

Introduction

This semester, you have learned the framework for integrating educational technology that could transform teaching and learning. You explored instructional software, identified web-based resources to use and technology integration strategies and best practices. In this performance-based exam, you will address the following learning outcomes and standards.

Student Learning Outcomes

- 1. Illustrate the usage, benefits, challenges, and limitations of educational technology.
- 2. Differentiate appropriate behaviors when engaging online and with social media.
- 3. Utilize technology to personalize teaching and enhance learning.

CTE330 is aligned with the following InTASC standards:

Standard 3.2 Learning Environments. The teacher manages the learning environment to engage learners effectively.

Standard 4.2. Content Knowledge. The teacher creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the content.

Instruction:

Part I: Skill-Based

 Plan a lesson framework for your CTE area of specialization. Your framework must integrate technology that will enhance student (1) engagement, (2) learning, and (3) create real-world connections. The technology could be web-based or application tools

Lesson Objective (LO)	LO Bloom's Level	Learning <u>activity</u> and a <u>technology</u> tool to use that will enhance student <i>engagement</i>	Learning <u>activity</u> and a <u>technology</u> tool to use that will <i>enhance</i> learning	Learning <u>activity</u> and a <u>technology</u> tool to use that will create <i>real-world</i> <i>connections</i> <i>(extension)</i>
Using a ruler and an architect's scale, students will calculate the actual size of a scaled drawing with 100% accuracy.	Calculate - Analyze	After presenting the concept of scale and measurement, I will test their knowledge on how much they have remembered using the online game Kahoot!	To make the learning easier and push them towards higher level thinking about scale and measurement, I will make them use Khan Academy.	After identifying the concept of scale and measurement through Kahoot!, and calculating and measuring dimensions with the help of Khan Academy, I will have students use the AutoCAD software program to freely explore tools related to scale and measurement.
		Kahoot is an online game based learning platform where students can answer multiple choice questions in a timely manner with their peers.	Khan Academy offers exercises, quizzes, and challenges with immediate feedback and encouragement, so students can practice and master	AutoCAD is the original CAD software used by millions around the world. It can be used to create precise 2D and 3D drawings and models, as well as electrical diagrams, construction

	skills, and instructional videos to help students learn or review material. Students without computers	drawings, and more.
	can access the Khan Academy website or apps on mobile devices. (<u>https://www.khana cademy.org/math/c</u> <u>c-seventh-grade-m</u> <u>ath/cc-7th-geometr</u> <u>y#cc-7th-scale-dra</u> <u>wings</u>)	

Part II: Discuss the following:

- 2) Are the technology tools in compliance with Compliance with <u>COPPA (under 13).</u> <u>FERPA and PPRA, GDPR</u>
- 3) Privacy:

Does the application include a description of who has access to the data stored in it and how that data will be used? Does the application have a clear student data privacy policy?

4) Engagement Level Assessment

How well does the application keep students' minds focused on the learning task, undistracted from peripheral elements and allow students to be active social learners around the learning goal?

5) Enhancement Level Assessment

How well does the application support the students' using higher cognitive thinking, make the learning easier to understand (scaffolds/supports in place), and add-value the learning goals?

6) Extension Level Assessment

How well does the application transfer student learning to their everyday lives and the communities around them, and build on their prior knowledge?

- 7) What appropriate behaviors would you impose on your students when using the proposed technology? How do you differentiate them?
- 8) What are the usage, benefits, challenges, and limitations of integrating educational technology in the classroom?
- 9) How does this project address the InTASC standards?

Rozelle Ragat Professor M. Schrage CTE 330 30 April 2022

"Performance-Based Assessment Discussion"

In my CTE 330 class, I have learned the framework for integrating educational technology that could transform teaching and learning. I explored instructional software, identified web-based resources to use and technology integration strategies and best practices. This project addresses the InTASC standards 3.2 and 4.2 because the software I chose allows the students to be engaged and motivated in the lesson and will supplement the concepts they have learned.

The three proposed technologies are Kahoot!, Khan Academy, and AutoCAD. For the engagement level assessment, Kahoot! is a great tool that can motivate student learning because it allows the students to test their knowledge, reiterate concepts, and retain new information. The online game based platform also allows students who are learning remotely to engage with the class as a whole. It creates an exciting challenge and increases interaction with their peers and teachers. Based on my experience of using Kahoot!, it gave me the opportunity to answer questions without making me feel like a nerd. I was always the shy one in class who did not like talking to anyone, and whenever my teacher asked us a question verbally, I wouldn't bother answering because I didn't want to seem like a "know-it-all". With Kahoot!, we were able to choose our own nicknames for the game, and I would be so in tuned with the questions just as much as everyone else is. Everyone wants to be at the top of the scoreboard, so they try to answer as quickly and correctly as possible. Even though it is an online platform, we surprisingly chat amongst each other when we're thinking about the questions. Students are gravitated towards working together to solve the answer, and teachers are given the opportunity to further discuss concepts in the event the students aren't answering correctly.

For my enhancement level assessment, Khan Academy is a great tutorial software that supports higher cognitive thinking and can identify gaps in a student's understanding. They offer practice exercises, instructional videos, and a personalized learning dashboard. It allows students to to understand the material at their own pace inside and outside the classroom. Using the lesson objective, I found a lesson plan that correlates to the concept of scales and measurement. They provide foundational concepts, video tutorials, and problem-solving exercises at each level to guide them into higher cognitive thinking. The problems provided relate to architectural drafting which enhances their learning and demonstrates a sophisticated understanding. I used Khan Academy to help prepare me for my Praxis Core exam, and I was able to drill and practice questions to improve my reading and math skills. If I made an incorrect answer, I would receive corrective feedback right away. In addition, they also provided a sequence of instructions to help me create a proper short essay in order to improve my writing skills.

For the extension level assessment, Autodesk provides a computer-aided design tool called AutoCAD, AutoCAD is a software program used to design, form, and shape the 2-D and 3-D images using a computer. AutoCAD provides a set of tools that we can use to complete a detailed design of the product. It also provides an option to create a detailed design layout, which can be automatically drawn using a source model. In this case, AutoCAD will be used to apply the concept of scale and measurement. Provided that they have a floor plan, students can freely explore dimension and measuring tools that were done with manual tools in the lesson. AutoCAD provides students a real-world extension because the software program is widely used in architectural and engineering firms today. With my experience of using AutoCAD, it is a technological tool that has made learning concepts of blueprint reading and drafting much easier to understand.

All three technological tools are dedicated to their privacy policy and are also in compliance with Family Educational Rights and Privacy Act (FERPA), Protection of Pupil

Rights Amendment (PPRA), and Children's Online Privacy Protection Act (COPPA), and General Data Protection Regulation (GDPR). They explicitly state what information is provided to them and how they will use the information, and they are stern about not sharing personal information with third parties. There are also options in our account that we or parents can personalize to ensure children's safety. The following privacy statements are as follows:

Kahoot!'s Privacy Policy statement:

"Kahoot! is committed to protecting the privacy and security of our users and being transparent about how we process information about you. This Privacy Policy describes how we process your Personal Information and how you can exercise your privacy rights. Capitalized terms have the meaning given to them in Annex A "Definitions". Kahoot's services allow our users to create and upload content, play and host games and invite others to join a game. Kahoot acts as a data processor for Personal Information in user content, and for Personal Information that we may otherwise collect and process on behalf of our Users on the platform. Such processing is not covered by this Privacy Policy." (Kahoot, 2021)

Khan Acadamy's Privacy Policy statement:

"Our Privacy Policy is fueled by our commitment to these Privacy Principles:

- 1. We're deeply committed to creating a safe and secure online environment for you.
- 2. We do not sell your personal information to third parties. We established Khan Academy as a nonprofit organization so that our mission of education and your trust will not be in conflict with a for-profit motive.
- 3. We strive to provide you with access to and control over the information you give us, and we take the protection of your information very seriously.

- 4. We take extra precautions for our younger learners as described in our Children's Privacy Notice, including restricting child accounts to automatically block features that would allow a child to post or disclose personal information.
- 5. We do not display advertising on Khan Academy. Our mission is to provide you with a world class education, not to sell you products." (Khan Academy, 2020)

Autodesk's Privacy Policy statement:

"Protecting your privacy is important to Autodesk. This Privacy Statement explains how Autodesk processes personal data collected through websites, products, and services ("applications"), including those distributed by our resellers and other channel partners, and through in-person and digital events, webinars, surveys, marketing activities, and visits to our premises (along with applications, collectively our "offerings"). References to "Autodesk," "we," or "our" means Autodesk, Inc. and other entities that belong to the Autodesk corporate family and that link to this Privacy Statement. A list of entities within the Autodesk corporate family can be found here.

We may display supplemental privacy notices on occasion, such as when we believe additional transparency would help you make an informed choice about whether to provide personal data. For example, you may see a supplemental privacy notice explaining a particular data collection program, or you may see a supplemental privacy notice when registering for an event.

This Privacy Statement describes how we process personal data for our own purposes. We also process personal data on behalf of our customers subject to a written contract. We do not control the data processing or protection practices of our customers, which may differ from those set out in this Privacy Statement. "Personal data" is information that identifies, or can reasonably be linked directly or indirectly to, an identifiable person. Personal data does not include information that is anonymous, de-identified, or aggregated, as those terms may be defined under applicable law. For purposes of this Privacy Statement, "personal data" and "personal information" have the same meaning and are used interchangeably." (Autodesk, 2022)

Utilizing technology for educational purposes has increased academic success for all learners, but with the lack of digital citizenship, issues regarding safety, security, and privacy will arise. Before the age of 5, children are introduced to technology, and as they get older, they will use it much more frequently in their lives that it would be difficult to live without it. Students can easily access information they need for their research paper or to use instructional software to practice and reinforce new concepts from class. Teachers have the ability to collaborate and create a community with other teachers, and some of the benefits of doing so include creating visions and goals, sharing ideas for creative lesson planning, and decreasing teacher isolation. When we, as educators, integrate technology into the classroom, we have to incorporate digital citizenship and be a role model for our students, as well as making them aware of online safety and ethical issues. Digital citizenship is defined as the responsible use of technology by anyone who uses computers, the Internet, and digital devices to engage with society on any level

Since my future classroom would primarily be using computer hardware and computer-aided design (CAD) software programs, it is vital for me to promote digital citizenship and to ensure a safe and secure online learning environment. First, I would build awareness and understanding of digital citizenship. I want to emphasize the importance of online etiquette netiquette, and show students how to communicate properly online. Communicating properly includes being courteous, socially aware, and having empathy with others all the time just as if we are in a physical classroom environment. Sending disrespectful texts behind a screen is just as hurtful, or even more, if you would say it to their face. Next, I would like to promote media literacy which is the ability to understand online information and separate false information from the truth. Afterwards, I want to teach them ways of protecting their privacy, so others don't have access to their personal information. And last, but not least, I want to teach students about their digital footprint. If they ever decide to post anything negative online, I want them to understand it can not be permanently deleted. It will give them the idea and grow up to know that everything that is done online would be really difficult to remove once posted. It is the teacher's responsibility to teach and enforce online safety practices, but it is ultimately the student's responsibility to self-monitor web content, have netiquette, and constantly practice digital citizenship.

There are several usages, benefits, challenges and limitations when it comes to integrating educational technology. In Chapter 5: Instructional Software for Student Learning, instructional software is a general term for computer programs or apps used to deliver instruction or assist with the delivery of instruction on a topic through demonstrations, examples, and explanations. The following software teaching functions include: drill and practice, tutorial, simulation, game or gamification, problem solving, and personalized learning. Each of these serve a different purpose, and it's critical that teachers need to use the appropriate and applicable software function aligned with their lesson plan activities. The lessons learned from the history of computer technologies are that technology isn't a solution or remedy for education. Prior to integrating educational technology, we have to think about whether that specific hardware or software is actually needed to help reach the lesson's objective or goal. However, even though we have technology readily available, there are still cons to having them such as having unreliable information. As time goes on, technology is rapidly changing, and teachers can't keep up. There is a lot to learn about a specific hardware or software. Programs and applications would constantly update and possibly even change their interface as years go by making it

difficult for teachers to understand. The overall message of integrating technology with education is that teachers and instructors are far more important and vital than technology. As technology advances, we need more teachers to facilitate how we can utilize particular devices and applications needed for our future jobs and careers. We simply can't replace teachers with technology.

Resources:

https://trust.kahoot.com/privacy-policy/ https://www.khanacademy.org/about/privacy-policy https://www.autodesk.com/company/legal-notices-trademarks/privacy-statement https://www.prodigygame.com/main-en/blog/digital-citizenship/ https://www.aeseducation.com/blog/what-is-digital-citizenship

Criteria	O=No	1=Some what	2=Yes
 Engagement in the learning: 1. The technology used allows students to focus on the assignment/activity/goals with less distraction 2. The technology motivates students to start the learning process. 3. The technology causes a shift in the behavior of the students, where they move from passive to active social learners through co-use or co-engagement. 			2 2 2
 Enhancement of learning goals: 1. The technology tool allows students to develop or demonstrate a more sophisticated understanding of the learning goals or content using higher-order thinking skills. 2. The technology creates supports (scaffolds) to make it easier to understand concepts or ideas (e.g. differentiate, personalize or scaffold learning). 3. The technology creates paths for students to demonstrate their understanding of the learning goals in a way that they could not do with traditional tools. 			2 2 2
 Extending the learning goals 1. The technology provides opportunities for students to learn outside of the classroom. 2. The technology connects learning goals 			2

Part I: Grading Rubric and Criteria for Success

with real life experiences. 3. The technology allows students to build authentic life soft skills, which they can use in their everyday lives.	2	
Total = <u>18</u> /18 points	<mark>18</mark>	

13-18 Points: Exceptional technology integration. There's an exceptional connection between technology used and learning goals.7-12 Points: Some connection between technology tool;s and learning goals.6 Points: Low connection between learning goals and tools.

(Adapted: Liz Kolb, University of Michigan)

Part II Grading Rubric for Discussion

Addressing the Topic O to 5 points	Connections and Analysis O to 5 points	
0-1 mentions the topic in a few words misses the point almost entirely	0-1 provides a few comments on evidence or general meaning of the	
2-3 mentions the topic and provides a	topic.	
few remarks about the topic	2-3 provides direct connections of evidence related to the topic.	
4 addresses the main issues identified in		
the thesis statement	4 provides logical connections that	
5 fully addresses the thesis statement including all the main issues, the	support a summary of the evidence and relates it to the topic.	
secondary issues and explores the historical context and meaning over time	<mark>5 provides analysis of evidence that fully supports the topic</mark> .	
Conclusions		
O to 5 points		
0-1 provides a few summary concluding remarks.		

2-3 provides a conclusion with some evidence directly related to the topic.	
<mark>4 provides a logically connected conclusion with evidence that supports a summary discussion of the topic.</mark>	
5 provides a separate concluding paragraph which fully supports a clearly delineated and logically coherent case for the topic.	
	Total = <u>13</u> /15 points