course. They offer a strategy to follow for both someone facilitating their first blended learning course as well as an experienced blended learning instructor. They are timeless words of wisdom and when followed will lead to facilitating a real learning experience for the students.

Student Learning Comparison

Assessing the extent of student learning is accomplished through the use of written essays and exams. During the term, a series of four written essays based on the readings, lectures and discussions are assigned, submitted by the students, and graded. In addition, the students take four exams that cover between six to eight chapters from the textbooks along with all of the material discussed in class.

A comparison of student learning results for eight traditional classroom courses and eight distance education blended learning courses is presented in Table 1. These courses were offered over the past six years. The table compares courses offered during the same term using the two different delivery formats.

Table 1. Comparison of Student Learning Assessments Using the Two Delivery Formats

Term	Traditional Classroom Students				Distance Education Students			
	Student Count	Average Exam Grades	Average Essay Grades	Average Final Grades	Student Count	Average Exam Grades	Average Essay Grades	Average Final Grades
Spr 2009	9	86	95	3.5	19	90	95	3.7
Fall 2009	23	88	98	3.7	5	96	93	3.7
Spr 2010	13	78	77	3.0	34	94	81	3.7
Fall 2010	24	88	85	3.5	15	90	83	3.7
Fall 2011	23	90	85	3.7	15	96	83	3.8
Fall 2012	24	86	80	3.3	21	96	86	4.0
Fall 2013	17	94	82	3.7	20	96	86	4.0
Fall 2014	10	88	86	3.6	9	96	82	3.8
Average	~18	87	86	3.5	~17	94	86	3.8

Note: The Exam and Essay Grades are based on a scale with a maximum of 100 and the Final Grades range from 0.0 to 4.0 in increments of 0.1.

The table shows that the average exam grades per section track within a few points of each other. In every case, the distance education average is two to 10 points higher. As a result, the overall averages for the eight sections are 87 for the traditional classroom version and 94 for the distance education format.

The average essay grades per course also vary within a few points of each other. For the traditional classroom version they range from an average of 77 to 95 and for the distance education blended format from 82 to 95. The overall averages from both formats is exactly the same at 86.

The average final grades per course ran higher for the distance education sections. This is mostly due to the higher average exam grades across the board for the distance education students. The overall averages are 3.5 for the traditional classroom version and 3.8 for the distance education blended format. The three tenths of a point differential for the distance education blended format can be explained by describing their typical students. They are on average older, taking only one or two courses at a time, and working fulltime. A similar variance has also been noted in other blended learning courses.

Conclusions, Reflections, and the Future

Utilizing the blended learning model, course material can be successfully delivered remotely to students. The learning experience for the students can be equivalent for the traditional classroom form as well as the distance education version. With blended learning, students can learn on their timetable and not on the instructor's. Students can engage in learning when they have the opportunity rather when they are forced to with a rigid course schedule. Combining online learning with live classroom sessions incorporates the best aspects from both forms of instruction.

Looking back, some of the initial students experienced various levels of trials and tribulations with the transition to the blended learning format. However, increased interaction with their instructors overcame these difficulties. Student satisfaction with the first offering of the blended learning version of the Technology in World Civilization course increased by the end of the ten week Quarter term course. Using the blended learning format to offer the course remotely has successfully opened up a new learning opportunity for many students. This exposure has also helped many students complete their Bachelor's Degree with the incorporated degree completion program.

The future for the Technology in World Civilization course will continue to include change. New ideas, concepts, and delivery technologies will be tried just as they have been for the past fifteen years. Some will be successful while others will not. However, that will not stop the experimentation. The overall mission of exposing students to the historical importance and impact of technology on society will not waver. The quest to find new ways to extend the reach of the course and improve the student experience in this endeavor will continue. It is certain that the next stages in this process are just beginning.

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