Instructional Design Project

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EDTE 6030 Principles of Instructional Design

Ohio University

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Project Phase 1: Background

Who:

This project is intended for developing a course to teach first year students' information and communication technology (ICT) skills in the Patton College of Education at Ohio University. The material might be used for all freshmen from different majors in the future.

What:

The course will teach students fundamental ICT skills and knowledge, which will help them during their education. Students in the first year of Ohio university will take a simulation exam at the beginning of the semester in which they answer 80 percent out of all questions to pass, if not, they will have to take this course to improve their skills. The course content will be decided after reviewing various resources.

Why:

Problem Identification

The digital divide has been discussed for more than two decades in the U.S. The difference in students accessing technology and high-speed internet at home or in schools has been described as the first-level digital divide since the mid-1990s (Kim & Bagaka, 2005; Light, 2001; Underwood, 2007). Then, the description of the digital divide was expanded to include the difference in the skills in using ICTs, which became known as the second-level digital divide (Van Dijk, 2005). Further expansion led to the third-level digital divide, which is the difference in beneficial outcomes of using digital devices and the internet (Van Deursen & Helsper, 2015; Wei, Teo, Chan, & Tan, 2011).

Existing literature (Katz, Moran, & Ognyanova, 2019; Robinson, Chen, Schulz, & Khilnani, 2018) indicated that students' family income, educational background, race, and gender lead to students' differential access to technology and the internet, which impact the

students' ability to use technology effectively. Further, in the recently done study by Hohlfeld, Ritzhaupt, Dawson, and Wilson (2017) illustrated that there were not any differences between high socio-economic status (SES) and low-SES schools in terms of the first-level digital divide. However, SES was found to be a determinant of the second- and third-level digital divide. Students' SES is a significant factor influencing their proficiency in ICT; lower SES students indicated lower ICT skills than others (Ritzhaupt, Liu, Dawson, & Barron, 2013; Simoni, Gibson, Cotten, Stringer, & Coleman, 2016). Therefore, universities may play an essential role in reducing the digital divide because they provide the opportunity for students from different SESs to congregate on an equal footing. They first need to know the students' ICT skills. If students need, universities should support students from different socio-economic and cultural backgrounds to improve their skills, which will help students during their education.

Target Audience:

Students in the first year of Ohio university will be the target audience. The project will be geared to students in the college of education.

Identified Need/Benefit:

Universities provide several digital devices and high-speed Internet on the campus for their students. Professors also expect students to use technology for several academic purposes. However, because of the lack of ICT skills, when doing their assignments and academic responsibilities, some students may face challenges and do not gain benefits from these technological resources. That means students from different SES may not be equal in terms of their ICT skills when attending the university. We need to understand their ICT skills and help them improve their skills.

Moreover, understanding students' ICT skills and knowledge and supporting students to enhance their skills benefit by preparing students not only for academic life in the university but also for a digital future. They will use these skills in their work and lives. Students in the college of education will also be a teacher. Teachers using technology effectively may transfer their skills to their classes and help their student enhance their skills.

Finally, offering students a course might be valuable if students need a course, teaching ICT skills. Before the course, a simulation exam system will present how many students need a course. Then, the university might offer courses depending on the students' needs.

Project Phase 2: Needs Analysis

Description of ideal

I will be designing a course to teach information and communication technology (ICT) knowledge and skills to first-year undergraduate students, which are expected to be used during their undergraduate studies in their disciplines and their professional lives. Ohio university will offer the students who do not pass the exam this course teaching these skills, which will help them be computer and information literate.

The purpose of the course is to help:

- Students will apply appropriate steps to create documents on presentation tools, word processing, and spreadsheet.
- Students will illustrate how to use the Internet to search and compare internet resources in terms of ethics, risks, and security.
- Students will choose appropriate multimedia tools to edit pictures, sound, and video files.
- Students will use some learning management systems (LMSs) that professors use for online or blended courses.

Description of data collected from field

The problem is that students from different socio-economic backgrounds attend universities with different ICT knowledge and skill levels. In literature, the difference in students' ICT skills is described as the digital divide. Research focusing on K-12 schools indicated that schools' socioeconomic status (SES) was demonstrated as a determinant for the digital divide, technology, and internet accessibility, (Hess & Leal, 2001; Judge, Puckett, & Cabuk, 2004). In the recently done study by Hohlfeld, Ritzhaupt, Dawson, and Wilson (2017), the data collected by the Florida Department of Education (FLDOE) from the 2008-2009 to

2014-2015 school years illustrated that students' ICT skills and the purpose of using technology differentiated depending on their school in high-SES or low-SES area. Further, students' SES is a significant factor influencing their proficiency in ICT; lower SES students indicated lower ICT skills than others (Ritzhaupt, Liu, Dawson, & Barron, 2013; Simoni, Gibson, Cotten, Stringer, & Coleman, 2016). That means when students from low-SES schools enroll in a program at the university, they may have lower ICT skills in the U.S.

Moreover, a quantitative study examined the relationship between students' performance in introductory computer programming courses and the digital divide. The results of the study indicated that digital accessibility and computing literacy were significant predictors of students' performance in the programing course (Hsu & Mimura, 2017). Even though few studies investigated the relationship between the digital divide and students' achievement, the ICT knowledge and skills are not significant only during their college education, but it is also necessary for students' professional lives after graduation. Therefore, we need to offer a course to help first-year students.

I conducted an interview with a Ph.D. student in Instructional Technology. She does not have teaching experience in the U.S.; however, she taught in her country for more than three years. She pointed out that I should analyze my learners and their needs in detail. For example, most students in her class had smartphones rather than computers or tablets, so she did not give many assignments that required using a computer. Thus, according to the interviewee, I need to know what technology OU students have. I think the students have many opportunities at OU, and some students may need an ICT course to increase their benefit from these opportunities.

Furthermore, I will examine a study investigating OU newcomers' ICTs skills by using a self-reported survey. This study will show whether OU students' ICT skills are different based on

their SES and what skills they have. Even if the data are not analyzed before the course, the results will help to revise the course.

Description of resources and constraints

The course will be blended learning: Face-to-Face and online instruction. The students will take the course in a computer lab as a one-hour face-to-face course in the first four weeks, which helps some students increase their familiarity with technology. When the students need to help to solve some problems related to technology, the instructor will support these students in the classroom. Moreover, the instructor will know which students will need more support in using technology. After four weeks, the course will be taught as an online course. The online sections will be on Zoom that has a free version. Also, the students can use licensed Microsoft products and Blackboard as a learning management system. We expect the students to know fundamental skills such as using a mouse or signing in their account by using their account information. However, to prevent possible problems, the instructor will help them in the computer lab. Finally, a maximum of fifteen students will be in the classroom so that the instructor provides enough support to all students.

Project goals including levels or outcomes of learning

How are your participants going to be different when the instruction is complete?

In the desired situation, all students will use ICTs effectively and benefit from technology in their academic and professional lives. However, in the actual situation, since some students would have lower ICT skills, they may fall behind in courses. However, the first-year university students need to have fundamental information and communication technology (ICT) knowledge and skills to be successful in their courses (Hsu & Mimura, 2017) and to be prepared for their future (Dolan, 2017). The project goal is;

The students will demonstrate basic ICT skills and knowledge which are necessary during their undergraduate studies after taking this course.

Project Phase 3: Lesson Sequence and Task/Instructional Analysis

I. Revised intent statement

The initial plan for the project is to design a blended course that will teach ICT knowledge and skills to freshmen at OU. The purpose of the project is to determine students' knowledge and skills and offer a course to improve their skills. The desired situation is that all students have ICT knowledge and skills which help them during their undergraduate studies in their disciplines and their professional lives. However, the studies indicated that some students from socio-economic status might not have these skills. Thus, this course will help the university with this problem. In this phase, the project is the same as the first phase, but goal statements were changed and improved.

II. Goal statements

In the project, the goals will be revised after a study with current students. However, in this phase, the goals were revised depending on van Dijk's (2005) and Soomro et al. (2018)' studies. Van Dijk (2005) stated that the digital divide is about physical access to resources while it is also about skills access and usage access. Soomro et al. (2018) described the skills by using van Dijk's model, which students should have in the university. In this project, I will be using their framework to understand new students' ICT skills.

The students will demonstrate operational and informational skills, and instructional usage access knowledge after taking this course.

Learning Objectives

We expect students to apply and answer 80 percent of the questions in the post-test at the end of the course. This instructional design will only contain the Understanding, Applying, Analyzing, and Evaluating sections of the revised Bloom's Taxonomy.

Operational Skills Objectives

1. The student will be able to create a text file in a word processing program by using appropriate steps on the simulation exam.
2. The learner will be able to edit a text file in a word processing program by using appropriate steps on the simulation exam.
3. The student will be able to create a computer presentation by using appropriate steps on the simulation exam.
4. The student will be able to manipulate data in a spreadsheet program by using appropriate steps on the simulation exam.
5. The student will be able to change some basic computer settings (wallpaper, time/date, sounds, etc.) by using appropriate steps on the simulation exam.
6. The student will be able to save images and text from the website on the hard disk by using appropriate steps on the simulation exam.
7. The student will be able to download programs from the Internet by using appropriate steps on the simulation exam.
8. The student will be able to send an attachment with an email by using appropriate steps on the simulation exam.
9. The student will be able to transfer files from hard disk to a USB flash drive and vice versa by using appropriate steps on the simulation exam.

Informational Skills Objectives

1. The student will be able to search terms to use when searching the Internet by using appropriate steps on the simulation exam.

2. The student will be able to use advanced search options to reach the required information by using appropriate steps on the simulation exam.
3. The student will be able to evaluate the sources of the information found on the Internet by choosing correct statements about the source on the simulation exam.
4. The student will be able to synthesize online information by choosing correct statements about the information on the simulation exam.
5. The student will be able to retrieve a Website on the Internet by using appropriate steps on the simulation exam.
6. The student will be able to choose from search results by selecting correct statements about the results on the simulation exam.

Instructional Usage Access Objectives

1. The student will be able to use a learning management system for communication about assignments among students by using appropriate steps on the simulation exam.
2. The student will be able to identify online systems that may help students work collaboratively.
3. The student will be able to identify digital technologies for the delivery of instruction.
4. The student will be able to identify digital technologies to communicate with students.

III. Lesson sequence

The new students will take an exam in the first week of the semester, and if they do not pass the exam, they will enroll in this course, the introduction to the ICT course. The course will be blended and one credit hour. In the exam system, the students will first learn the operational, informational, and strategic skills, and instructional usage access knowledge in order.

IV. Determining the entry-level of instruction

The students will take an exam before this course, which will show their entry skills. Moreover, students will be assigned different sections based on their abilities. For instance, students answering less than 80 percent out of all questions will take this course. Students with a lower score than 40 will be the same section when others are in the other sections. These students' entry skills will be different, so the pre-test is very important to decide the entry skills. However, we expect all students to have the fundamental following skills.

- Open the computer by using OU student account information.
- Identify software that will be used in the course.
- Use mouse and keyboard when needed.

Project Phase 4: Testing Procedures and Rationale

Students will take a pre-test at the beginning of the course and post-test the end of the course. Students will take the pre-test at the beginning of the semester, and if they cannot answer 80 percent out of all questions, they will take this course. The test will be the same format with different items. Students will do several projects during the semester to improve their experiences, but these assignments will not affect students' final scores to pass the course. Also, students only need to pass this course, which will not impact students' GPA. Thus, the exam system will have four versions to prevent students from memorizing questions. In this phase, assessments are specific compared to the objectives because this is the first version of the exam system. Other versions will have the same assessment method, but those questions will be different. For example, students will add a bold title rather than italicized title for objective 2.

Objective	**Assessment**
Operational Skills	
Objective 1: The student will be able to identify a word processing document on the simulation exam. Objective 2: The student will be able to edit a word processing document by using appropriate steps on the simulation exam. Objective 3: The student will be able to edit a text file in a word processing program by using appropriate steps on the simulation exam.	On the desktop, there is a word processing document. Find and rename the document as "Last name, First name." Open the file and format the Essay in the document by using directions • Add a Heading 1, • Add an italicized title, • Align the content with the left margin

	• Add a bottom of the page number, • Set a 1-inch margin to the document. Yes No Identify the document _____ _____ Rename the document _____ _____ Heading _____ _____ Italicized title _____ _____ Left margin _____ _____ Page number _____ _____ Margin to the document _____ _____
Objective 4: The student will be able to identify a presentation document on the simulation exam. Objective 5: The student will be able to rename a computer presentation by using appropriate steps on the simulation exam. Objective 6: The student will be able to edit a computer presentation by using appropriate steps on the simulation exam.	On the desktop, there is a presentation document. Find and rename the document as "Last name, First name." Open the presentation file and format the presentation in the document by using directions • Add a table to the second slide • Add a chart to the third slide • Add an animation to the slide, • Add a transition among slides, Yes No

	Identify presentation file _____ _____ Rename the file _____ _____ Add a table _____ _____ Add a chart _____ _____ Add an animation _____ _____ Add a transition _____ _____
Objective 7: The student will be able to identify a spreadsheet document on the simulation exam. Objective 8: The student will be able to create a chart in the spreadsheet file by using appropriate steps on the simulation exam. Objective 9: The student will be able to manipulate data in a spreadsheet program by using appropriate steps on the simulation exam.	On the desktop, there is a spreadsheet file, including information about students' monthly budgets. Open the file and apply steps by using data in the file. • Create a 2-D bar chart showing students' expenses and budget by using all data provided. • Add a title to the bar chart, • Calculate total budget monthly by using AutoSum function or writing the formula, • Calculate the average of budget monthly by using Average function or writing the formula, Yes No

	Identify spreadsheet file _____ _____ Create a chart _____ _____ Calculate total budget _____ _____ Calculate average budget _____ _____
Objective 10: The student will be able to change some basic computer settings (time/date, sounds, etc.) by using appropriate steps on the simulation exam. Objective 11: The student will be able to save images and text from the website on the hard disk by using appropriate steps on the simulation exam. Objective 12: The student will be able to transfer files from desktop to Google drive and vice versa by using appropriate steps on the simulation exam.	On the desktop, change the following settings by using directions: • Change the time from 10.30 to11.30 by using the time icon in the bottom-right corner of the desktop. • Turn the volume up by using the speaker icon in the bottom-right corner of the desktop. On a website (it will be opened automatically), download the image and the pdf file to the desktop. On the desktop, open the "This PC" and move the image and the pdf file to the Google Drive by using upload functions. Yes No Change the time _____ _____

	Turn the volume up _____ _____ Download files _____ _____ Transfer files _____ _____
Objective 13: The student will be able to send an attachment with an email by using appropriate steps on the simulation exam.	On a mailbox (it will be opened automatically), create a new email and add the pdf document, which is located on the desktop to this email as an attachment. Yes No Attach the file to the email _____ _____

The students will demonstrate operational, informational, and strategic skills, and instructional usage access knowledge at the end of the course. In this phase, I explained learning objectives and assessments for operational skills, which contain the understanding and applying sections of the revised Bloom's Taxonomy. In the operational skills section, students need to identify some types of documents, edit these documents, and adjust some settings by using their skills.

Project Phase 5: Instructional Activities

This course is designed to teach first-year college students ICT skills and knowledge. In phase five, I described some activities used during one face-to-face. Operational skills are selected as the content of the class. Other classes will have similar activities and the same lesson format. Face-to-face and online courses will be almost the same format. Gagne's Conditions of learning is used as a theoretical guide to this phase.

Instructional Activity 1	**Instructor Task**	**Student Task**	**Rationale**	**Theory**	**Time**
Introduction	Show video of introduction providing information about the use of technology. Ask questions about using technology: What type of technology do you use for academic purposes?	Students are to watch the video and answer the questions of the instructor.	The video and questions about technology. The purpose of the video and questions is to obtain students' attention so that they will watch and listen while the instructor presents the learning content.	Gain Attention	10 mins

Instructional Activity	Instructor Task	Student Task	Rationale	Theory	Time
Lecture	• The instructor will inform students about the objectives and ask questions about students' experiences. • Teach features of word processing document the content. • Will focus on the main features on the document and show Google doc as an	• Students organize their thoughts and prioritize their attention. • Students will remember their previous knowledge and skills and build on them. • Students will follow along using features of word processing documents.	This is essential because the instructor will first inform students about objectives and remind their experience that will help students motivate. Then the students need to know some main features of the technology so that they will build their skills around them.	Informing and Recall, Present material and Provide Guidance	15-20mins

	online word processing tool.				
Practice activity in the class	The instructor will give the practice in the class and will answer students' questions during the practice. After the practice, join students' groups to see their work and participate in their discussion.	• Students will create a newsletter about a club or organization. When creating and formatting the newsletter, they will learn where some features in the menu and how they will use these features. • After the practice, the students will share their newsletters with a group of three students and discuss their works. Also, students will upload all documents done during the class to google drive folder at the end of the class, which may	This activity allows students to apply knowledge and skills learned. They also get immediate feedback and correct their mistakes.	Eliciting Performance/ Provide Feedback	15-20mins

		help the instructor keep tracking students' progress.			
Homework	The students will upload a document shared by the instructor to google drive, and they will format the document on google drive based on directions on the assignment.	The instructor will answer students' questions by email.	This will help students do practice and learn google word documents as well. Thus, students will see there are different word processing documents, and usually, they have similar features.	Enhance retention and transfer to the job	**10-15 min**
Post-test	The instructor will be ready in the exam to answer student' questions.	Students will answer questions on the simulation exam system. The system questions were listed in Phase 4.	The simulation system evaluates students' skills and knowledge learned in the course. Especially I used a simulation system in which students have to	Asses Performance	**1 – 1.5 hours**

	apply all appropriate steps to show their skills.

Project Phase 6: Sample lesson

In phase one, I decided to develop a simulation exam system to evaluate freshmen's ICT skills and knowledge. However, after writing different phases on the system, I revised my phases and designed a course for the same purpose. The first-year students will take this course to improve their ICT skills and knowledge. Students will first take a pre-test, which will show their ICT skills and knowledge level. At the end of the course, the students will take a post-test, which includes the same format as the pre-test with different questions (Examples of questions are given in the phase four). Students will be split into groups based on their scores in the pre-test. This sample lesson is designed for students with lower scores.

The sample lesson is based on three objectives in operational skills and will be a face-to-face lesson.

Objective 1: The student will be able to identify a word processing document on the simulation exam.

Objective 2: The student will be able to edit a word processing document by using appropriate steps on the simulation exam.

Objective 3: The student will be able to edit a text file in a word processing program by using appropriate steps on the simulation exam.

The one-hour lesson will provide general information about word processing documents, the purpose of these documents, and different version of these documents such as online word processing or desktop versions. Then, students will do practice and get feedback on their work in the classroom.

Event	Instructional Notes	Notes for instructor
Gain Attention	The instructor shows a video about the use of technology and reminds students will use several technologies such as office documents, learning management systems, etc. during their college education, and one of them is word processing documents. Then, ask questions about word processing documents: Why/when do you use word processing documents?	The instructor should focus on why using technologies are important and how these technologies will help them during their education and in the future.
Informing and Recall	The instructor informs students about the purpose of the lesson and objectives. • Objective 1: The student will be able to identify a word processing document on the simulation exam. • Objective 2: The student will be able to edit a word processing document by using appropriate steps on the simulation exam. • Objective 3: The student will be able to edit a text file in a word processing program by using appropriate steps on the simulation exam. Then, ask their prior experiences with processing documents.	The instructor may ask different questions based on the students' level. If students have a lower score in the pre-test, questions might be: have you used a word processing document to write an essay?
Present material and Provide Guidance	The instructor will present the content: • Show Microsoft word processing and Google documents as an	Word processing document has a lot of features and those cannot

	example of word processing documents. • Explain the menu on word processing documents with some features. • Apply some features to the text.	be taught step by step. The instructor should provide important points and help students improve their skills by doing practice.
Eliciting Performance/ Provide Feedback	The instructor will give time to students for practice. Students will create a newsletter about a club or organization. When creating and formatting the newsletter, they will learn where some features in the menu and how they will use these features. After the practice, the students will share their newsletters with a group of three students and discuss their works. The instructor will answer students' questions and join students' groups to see their work during the activity and discussion. Also, students will upload all documents done during the class to google drive folder at the end of the class, which may help the instructor keep tracking students' progress.	The instructor will provide some examples of the newsletter, which will include basic features such as two different types heading, a picture, short information with bold and italic features, etc. S/he will give some website links, which help students find information about a club and organization.
Asses Performance/ Enhance retention and transfer to the job	The students will upload a document shared by the instructor to google drive, and they will format the document on google drive. Thus, the students will do practice and learn google word documents as well.	

Plan B:

This course will be face-to-face and online instruction, and it will take one hour every week. The purpose of the face-to-face sections is to immediately support students who are not familiar with technologies. However, students may not want to come for only one-hour class and may affect their motivation. Collecting data by using an attitude survey may help us explore this issue. If this issue is found out, we will offer an online course rather than a blended course. In the online course, the instructor will assign one-hour tutoring time for the students who have lower scores from the pre-test and may have few experiences of using technology. Second, students will use a Microsoft teams' group to discuss some questions about assignments.

Assessment/evaluation tool

Students will take a pre-test at the beginning of the course and are split into groups based on their scores. At the end of the course, they will take a post-test, and if they answer 80 percent out of all questions, they will pass the course. Pre- and post-tests consist of the same format questions with different variables. In the post-test, students will answer the following questions about word processing documents.

Question on the simulation exam system	**Rubric**		
On the desktop, there is a word processing document. Find and rename the document as "Last name, First name." Open the file and format the Essay in the document by using directions • Add a Heading 1, • Add an italicized title, • Align the content with the left margin		Yes	No
	Identify the document	_____	_____
	Rename the document	_____	_____
	Heading	_____	_____
	Italicized title	_____	_____
	Left margin	_____	_____

• Add a bottom of the page number, • Set a 1-inch margin to the document.	Page number _____ _____ Margin to the document _____ _____

Project Phase 7: User Test

The target population is first-year college students coming from different socioeconomic backgrounds, which may also influence their ICT skills and knowledge. However, I tested the sample lesson on two graduate students because of restrictions and reported one instructional designer's suggestion on the project.

One student stated that instructions are clear to understand and apply, and he enjoyed and engaged with activities. He answered almost all the questions positively. However, he thinks using group work in the lesson may be more helpful. The instructional designer also stated that group work is an essential way of interaction. I first did not think that group work fits with the purpose of the course because this course aims to improve students' ICT skills and knowledge in one hour. However, I decided to add a small group discussion after the activity, which will increase peer instruction and interaction. While students get some hands-on experience by using technologies for several purposes in the activity, they will also have a chance to learn their peers, and this may increase their engagement in learning.

Another graduate student who is an engineering student answered most of the questions positively and mentioned a critical issue in the lesson. He said that the activity was boring, and doing the APA format is not exciting. After talking to him, I noticed that as a teacher, I always try to teach something with something. My students do not need to learn APA format in this course. I revised the activity after getting feedback.

The final suggestion was about groups. I will split students into groups based on the results of their pre-test. The instructional designer mentioned that mixing the groups may increase peer instruction and interaction. I can create only two groups: students with lower scores than 50 and students between 51 and 75. However, mixing all students will not be an effective way for this course. For instance, two graduate students told the lesson which is designed for students with low scores from pre-test is basic knowledge and boring for them. Thus, the lesson should provide different activities based on students' skills and knowledge.

Project Phase 8: Project evaluation

Formative Evaluation

A. Describe the evaluation of participants.

Participants in one-to-one evaluation would be one learner from the first-year college students who are above average in ability, one who is average, and one learner who is below average. To determine students' ability level, I will have them tale the pre-test. For the small-group evaluation, I will select eight students who will be at different ability levels and at least two students speaking English as a second language so that the small-group is a representative of the target population.

B. Describe the Evaluation Process

In the one-to-one evaluation, I will collect data about instructional materials from the learners to determine errors in instructional materials. In this project, the pre-test and post-test are essential materials to assess students' skills and knowledge, so I need to know the clarity of the directions, how easy/difficult items are, and how long those took to complete the tests. Participants should evaluate assignments and some class activities. Thus, I will interview with participants and get feedback on all materials.

The small group evaluation would identify any remaining learning problem after one-to-one evaluation. The students will discuss some issues related to instruction and instructional materials and fill out an attitude survey to obtain learner reactions to the instruction. Some attitude survey questions are taken from the book (Dick et al., 2009, p. 268).

C. Describe the Evaluation Instruments

In this project, the pre-test is the most important instrument that will provide information about the students' skills and knowledge and split students into groups based on the

information. Moreover, I have a practice in the lesson and one home assignment. The small group will evaluate these instruments by completing the attitude and quality survey below.

Attitude and Quality Survey for Introduction to ICT course

1. The course objectives were clearly stated.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

2. I found instruction in the course useful.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

3. I understood what you were supposed to learn?

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

4. The materials directly were related to the lesson objectives.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

5. The lesson included sufficient practice exercises

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

6. The practice exercises were relevant to the objectives

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

7. The pre-test measures your knowledge of the objectives.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

8. The post-test really measures your knowledge of the objectives.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

9. I received sufficient feedback on my practice exercises.

   a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

10. I feel confident when answering questions on the tests

    a. Strongly agree b. Agree c. Neutral d. Disagree e. Strongly disagree

Please circle the quality level for each materials.

11. Pre-test	Interesting	1	2	3	4	
	Clear	1	2	3	4	
	Useful	1	2	3	4	

Please include additional comments, if any

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12. Practice activity	Interesting	1	2	3	4	
in the classroom	Clear	1	2	3	4	
	Useful	1	2	3	4	

Please include additional comments, if any

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13. Homework	Interesting	1	2	3	4	
	Clear	1	2	3	4	
	Useful	1	2	3	4	

Please include additional comments, if any

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14. Post-Test	Interesting	1	2	3	4	
	Clear	1	2	3	4	

Useful 1 2 3 4

Please include additional comments, if any

Summative

For the summative evaluation, I will conduct expert judgment to determine whether the instruction meets the needs of the university, and field trial to understand the effectiveness of the instruction. Two faculty from Patton College of Education will be external evaluators and subject matter experts. One of them will be from the Instructional Technology program who would evaluate instructional goals, content with accuracy and currency, and design by using a rubric. Another subject matter expert from the Teacher Education program will assess the design of the instruction, such as instructional strategy, motivation, and utility, and feasibility.

The field trial will help me see the effectiveness of the instruction in the indented settings after formative evaluation revisions. Participants first will take the pre-test, do practice and assignments. Finally, they will take the post-test. Students' scores of these materials will show the learners' achievement and the success of the instruction. Participants also will fill out an attitude survey that includes questions about the instruction, materials, and instructor. Therefore, the results of the field trial will indicate whether the instruction meets the goals of the university..

Final Review

Phase 1: This phase was significant to understand the problem and see details about the problem. I have been working on the digital divide since last spring and conducted literature that mostly focused on the reasons for the digital divide rather than the possible solutions of the digital divide. This project proposes bridging the digital divide through a course for first-year students.

Phase 2: In this phase, I conduct a need analysis. First, I interviewed with a graduate student from Instructional technology program who has teaching experience. Even though the purpose of the interview is to determine the content that will be taught in the course, I did have sufficient data. Moreover, I reviewed the literature indicating the results of the digital divide on students' performance. These articles point out that especially students' second-level digital divide had an impact on their performance. Therefore, I need to focus on the second-level digital divide. This phase helped me see what I have and what I will need.

Phase 3: This phase helped me determine the framework of the course and classify goals in Bloom's Taxonomy. Van Dijk's (2005) model shaped my course content, and Bloom's taxonomy forced me to define objectives. Thus, in this phase, I started to see the main points of my project.

Phase 4: When writing the phase four, since I had decided to create a simulation exam system to measure students' skills and knowledge, I knew how to measure students' skills and how the system would be. Thus, while writing this phase, I tried to think every piece of information that students will need to answer the questions. After switching from the simulation system to the course, I did not need to change this phase since I will use same assesment instrument.

Phase 5: I tried to write activities for the simulation exam system, but it did fit the system and looked almost the same with phase four. In phase 6, I decided to switch from a simulation exam system to a course teaching ICT skills and knowledge. Phase 5 provided a lot of details about the activities, instructor and students' needs during the activity, and the time allocated to the activity.

Phase 6: I revised my project as a course and put all materials together like a piece of puzzle. This phase taught me that designers need to think of possible scenarios and should have plan b. Creating a sample course helps designers engage into the course and think like an instructor.

Phase 7: I believe that this phase is the second most important phase after the need analysis because formative evaluation help designers identify apparent errors in the instruction. After the user test, I noticed that although I think I provide several activities and students would like them, one student may describe it as a boring activity. Designers cannot see the instruction from students' perspectives, so this phase, getting feedback from students, is essential.

Phase 8: In this phase, formative and summative evaluations were expected from the instructional designers. Determining your evaluation methods and describing them with details may help designers implement the plan efficiently.

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