

Portfolio Project

EDUC 765: Trends and Issues in Instructional Design

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Overview

EXECUTIVE SUMMARY

This project seeks provide instruction how to use 'TapScanner' app to create PDFs by using iPad Camera. The aim of the instruction is to improve students' electronic creation of paper assignments in order to submit the assignments a learning management system by using an external photo editing application. The students are young learners in Grade 4. By mastering this skill, students should be able to provide backup of lost assignments, provide their parents of readable assignments that they have submitted, provide the teacher with ability to assess digitally and provide the administration of a convenient way to review student work. This instruction will be delivered face-to-face; however, the main instructional message will be delivered digital in video.

PROJECT TITLE

Grade 4 Assignment Digital Submission Protocol

SPONSORING ORGANIZATION

The sponsoring organization is Beanstalk International Bilingual School, Upper East Side Campus

Beanstalk International Bilingual School (BIBS) is an English Immersion private school in Beijing. Its mission is stated below:

"BIBS seeks to empower its learners to become bilingual, multi-cultural and global-minded citizens who are equipped with the knowledge and integrity to function successfully, responsibly and effectively in an ever-evolving global environment." (Our Mission, 2002)

BIBS is distinguished by its language immersion environment: 80% of BIBS' classes are taught in English. It also is distinguished by its Maths curriculum, which accords with the Chinese national standards.

BIBS is also a primary years programme (PYP) of International Baccalaureate Organization (IBO). PYP outlines frameworks and protocols.

"At the heart of the PYP curriculum are the essential elements: knowledge, concepts, skills, attitudes and actions [and which should] provide feedback on the learning process." (Primary Years Programme, 2007, p. 44, 55)

PYP additionally highlights guidelines for various communication skills: listening, speaking, reading, writing, viewing, presenting and non-verbal communication.

Last, BIBS is accredited by the Western Association of Schools and Colleges, and is bound to follow set curriculum. BIBS has chosen the Ontario Curriculum for its literacy instruction.

These three aspects of BIBS underlay the contract, which parents sign and students aspire to.

PROJECT DESCRIPTION

This project seeks to improve electronic assignment submission of Grade 4 students.

AIM

Aim of this project is to improve students' electronic creation of paper assignments in order to submit the assignments a learning management system by using an external photo editing application.

TARGET AUDIENCE

The target audience is Grade 4 Chinese students between ages 9-10. All students are from high socio-economic backgrounds, and most have travel extensively around the world. Students range in proficiency from emergent to at grade level according to PM reading inventory. Each class is different; however, approximately one-quarter of students in the average class are below grade 4 reading level. Nearly all students face deficiencies in what native English speakers would call 'fluency', or could be distinguished as colloquial English.

DELIVERY OPTIONS

The planned instruction will be in a blended environment. A traditional Face-to-Face environment is a requirement of the school. However, the instruction will include technology as one-half of the aim seeks its skill improvement.

Front-End Analysis: Instructional Need

INSTRUCTIONAL NEED

There is felt instructional need based on a needs analysis of performance. This performance is referenced by Ontario curriculum's specific expectations. Ontario curriculum provides a performance goal to meet. This additionally can be sustained by the PYP's communication expectation of presentation. (Morrison, et al, 2019)

First, a needs analysis of past student performances can ascertain a problem that can be solved instructionally. This needs analysis will consist of detailing Grade 4 Ontario curriculum specific expectations, highlight the relevant parts of the specific expectations to assess student past performances. The past student performances consists of student submitting an electronic copy of handwritten assignment on A4 paper. In order to complete this task, students used their iPad cameras, an application called Piccollage and a Learning Management System called Seesaw. The work evaluated for this needs analysis consists of submitted assignments. The assignments' contents will not be part of needs analysis evaluation. The professionalism of the submission is the only aspect evaluated.

This evaluation is expressed in the Grade 4 Ontario curriculum specific expectations 3.8, which is part of the writing strand:

"[By the end of Grade 4, students will:] produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies." (The Ontario Curriculum Grades 1-8, 2006, p. 88)

This specific expectation is labeled as a publishing skill within the Apply Knowledge Language Conventions and Presenting Written Work category. The "use of presentation strategy" is the evaluative phrase used to assess a discrepancy in performance.

In addition, PYP expectations of communication skills can also be used as expectation marker. The presenting skill communicates the following expectation:

"[Students should be] constructing visuals and multimedia for a range of purposes and audiences; communicating information and ideas through a variety of visual media; using appropriate technology for effective presentation and representation." (Primary Years Programme, 2007, p. 22)

The last phrase, which states "using appropriate technology for effective presentation and representation," can be used as the evaluative phrase to assess a performance discrepancy.

During instruction, these two particular expectations were frequently delineated in the assignment submission directions as a "picture that is clear," "it is clear to see what you are doing," and a "clear picture." Directions also specified to "scan" the assignment. "Clear" can be further explicated as being readable: that is, focused, contains the whole document in frame and sized to fit the window frame. If anyone of these three aspects is absent, the file or image is not readable. (Seesaw

Seven different assignments included directions about "use of professionalism" expectations for a total of 101 submissions from 20 different students. Three specified 'clear' submissions; four directed 'scanning'. There were a total of 5 submissions that met the expectations of 'clear' or 'scanning' of the total of 101 submissions. This results

in near 5% satisfactory rating, which communicates a deficiency in performance when referring to the Ontario curriculum specific expectation 3.7 and the PYP's communication skill of presentation.

In order to remediate performance of the above expectations, technology will be introduced. This technology includes PDF Document Scanner application for iPad, and will create an anticipate need for instruction. Skilled use of this introduced application will be central to the efficacy of student performance. (Morrison, et al, 2019)

Front-End Analysis: Learner Characteristics

LEARNER ANALYSIS

Primary Audience

- Teachers
- Administration
- Students

Secondary Audience

- Parents
- IB PYP as a supervisory body
- WASC as a supervisory body

General Learner Characteristics

- Ages 9 -10
- English Language Learners
- Chinese native speakers and first language readers
- PM Reading Inventory Levels 16 – 25
- High socio-economic status

Entry Characteristics

- Students have iPad knowledge and skills of taking a picture
- Students have iPad knowledge and skills of downloading an app from an app store and uploading a file to a website. Students must have permission in settings to download new apps.
- Students have understanding of classroom language, such as 'directions', 'upload', 'write'

- Students have understanding of locative language, such as 'right of', 'position', 'vertical'

CONTEXTUAL ANALYSIS

Orienting Context

- The learners will be able to upload a hand-written document to a website or service.
- The perceived utility of instruction is that learners will be able to refer to an online environment. This can be beneficial to learners, who have lost their work or whose work has been damaged. This can also be beneficial to the learners' parents, who are stakeholders, because they are able to view student submissions conveniently, instantly and reliably.
- The learners' perception of accountability is great. The instruction leads to an assessed mark, which will be present on their grading report. In addition, learners will result in a digital copy of work, which lessens organization needs of having just a physical one.
- Some potential misconceptions towards to the subject of instruction are that the instruction only teaches how to use a new application.

Instructional Context

- From 8 AM to 4 PM
- Natural light or overhead lights
- People may be talking outside while walking to another destination
- Temperature is set by air conditioning, which provides cool air and hot air.
- Seats are two to a table. There are 11 tables and 22 seats.
- Instructional is located in an elementary classroom environment, which includes paper, pencils, white boards, markers.
- Plugins for video and audio for a computer, a computer projector, a document camera with cables, which plugs into the video project.
- Students have prior arranged transportation from the beginning of the year. Student contract states bus transportation, parent transportation or self

transportation must be established and approved by administration during week one.

Technology Inventory

- Our learners have access to iPads brought from home. There are also two additional iPads for student use. WiFi is also available. Learners

Transfer Context

- Students will transfer this new skill every time they upload a new handwritten assignment to Seesaw, which is at least once every week. They will have the support of the class homeroom teacher because he or she will request "clear" assignments uploaded

Instructional Impact Based Upon Learner Characteristics

APPLICATION OF LEARNING THEORIES

- This planned instruction coordinates well with Merrill's Component Display Theory (CDT). Merrill organizes learning into content and performance (Merrill, 1983). Content builds on Gagne's theories to include facts, concepts, procedures and principles. Performance encompasses find, use and remember (Culatta, 2020).
- Merrill introduced the Instruction Transaction Theory to advance instructional aspects of CDT. He generalized three transactions of instruction: identify, execute and interpret. This helps to students achieve knowledge or skill. These three main transactions are supported by ancillary ones: abstraction transactions and association transactions (Merrill, 1999).
- The planned instruction will include all three transactions; however, execute will be emphasized. Execute calls for a procedure transaction. Identify will follow and aid remembering procedure and interpret will be after that and will aid troubleshooting of the procedure. Abstraction transactions will be reserved for differentiation

- The procedure transaction for this planned instruction is to use an iPad application to scan and upload to paper document to a Learning Management System. The identify transaction will help students remember the names and parts to complete the procedure. In CDT, this was facts content. Last, the interpret, which was also the principles and concepts in CDT, can help students to discover an errors (Merrill, 1999).

APPLICATION OF MOTIVATIONAL THEORIES

- Keller's Arcs Model for Motivation Design can assist with the application of the planned instruction. Arcs stands for attention, relevance, confidence and satisfaction. Attention is about capturing the students' interest. Relevance is about connecting the instruction to academic or professional goals. Confidence highlights the students' locusts of control; effort causes achievement. Satisfaction reinforces the former three by providing intrinsic and extrinsic reinforcement (Keller, 2012). The following outline illustrates the application for this planned instruction:
- Attention/Relevance: For this category, I can pretend to introduce a real common problem, which is a student's lost paper, to the class. Then, I can reassure the class that there is no problem because a digital copy of the paper exists online. As a class, we access the paper digitally, but we find the file of that paper submitted to be blurry and to contain a note, which has a picture of heart, passed from one classmate to the next. The note is fake, but captures the students 'attention' because it is unexpected, and thus humorous. The introduction also presents 'relevance'; this introduces several common problems I anticipate students to have; disorganization (work is lost), quality is not sufficient (files are blurry), and attention deficient (personal matters leaked into academic environment).
- Confidence: For confidence, Merrill's CDT, which advocates for Gagne's four phases of presentation, practice, feedback and guidance of skills, provides students with awareness that they need to maintain confidence.
- Satisfaction: For this category, Keller asks instructors to help the students feel good about their learning. This includes extrinsic positive reinforcements, like

grades and certificates, and also reinforcements that are more likely to engender intrinsic ones, like positive specific praise and underscoring efficacy of practice. While extrinsic reinforcements will have been already established by the time of implementation, specific intrinsic reinforcements could be introduced. For example, recognition could be give to the student that produces the clearest picture or the most innovative student that uses the most filters of the application (Keller, 2012).

IMPACT OF A DIVERSE AUDIENCE ON INSTRUCTION

- The primary audiences of this instruction are the students who submit their work, the teachers who receive students' work and the parents who monitor their children's (students') work. Additional audiences include administrators, who, at times, may request evidence of learning. These diverse audiences impact instruction in a number of ways. Parents and administration may supervise whether or not the instruction resulted in learning. The students impact instruction through their own learner characteristics, e.g., proficiency with technology, work ethic and attitude toward supervision. The teachers impact instruction by making sure that the cycle of instructional design, which includes but not limited content sequencing, instructional strategies, designing the message.

Goal and Task Analysis

GOAL ANALYSIS

Instructional Need/Aim

Problem: Students are submitting blurry and unreadable paper assignments to a digital environment.

Aim: The aim of the project is to improve the image quality of student paper assignments when they submit the assignments to an online learning environment. The instruction will focus on learning how to use the iPad application called TapScanner.

Goal Analysis

Step 1 – List of Goals

Goals:

- a) Learners would need to know how to download an app from the Apple App Store.
- b) Learners would need to know how to take a clear photo.
- c) Learners would need to know how to size a photo.
- d) Learners would need to know how to make adjustments to the photo.
- e) Learners would need to know how to save the photo to the iPad.
- f) Learners would need to know how to retrieve the saved photo in the iPad to upload to the LMS.

Step 2 – Know, Say, Do for Performance

Know a Class of Concepts (size)

- Learners would have to know what concepts of size, such as grid, point, line, area, and apply those to picture enhancement that can help them perform the task.

Know the types (abstract concepts)

- Learners may need to know what concepts of enhancement (or filters) are, such as to be blurry, to focus, to be sharpen, to whiten, to crop, and apply those concepts to picture enhancement (or filter) that can help them perform the task.

Know the tokens that represent the types (abstracted concepts)

- Learners would have to know how concepts of *verbally* or *nonverbally* enhancement/filter are expressed as features in the app, such as color, black and white, grayscale, and apply those to picture enhancement that can help them perform the task.

Know what tokens to use

- Learners would have to know what physical tools are, such as iPad, A4 paper, digital tools, an app and LMS, to reference them in order to perform the task.

How to use the tokens

- Learners would have to know how to use physical tools, such as iPad, A4 paper, digital tools, an app and LMS in order to take picture, download an app, use an app for scanning and upload a file to an app.

Step 3 – Sorted and explicated List, which is reference in Step 1

- a)
 - 1) Tap the app store icon to open up app store
 - 2) Tap search bar and type in 'scanner pdf' using onscreen keyboard
 - 3) Select correct app by referencing projected/boarded app icon / name
 - 4) On app home page, press download button to download
- b)
 - 1) Press app icon on iPad home-screen to open app
 - 2) Press camera icon to open camera function
 - 3) Take photo of the assignment that was written on paper, which was lain on horizontal, flat surface,

- c)** 1) Identify relevant and irrelevant content of picture
- 2) Press, hold and drag any of the 8 points to adjust grid size, which will crop irrelevant parts outside grid
- 3) Press the 'check' icon to proceed to the next step
- d)** 1) View picture
- 2) Use picture buttons at bottom of screen to view types of adjusted picture
- 3) Select one type of adjusted picture that presents the most readable image
- 4) Then, drag the slider on the left side vertically to adjust the brightness and drag the slider on the right side to adjust the contrast
- 4) Press check icon to proceed to next step
- e)** 1) View the new page, which is displayed in a smaller resolution on the top left viewport
- 2) To add more pages on the right side click the area that says 'Tap to add new pages'
- 3) To change the file name, tap the date, which is displayed in blue, at the top left corner. A dialog box will appear which says 'Change Group Name'. Delete and type in a new name. Press the 'okay' button to confirm and 'cancel' to return to the screen before.
- 4) Exit app by pressing bottom home button
- f)** 1) Open LMS
- 2) Press 'activity' tab to locate assignment
- 3) Click assignment that was just completed and take photo of
- 4) Press profile area of user
- 5) Use file directory to locate file that was just saved of sized, adjusted photo

6) Press file name to highlight file

7) Click the select button to upload file

Step 4 – Revisions of Goal List

Goal F would be dropped because learners already know how to do this.

INSTRUCTIONAL GOAL

Learners will be able to make a professional and readable PDF of a completed paper assignment by using the iPad app called TapScanner in order to submit to a digital environment.

TASK ANALYSIS METHOD

Procedural Analysis Method is used for the Task Analysis Method. The instructional goal strongly expresses mostly an overt performance, which is observable. There are some decision-making aspects to the performance; however, these are minimal. Jonassen et al. (1999) contend that procedural analysis method can still be efficacious if covert or mental performances are in minority.

TASK ANALYSIS

a) Download the app called 'TapScanner' from iPad store

1) Locate app store icon on home screen

2) Open app by pressing the app icon

3) Press search bar and type in 'TapScanner'

4) Find name and reference icon from board/screen from list of apps shown to identify

5) Press icon of identified name to download (*Condition: Older iPads might not support this download. Give learners an extra iPad so that they can participate in the*

lesson. After the lesson, instructor individually supports learn to find appropriate app that is compatible with their IOS).

b) Take a clear photo by using the app's camera function

1) Locate and open app on home screen (*Visual Information: Location may vary from ipad-to-ipad*)

2) (*Visual Information: The app opens mostly blank. At the top is a blue bar that is labeled 'My Docs' and has an arrow pointing downward. On the left side of the blue bar is a hamburger icon. Tap to open a side menu. The contents of the side menu are unnecessary to the completion of the goal. Five icons are below the blue 'My Docs' bar. From left to right is a folder icon to make a new folder, a tag icon to add a tag, a magnifying glass to search, an up-and-down arrow to sort file names by date or alphabet, and a check icon to select multiple files. There are three circular icons at the bottom of the screen. The left one is an icon for QR codes and the right one is an icon for uploading pictures. The center one is the largest and it is for taking photos.*) Press the largest circular icon, which is a camera to take a photo.

3) Lay assignment paper on flat horizontal surface in a room with lights on.

4) (*Visual Information: There are five icons below the live camera screen. The largest one is a circular and it is for taking a photo. The lightning icon, which is most left, is for taking flash photos; it is labeled. The grid icon, which is right of the lightning, is for illuminating a 9-cell grid. Left of the camera icon is the batch icon, which shows several overlapping rectangles or 'papers'. It is for saving multiple photos to one file. Left of the batch icon is the single icon. It is for take one photo. One the batch or the single icon be selected. If selected, a blue dot appears over the icon.*) (*Decision: Decide if you want to take multiple photos to save in one file or just one. If you multiple pages to photo, you probably want the batch option selected.*)

4) Hover camera over paper so that all the paper fills up iPad screen.

5) Wait a few seconds for camera to autofocus (*Decision: Autofocus allows the words on paper to be clear. If not clear, then the camera has not autofocused yet*)

6) Press blue circular icon again in the bottom middle of screen to take photo if batch is select. Then press the finish button, which is located at the bottom right corner of the screen. If single option is select, proceed to part c.

c) Learners would need to know how to size a photo.

1) If batch, press to select one of the images, which have become small pictures. *(Visual information: The images are now tiled smaller on the page). If single, process to step 3.*

2) Press the crop icon, which is labeled 'crop' and looks like a vector rectangle. *(Visual information: The visual has now been enlarged to fill up most of the screen and five icons appear at the bottom of the screen. On the far left is the sign icon, which is for premium paid only. Right of the sign icon is the crop icon, which forms a vector rectangle shape. The next right icon is the recognize icon, which is also a premium paid only option. Next right is the retake icon, which is for retaking the picture and looks like a camera with two arrows inside. Last, on the far left, is the filter app. This button looks like a 'wand'. It is a rectangle, which is diagonally positioned from top left to bottom right. It has two diamonds located inside the rectangle.) (Decision: If the size of the image is perfect, tap the filter app and proceed to part f.*

3) Press, hold and drag the any of the 8 points to enlarge or shrink the frame of the photo *(Visual information: The image is displayed within a grid. Eight points border the image: three on the top and bottom; two on the middle sides. Decision: Decide what will be contained in the image.)*

4) Press an icon in the bottom left middle of the screen to rotate image '90°' left and the bottom middle to rotate it '90°' right. These icons are rounded arrows. The most right icon is the uncrop icon. This icon undoes any point draggings. *(Decision: Decide if the image needs to be rotated by noting the direction of writing. Writing should be readable or in upright position.)*

5) When finished, press the check button, which is located inside the top blue bar. If you do not want to proceed, press the back icon, which is an arrow pointing left. It is also located in the top blue bar but on the left side

f) Learners would need to know how to make adjustments.

1) (*Visual Information: The screen now shows two side dragging bars The picture is enlarged. 8 and ¼ thumbnails out of 10 are seen below. Each thumbnail is captioned.*) Select types of enhancements by pressing the thumbnail pictures at the bottom of the screen. These types of enhancements are labeled 'original', 'auto', 'Perfect', 'B&W', 'Light', 'Spark', 'Polish', 'Grey Mode', 'B&W2' and B&W3'. Press, hold and drag left to right to scroll all of the types.

2) (*Decision: Decide which type of enhancement is easiest to read*). Select one enhancement.

3) Then, locate the right bar. Tap and hold the circle shape with is located on a line that makes up the bar. Drag up to adjust how light the brightest is or down to adjust how dim the brightness is. Then, locate the left bar. Tap and hold the circle shape with is located on a line that makes up the bar. Drag up to make a high contrast in which all the colors are accentuated or down to make a low contrast in which no color show and the screen, if at 0%, turns completely grey.

4) Press the check button at the top right of the screen.

5) If a picture takes up most of the screen, swipe right for the next picture and repeat steps in 1 and 6

6) If the screen shows a screen like in part **c** step, then repeat steps 1-6.

g) Learners would need to know how to save the photo to the iPad.

1) (*Visual Information: The sized/adjusted photos are tiled small images on a screen.*) Tap the date, next to the back button, on the top left corner in the blue bar.

2) (*Visual Information: An alert box appears with the file name, which starts with 'doc'*). Use the on screen keyboard to delete the text in the alert box. Type in a meaningful file name.

h) Learners would need to know how to retrieve the saved photo in the iPad to a LMS.

1) Open seesaw LMS.

2) Locate assignment in the activities tab

3) Tap assignment to open dialog box

4) Scroll to find profile image

5) Tap profile image to upload assignment

6) Locate file saved (*Condition: Each iPad is different when it saves files. It is best to collect a few different iPad models to see where the autosave location is to better assist learners in locating the file*).

Instructional Objectives

TERMINAL OBJECTIVES AND ENABLING OBJECTIVES

- Given an iPad and App Store app, download and open 'TapScanner' application that can run on the users' iPads – Cognitive Domain - Procedural Knowledge (Apply)
 - Locate the correct app icon to download given an Ipad and Application store 100% of the time (Apply)
 - Download the TapScanner application given an Ipad and Application store 100% of the time (Apply)
- Given the TapScanner application is operable and open, create professional (clear, appropriately-sized and appropriate amount of) and readable (clearer, more appropriately-sized and appropriate amount of) PDFs of paper assignments by using TapScanner app – Cognitive Domain - Procedural Knowledge (Apply)
 - Given camera function of 'TapScanner', take a photo of paper assignment that is focused and sized to fit most of the camera screen (Apply)
 - Given the size function of the 'TapScanner' app, use sizing function to crop irrelevant areas of image that are not part of the assignment (Apply/Remember)
 - Given adjustment/enhancement functions function of the 'TapScanner' app, apply types of adjustments/enhancements that make the text on the image easier to read (Apply/ Remember)
 - Given the save function of the 'TapScanner' app, save created image as a PDF, which can be retrieved using Seesaw LMS (Apply)

Enabling Objectives Matrix & Supporting Content

I) Summary of the Learner Characteristics, Objectives and Designing the Message

Title of Unit:

Introduction to Seesaw

Target Audience:

The target audience consists of students, parents, teachers and administrators. The students are Chinese, in Grade 4 and ages 9 to 10. They are second language learners of English. They have been learning English since Kindergarten. The parents of the students are of a high socio-economic level. Approximately half have English language competencies. The teachers are native speakers of English and deliver core content areas in English. They are certified in their countries of origin. Less than five percent have language competencies in Chinese. There are four administrators: one principal, two assistant principals and one IB coordinator. They each are credentialed in their home country. Each is responsible for overseeing the effective development and delivery of instruction.

Terminal Objectives:

- 1) Given an iPad and App Store app, download and open 'TapScanner' application that can run on the users' iPads
- 2) Given the TapScanner application is operable and open, create professional (clear, appropriately-sized and appropriate amount of) and readable (clearer, more appropriately-sized and appropriate amount of) PDFs of paper assignments by using TapScanner app

Pre-Instructional Strategy:

Anecdote: First, the instructor will introduce a mock situation of a student losing her/his work. The instructor will hyperbolically emphasize the seriousness of the loss and then will attempt to solve the problem by locating the work on Seesaw. However, when the teacher accesses the work on Seesaw, the instructor finds work that is unreadable with a peculiar looking post-it note attached to it. The post-it note message will appear to be a 'love' note that one student passed to another.

Objectives: The objectives will appear on a PPT in student friendly language. It will highlight how the anecdote's problem can be solved with instruction.

II) Summary of Content Sequencing, Instructional Strategies and Instructional Delivery

Terminal Objective:					
2) Given the TapScanner application is operable and open, create professional (clear, appropriately-sized and appropriate amount of) and readable (clearer, more appropriately-sized and appropriate amount of) PDFs of paper assignments by using TapScanner app					
Enabling Objectives:		Bloom's Taxonomy	Summary of Learner Activities – <i>(There are more that cannot be concisely recorded in this table.</i>	Merrill's Component Display Theory	Delivery Method
1st	A) Given camera function of 'TapScanner', take a photo of paper assignment that is focused and sized to fit most of the camera screen.	Remember Apply	Verbal Rehearsal - Visual discrimination activity – <i>students distinguish between five papers 'focused' and 'sized' and five that are not.</i>	Procedure	Whole Class – Face to Face
2nd	B) Given the size function of the 'TapScanner' app, use sizing function to crop irrelevant areas of image that are not part of the assignment	Remember Understand Apply	Symbolic Mental Rehearsal – <i>students add labels to a diagram of the app features</i>	Fact Concept Procedure	Whole Class – Face to Face
3rd	C) Given adjustment/enhancement functions function of the 'TapScanner' app, apply types of adjustments/enhancements that make the text on the image easier to read	Remember Understand Apply	Actual Practice – <i>students receive three different papers to scan. (Sameness permits consistency of performance.)</i>	Fact Concept Procedure	Whole Class – Face to Face
4th	D) Given the save function of the 'TapScanner' app, save created image as a PDF, which can be retrieved using Seesaw LMS	Apply	Feedback – <i>teacher boards scans to assess 'size' and 'adjustments</i> Assessment – <i>students scan own past assignments to submit to Seesaw.</i>	Fact Procedure	Whole Class – Face to Face

III) Details of Objective Matrix

Revised Bloom's Taxonomy Table

List of Objectives						
Terminal Objective	Enabling Objective			Actions	SubProcess	
1) Given an iPad and App Store app, download and open 'TapScanner' application that can run on the users' iPads	A) Locate the correct app icon to download given an Ipad and Application store 100% of the time			<i>to locate</i>	<i>to execute</i>	
	B) Download the TapScanner application given an Ipad and Application store 100% of the time			<i>to download</i>	<i>to execute</i>	
2) Given the TapScanner application is operable and open, create professional (clear, appropriately-sized and appropriate amount of) and readable (clearer, more appropriately-sized and appropriate amount of) PDFs of paper assignments by using TapScanner app	A) Given camera function of 'TapScanner', take a photo of paper assignment that is focused and sized to fit most of the camera screen.			<i>To photo to focus to size</i>	<i>to execute to interpret to execute/ interpret</i>	
	B) Given the size function of the 'TapScanner' app, use sizing function to crop irrelevant areas of image that are not part of the assignment			<i>to crop</i>	<i>to execute/ interpret</i>	
	C) Given adjustment/enhancement functions function of the 'TapScanner' app, apply types of adjustments/enhancements that make the text on the image easier to read			<i>to select to enhance</i>	<i>to execute to interpret</i>	
	D) Given the save function of the 'TapScanner' app, save created image as a PDF, which can be retrieved using Seesaw LMS			<i>to save</i>	<i>to execute</i>	
Knowledge Dimension	Cognitive Process Dimensions					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge			EO1A (KD: Aa/CP: 3.1) EO1B - (KD: Aa/CP: 3.1) EO2A – (KD: Aa/CP: 3.1) EO2B – (KD: Aa/CP: 3.1) EO2C – (KD Aa/ CP: 3.1) EO2D – (KD: Cb/ CP 3.1)			
Conceptual Knowledge						
Procedural Knowledge	EO2A –(KD: Cb-Cc/CP: 1.1) EO2B –(KD: Cb-Cc/CP: 1.1)	EO2A – (KD: Cb/CP: 2.1) EO2B – (KD: Cb/CP: 2.1) EO2C – (KD Cb-Cc/ CP: 2.1)	EO2A – (KD: Cb /CP: 3.1) EO2B – (KD: Cb /CP: 3.1) EO2C – (KD: Cb-Cc/ CP 3.2) EO2D – (KD: Cb/ CP 3.1)			
Metacognitive Knowledge						

Notes: KD stands for Knowledge Domain. CP stands for Cognitive Process. The letters and numbers that follow the acronyms refer to the subdimensions and subprocesses of the Revised Taxonomy.

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