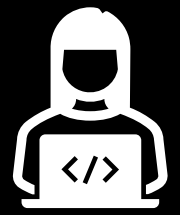
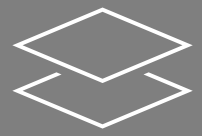
Future Teachers & Digital Classrooms

Do It Yourself Culture (DYC)

Lama Bergstrand Othman

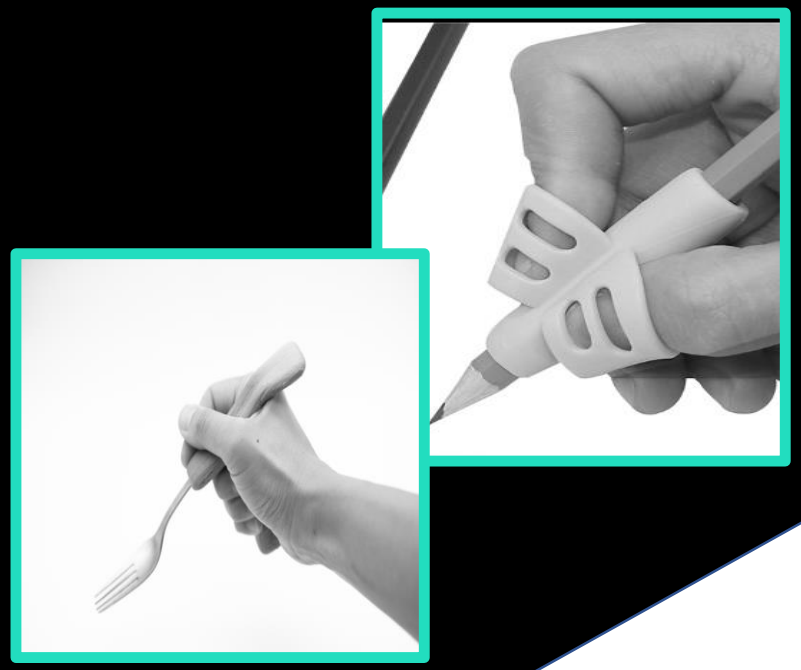
Who My Students Are





What I Teach

Low Tech



High Tech

SAMR

Redefinition

Modification

Augmentation

Substitution

TPACK

Technological

Pedagogical

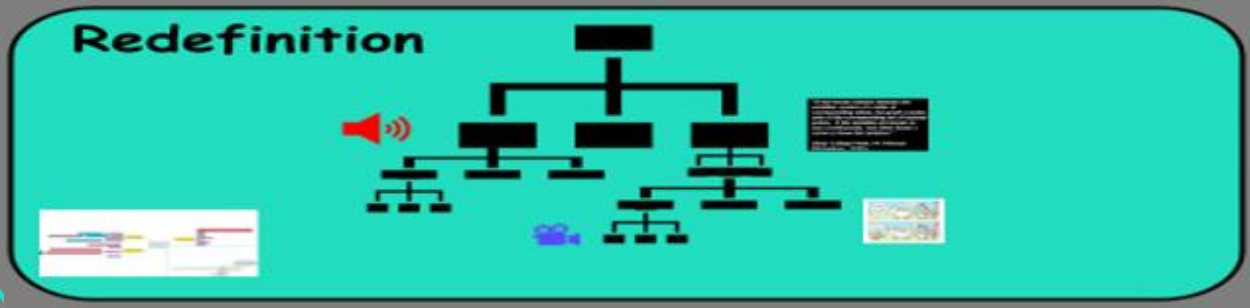
Content

Knowledge

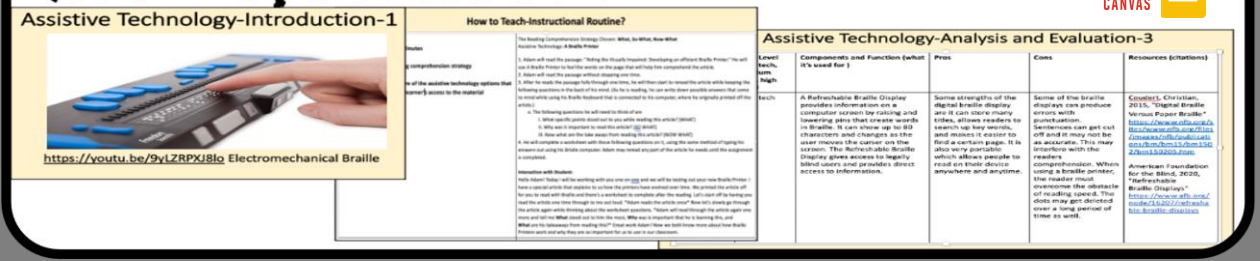
S A M R

TRANSFORM LEARNING

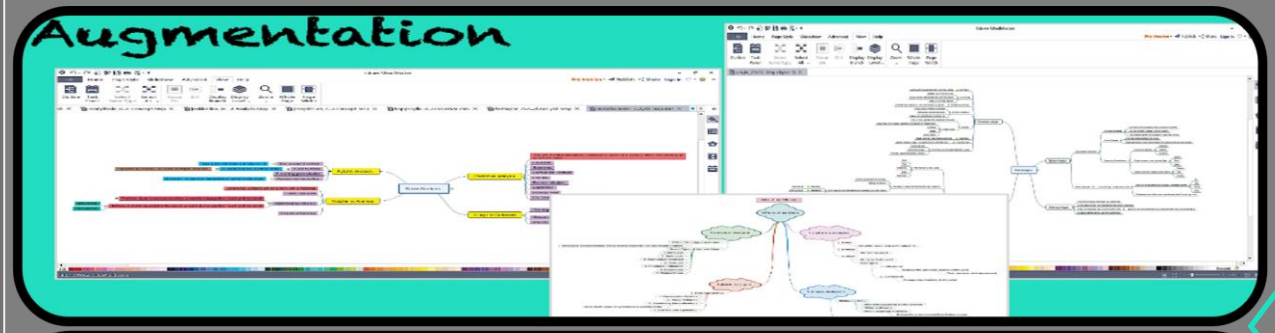
Redefinition



Modification

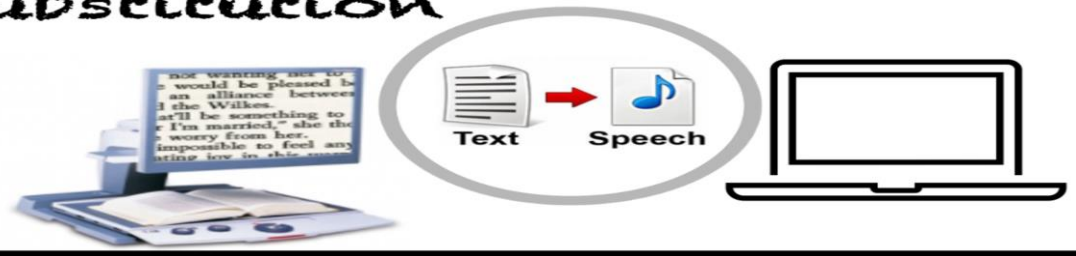


Augmentation



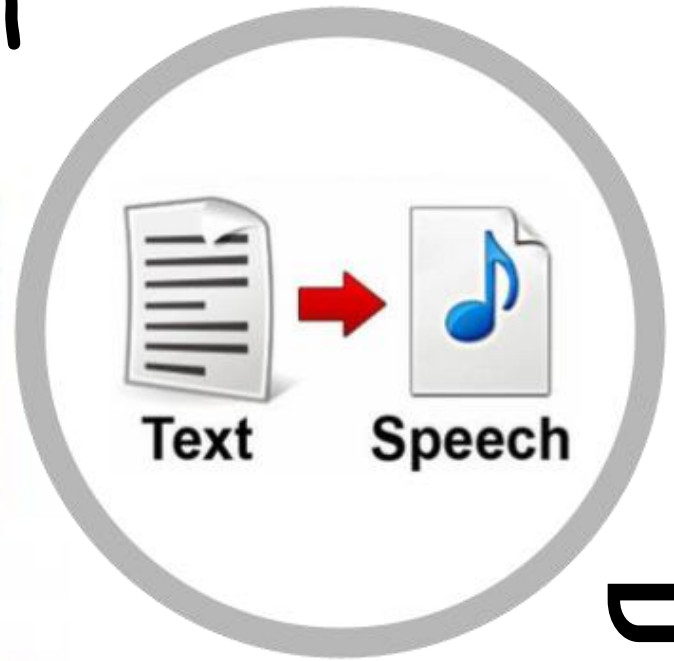
ENHANCE LEARNING

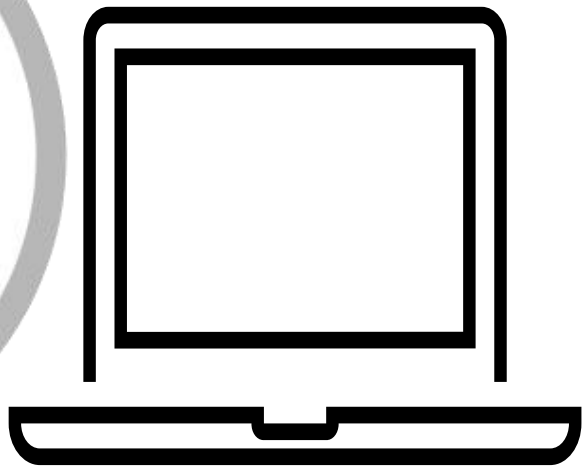
Substitution



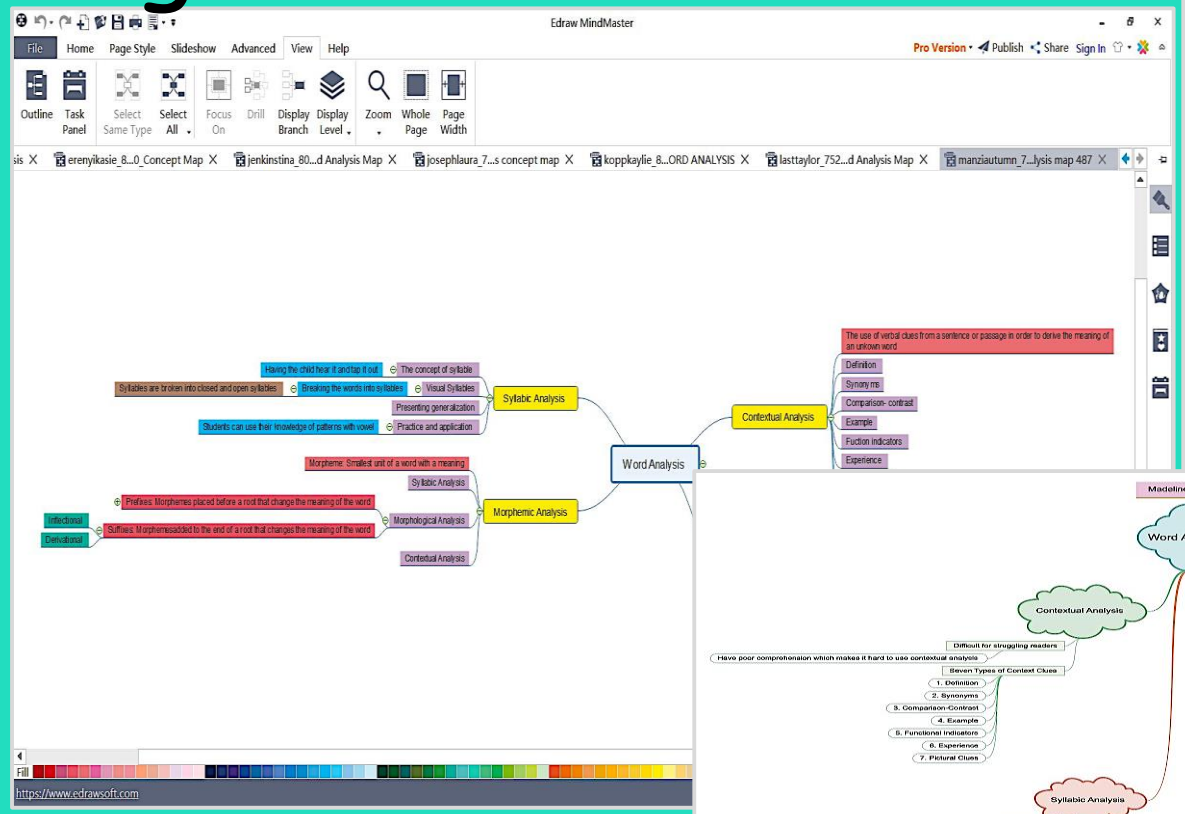
Puentedura, 2010

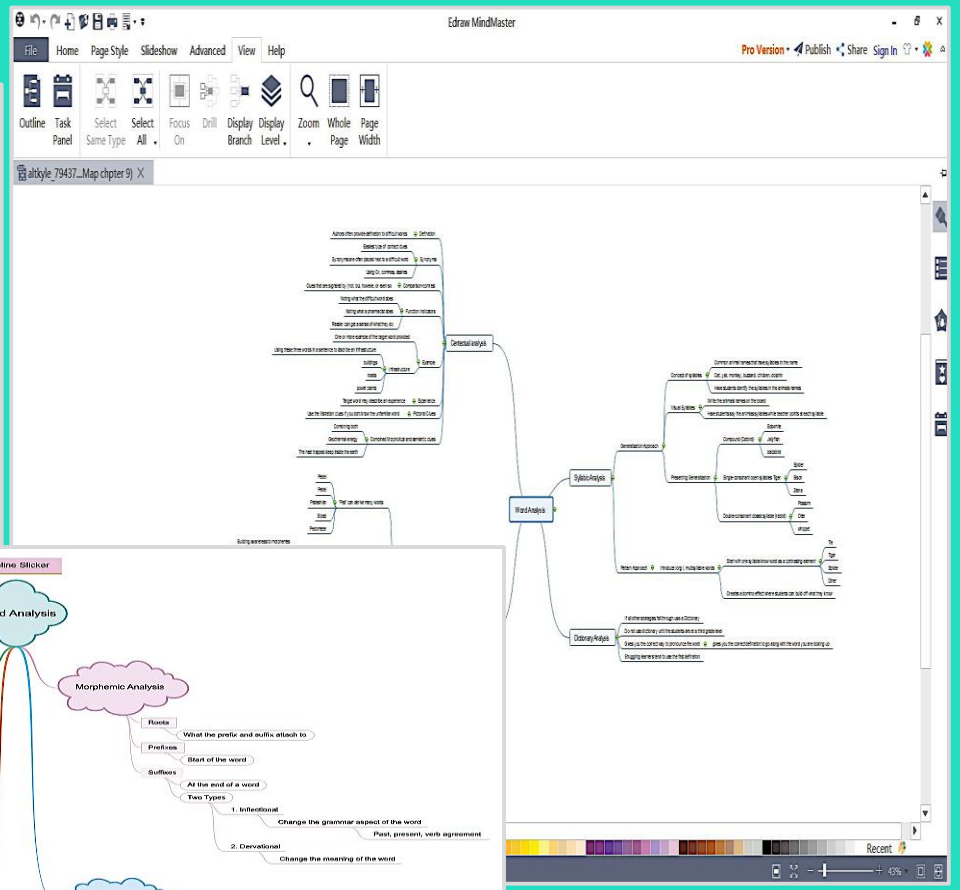
Substitution

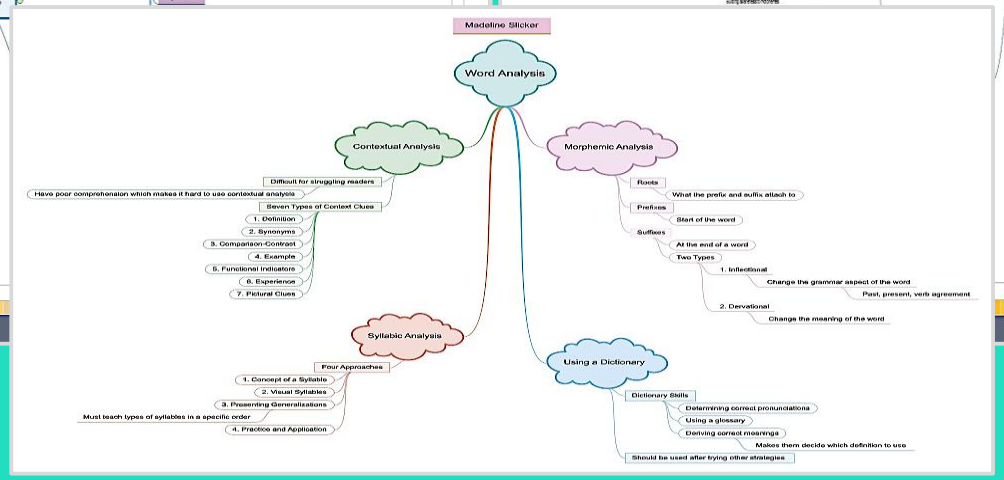




Augmentation







Modification

Assistive Technology-Introduction-1

https://youtu.be/9yLZRPXJ8lo Electromechanical Braille

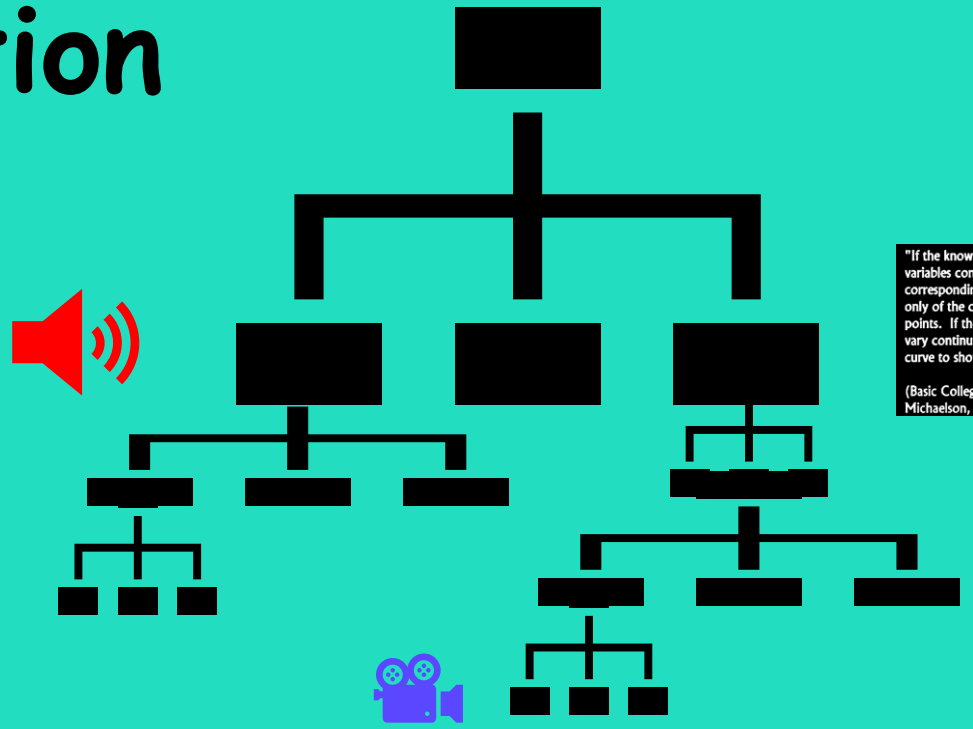
How to Teach-Instructional Routine?

linutes g comprehension strategy re of the assistive technology options that earner's access to the material	The Reading Comprehension Strategy Chosen: **What, So-What, Now-What** Assistive Technology: **A Braille Printer** 1. Adam will read the passage: "Aiding the Visually Impaired: Developing an efficient Braille Printer." He will use A Braille Printer to feel the words on the page that will help him comprehend the article. 2. Adam will read the passage without stopping one time. 3. After he reads the passage fully through one time, he will then start to reread the article while keeping the following questions in the back of his mind. (As he is reading, he can write down possible answers that come to mind while using his Braille Keyboard that is connected to his computer, where he originally printed off the article.) a. The following questions he will need to think of are I. What specific points stood out to you while reading this article? (WHAT) II. Why was it important to read this article? (SO WHAT) III. Now what are the take aways from reading this article? (NOW WHAT) 4. He will complete a worksheet with those following questions on it, using the same method of typing his answers out using his Brialle computer. Adam may reread any part of the article he needs until the assignment is completed. **Interaction with Student:** Hello Adam! Today I will be working with you one on one and we will be testing out your new Braille Printer. I have a special article that explains to us how the printers have evolved over time. We printed the article off for you to read with Braille and there's a worksheet to complete after the reading. Let's start off by having you read the article one time through to me out loud. *Adam reads the article once* Now let's slowly go through the article again while thinking about the worksheet questions. *Adam will read through the article again one more and tell me **What** stood out to him the most, **Why** was is important that he is learning this, and **What** are his takeaways from reading this?* Great work Adam! Now we both know more about how Braille Printers work and why they are so important for us to use in our classroom.

Assistive Technology-Analysis and Evaluation-3

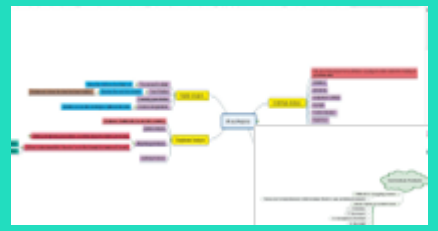
Level tech, ium high	Components and Function (what it's used for)	Pros	Cons	Resources (citations)
tech	A Refreshable Braille Display provides information on a computer screen by raising and lowering pins that create words in Braille. It can show up to 80 characters and changes as the user moves the curser on the screen. The Refreshable Braille Display gives access to legally blind users and provides direct access to information.	Some strengths of the digital braille display are it can store many titles, allows readers to search up key words, and makes it easier to find a certain page. It is also very portable which allows people to read on their device anywhere and anytime.	Some of the braille displays can produce errors with punctuation. Sentences can get cut off and it may not be as accurate. This may interfere with the readers comprehension. When using a braille printer, the reader must overcome the obstacle of reading speed. The dots may get deleted over a long period of time as well.	Coudert, Christian, 2015, "Digital Braille Versus Paper Braille" https://www.nfb.org/sites/www.nfb.org/files/images/nfb/publications/bm/bm15/bm1502/bm150205.htm American Foundation for the Blind, 2020, "Refreshable Braille Displays" https://www.afb.org/node/16207/refreshable-braille-displays

Redefinition

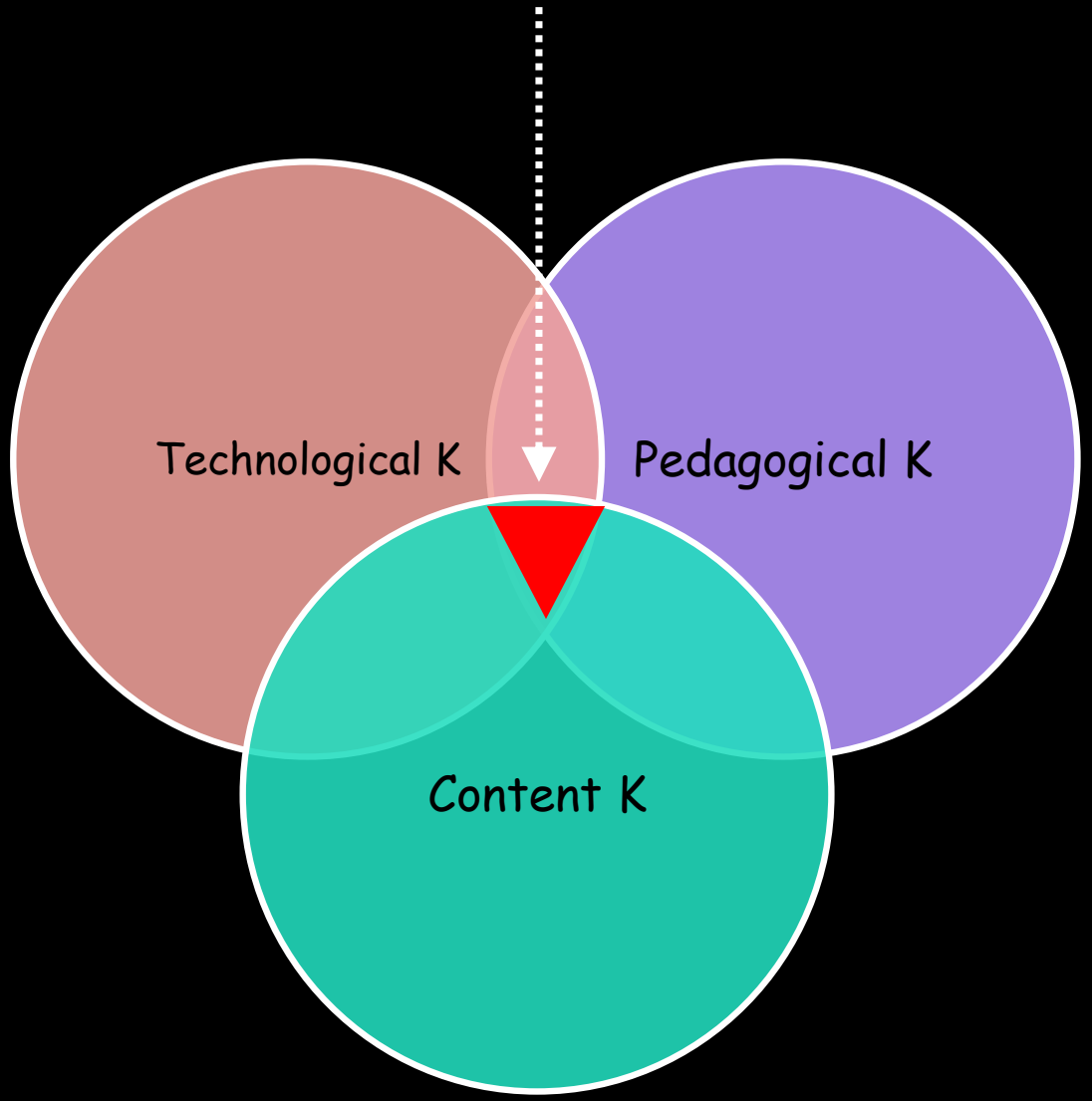


"If the known relation between the variables consists of a table of corresponding values, the graph consists only of the corresponding set of isolated points. If the variables are known to vary continuously, one often draws a curve to show the variation."

(Basic College Math, M. Michael Michaelson, 1945)

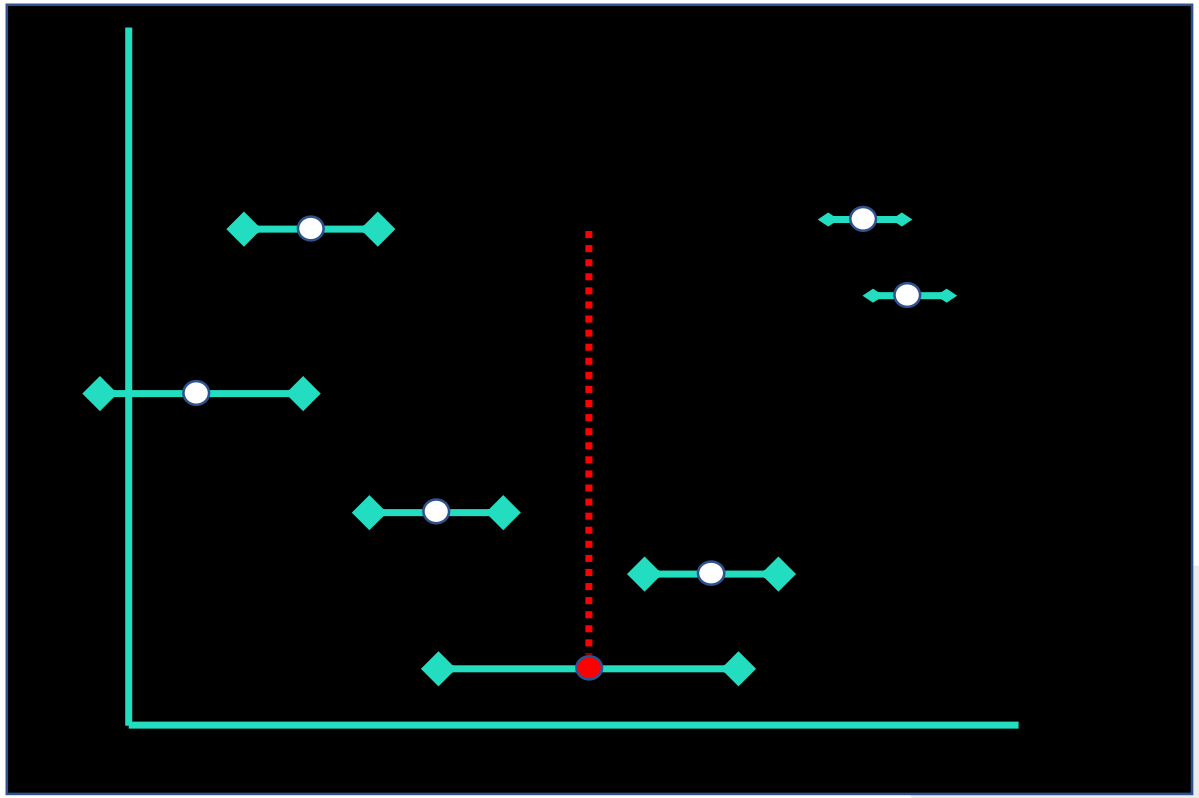


TPACK



Kohler & Mishra+, 2006

Technology Integration-SAMR & TPACK
What the Research Tells Us

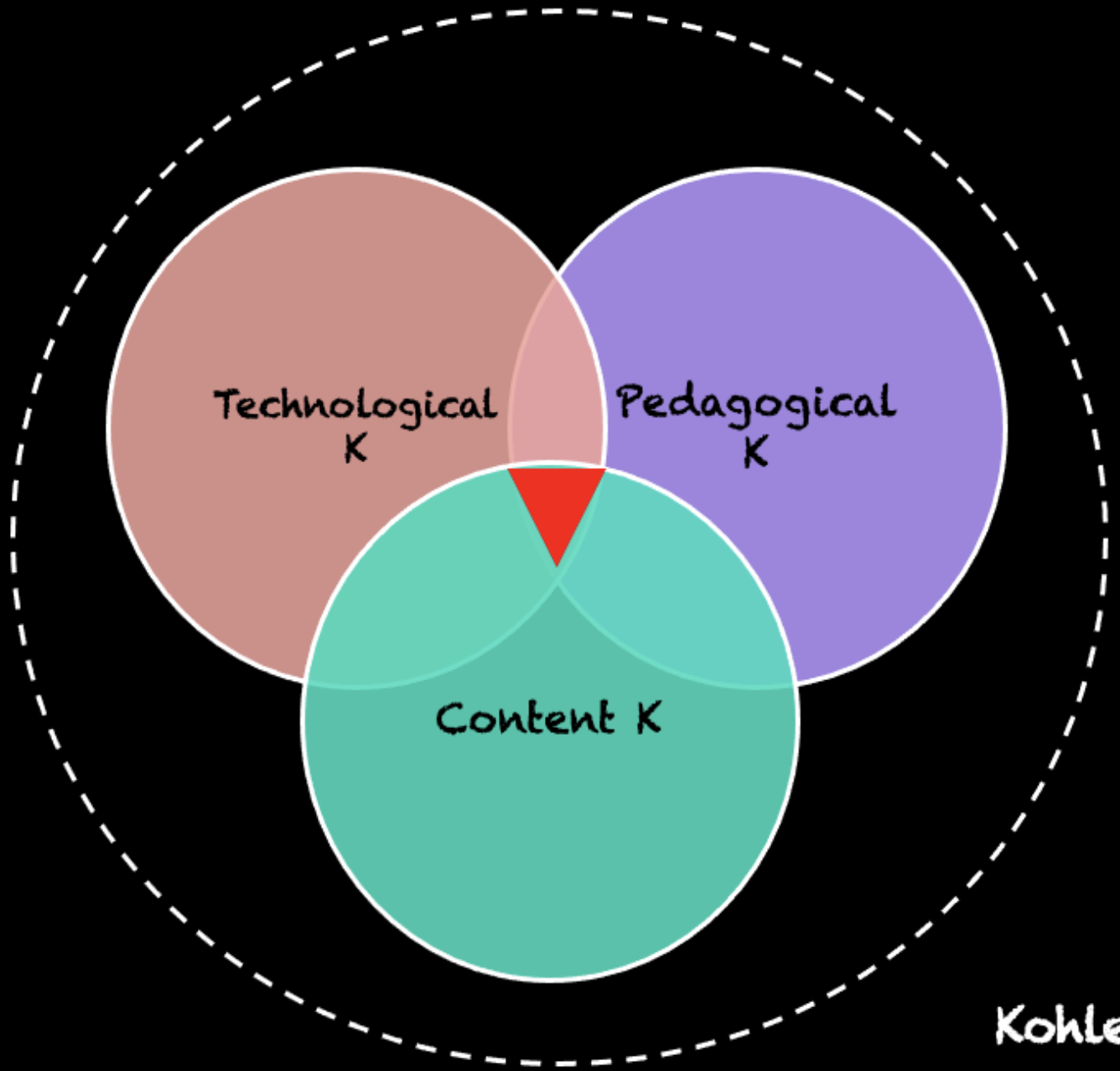


Metanalyses

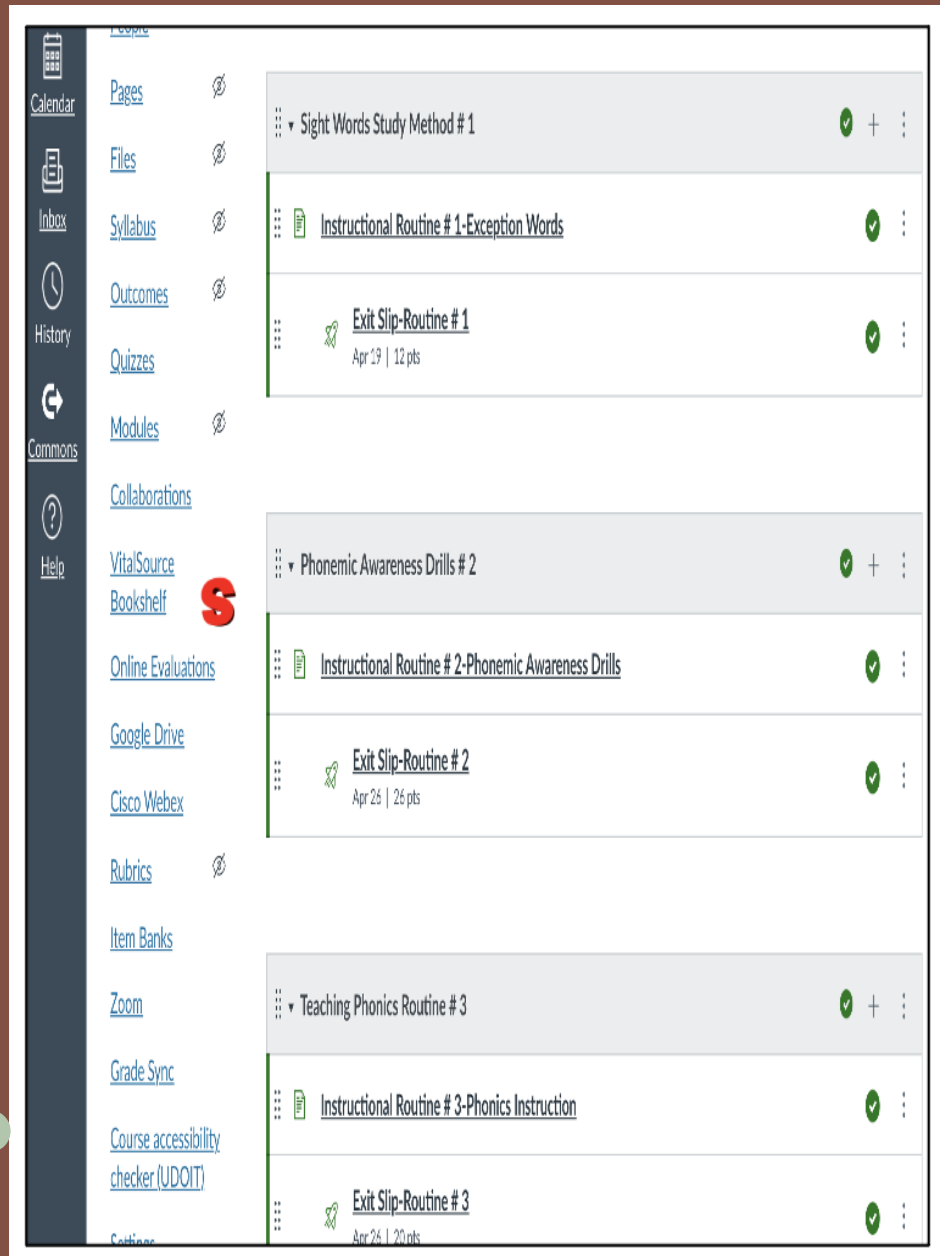
- TPACK-HE & K12:
Young et al. (2013) found a moderate effect size at CI 95%

- TPACK, SAMR, ICT-HE:
Wilson et al. (2020) found a positive significant effect size at CI 95%

TPACK



Kohler & Mishra+, 2006



Instructional Routine # 1-Exception Words

After studying this module, take exit slip quiz #1

Exit Slip-Routine # 1

What are exception words?

Words that do not adhere to the phonic rules of spelling are referred to as exception words. In the word 'action,' for example, the sounds /shen/ are spelled 'tion.' Here are some more exception words:

there where path bath hour sugar length mention minute rhyme rhythm shoulder signature soldier stomach sufficient temperature thorough twelfth yacht

Are exception words and sight words the same?

Words that appear frequently in texts are known as sight words. We want young readers to recognize these words quickly so that they can concentrate on difficult words and reading comprehension. Because they appear frequently throughout the text, exception words can be treated as sight words. There are, however, far more regular (decodable) sight words than exception sight words.

It should be noted that this routine is only for teaching exception words. A different routine is used to teach regular words.

Which exception words should I teach?

To begin, have your student read a list of exception words of increasing difficulty. Then ask them to correctly spell the words they read correctly. When a student makes four consecutive reading or spelling errors, you should stop the evaluation. You can use the list attached to the working link below, or you can ask the student's teacher if he or she has a list of exception words that they want their student to learn. It is important to note that for this drill, the words must be exception sight words rather than regular sight words. Make a folder for each student in which you can keep a list of the words that he or she needs to learn.

Suggested List of Exception Words

How to teach exception words?

Watch the video below and follow the same instructional procedures with your student.

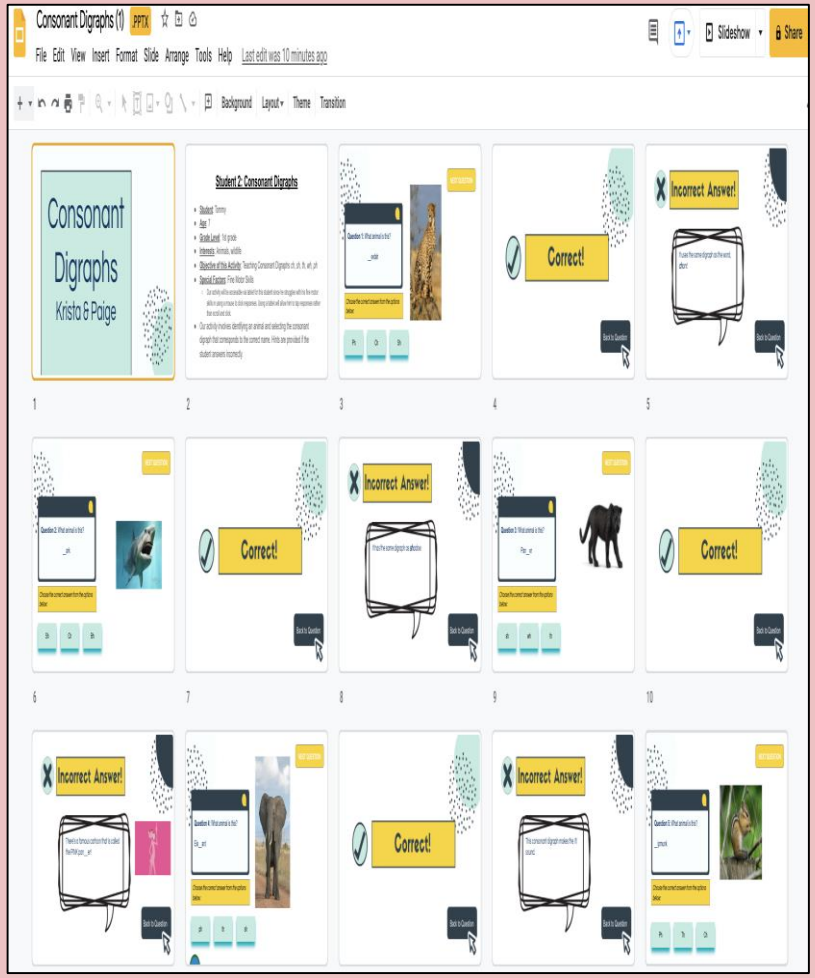
Watch

This Photo by Unknown Author is licensed CC BY-NC

CANVAS

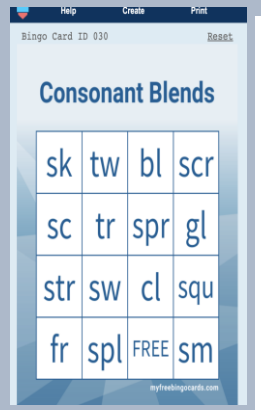
Gamification

Consonant Digraphs-Game



Sounds of 'S' Game

Consonant Blends Game



Student Feedback on Their Gamification Experience

Attempts: 6 out of 6

+0.55

Discrimination Index

Prior to creating this instructional game, how comfortable were you with sourcing relevant information on the internet while navigating the various available online tools to create this instructional game?

Very comfortable	2 respondents	33 %	✓
Somewhat comfortable	4 respondents	67 %	
Uncomfortable		0 %	

33% answered correctly

Attempts: 6 out of 6

+0.82

Discrimination Index

How comfortable have you become with sourcing relevant information on the internet while navigating the various available online tools to create the instructional game?

Very comfortable	4 respondents	67 %	✓
Somewhat comfortable	2 respondents	33 %	
Uncomfortable		0 %	

67% answered correctly

of 6

+0.55

Discrimination Index

e prior experience creating an interactive learning game prior to created?

	4 respondents	67 %	✓
	2 respondents	33 %	

67% answered correctly

of 6

+0.82

Discrimination Index

table are you with learning about and using available web-based and computer-based tools to create instructional ctivities?

able	2 respondents	33 %	✓
mfortable	4 respondents	67 %	
le		0 %	

33% answered correctly

LBO

Student Feedback on Their Gamification Experience

Question 5 1 / 1 pts

Outline 3 things you liked about creating this instructional game

Your Answer:

1) I like that you provided us with examples/instruction videos before we worked independently. It was very helpful.

2) I feel that using online instructional game is fun for both the teacher and the student.

3) It gave me ideas for my future classroom.

Additional Comments:

Question 6 1 / 1 pts

Discuss three ideas for the instructor to improve the learning experience associated with the instructional game that you have created.

Your Answer:

There aren't any improvements that I can think of that need to be made.

Question 5 1 / 1 pts

Outline 3 things you liked about creating this instructional game

Your Answer:

Learning to use the interactions in google slides gonna definitely use that in my own classroom. Games are the best way to review.

It was fun making the game itself.

Mike mostly had the game and words outlined I did the tech stuff in the background mostly.

Additional Comments:

Question 6 1 / 1 pts

Discuss three ideas for the instructor to improve the learning experience associated with the instructional game that you have created.

Your Answer:

Google slide interactions are definitely great if you have the time.

Use kahoots more there definitely fun.

To be honest there are virtually million of tools the problem is finding good solid ones. To be honest the way you teach is fine I am learning 95%-99% percent the information just fine with a few clarifications here and there.

Question 5 1 / 1 pts

Outline 3 things you liked about creating this instructional game

Your Answer:

1. I liked exploring the interactive templates Google has to offer. There are many other opportunities outside of the typical Google Slides format.
2. Another thing I enjoyed was incorporating student interests into the game. Our student was interested in animals, and there were lots of visuals we were able to insert into the game. Additionally, I had fun brainstorming animal names that contained consonant digraphs.
3. Finally, I appreciated that we were able to work collaboratively to complete the instructional game. Both Krista and I had great ideas that we could bounce off each other. It was fun to see the final product we were able to make.

Additional Comments:

Question 6 1 / 1 pts

Discuss three ideas for the instructor to improve the learning experience associated with the instructional game that you have created.

Your Answer:

1. I think it would be beneficial for us to dive into different interactive platforms prior to the assignment.
2. It would be a great idea to have us share our discoveries to the class so that we can see the various interactive opportunities that are out there.
3. Maybe we could incorporate more instructional games/interactive activities into our own classroom instruction for more exposure.

Question 5 1 / 1 pts

Outline 3 things you liked about creating this instructional game

Your Answer:

1. learning different sources that we can use in the future
2. Learning new websites and tools to use
3. it was nice to work in a team and see what they knew as well

Additional Comments:

Question 6 1 / 1 pts

Discuss three ideas for the instructor to improve the learning experience associated with the instructional game that you have created.

Your Answer:

More information on what we are doing

Give an example

Overall I liked it and it went well

Question 5 1 / 1 pts

Outline 3 things you liked about creating this instructional game

Your Answer:

I liked that we had to find new ways to create the instructional game and that we got to work in partners so we could use each other's knowledge about different games. I also liked that we went over some ideas in class so that we had a basis to start from.

Additional Comments:

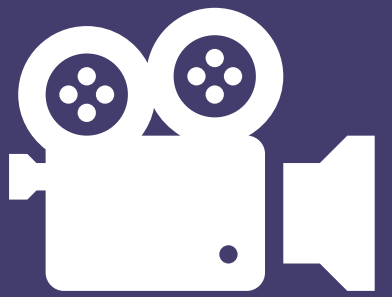
Question 6 1 / 1 pts

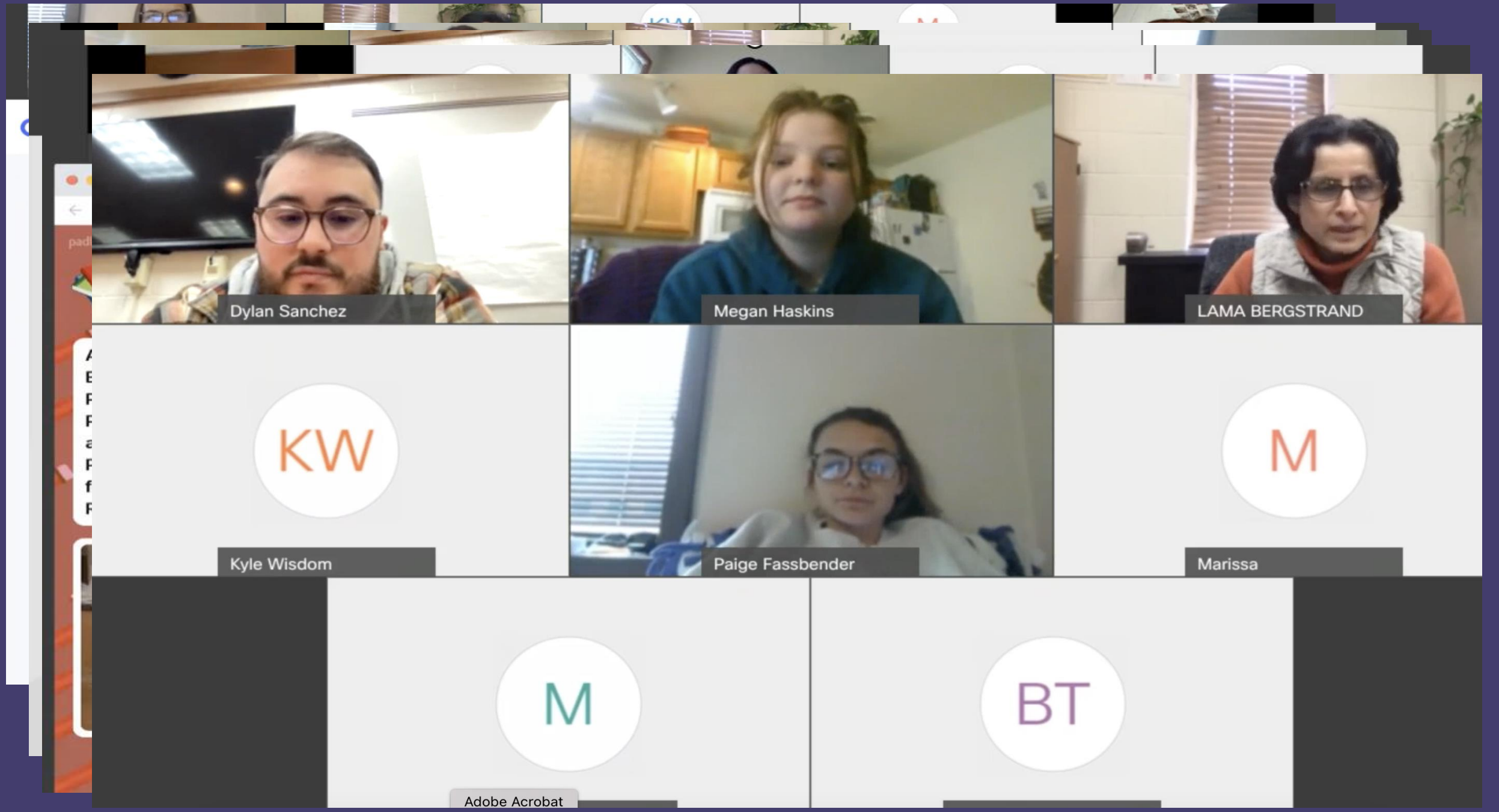
Discuss three ideas for the instructor to improve the learning experience associated with the instructional game that you have created.

Your Answer:

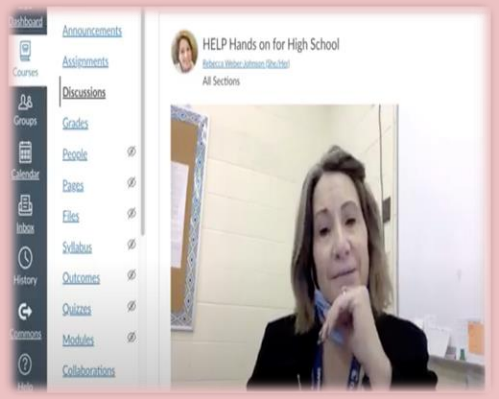
I wish we could have shared our projects so we could see what other people created, and that way we could have more ideas to use in the future.

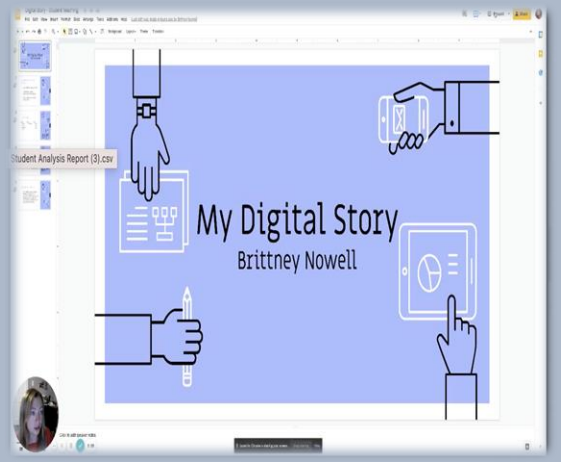
CANVAS Modules, Videos of Students' Online Teaching Demonstrations, and Student-led Discussions and Digital Stories




Dylan Sanchez
Megan Haskins
LAMA BERGSTRAND
KW
Kyle Wisdom
Paige Fassbender
M
Marissa
M
Adobe Acrobat
BT

Teacher Candidates' Digital Stories





SAMR

Substitution

Augmentation

Modification

Redefinition

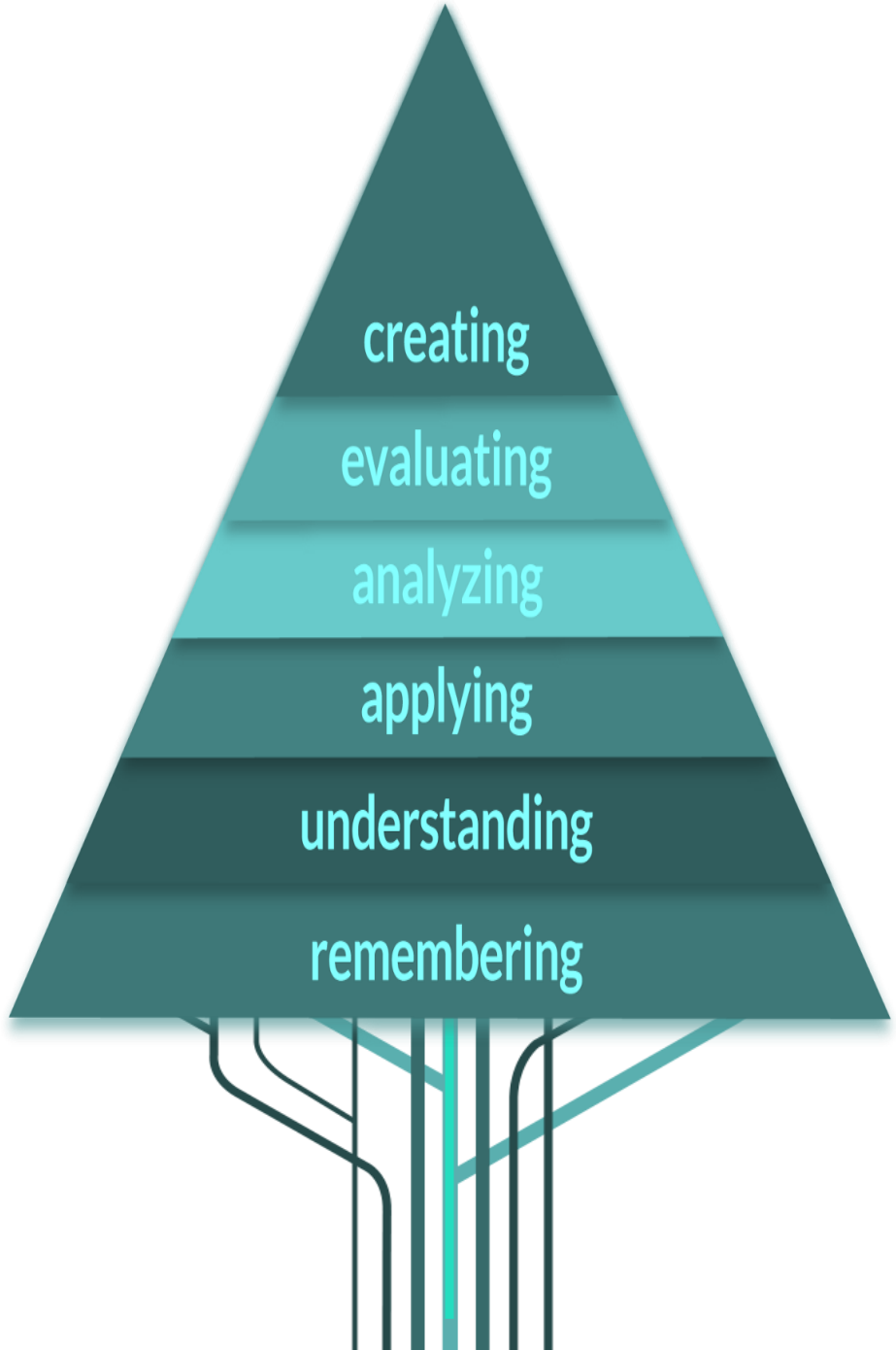
TPACK

Technological

Pedagogical

Content

Knowledge



Reference

Açikgül, K. (2020). The Effect of Technological Pedagogical Content Knowledge Game Activities Supported Micro-Teaching Practices on Preservice Mathematics Teachers' Self-Efficacy Perception. *Acta Didactica Napocensia, 13*(2), 157–173. https://doi.org/10.24193/adn.13.2.11

Hamilton, E.R., Roseberg, J. M. & Akcaoglu, M. (2016). The Substitution Augmentation Modification Redefinition (SAMR) Model: a Critical Review and Suggestions for its Use. TechTrends, pp. 1-9. Doi: 10.1007/s11528-016-0091-y

Koehler, M. & Mishra, P. (2009). What is Technological Pedagogical Content Knowledge (TPACK)?. *Contemporary Issues in Technology and Teacher Education, 9*(1), 60-70. Waynesville, NC USA: Society for Information Technology & Teacher Education. Retrieved March 25, 2022 from https://www.learntechlib.org/primary/p/29544/.

Mourlam, D., Chesnut, S., & Bleecker, H. (2021). Exploring preservice teacher self-reported and enacted TPACK after participating in a learning activity types short course. *Australasian Journal of Educational Technology,* 152–169. https://doi.org/10.14742/ajet.6310

Puentedura, R. (2006). Transformation, technology, and education [Blog post]. Retrieved from http://hippasus.com/resources/tte/

Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2019). Enhancing pre-service teachers' technological pedagogical content knowledge (TPACK): a mixed-method study. *Educational Technology Research and Development, 68*(1), 319–343. https://doi.org/10.1007/s11423-019-09692-1

Tourn, F. (2020). The effect of a textbook preparation process supported by instructional technology tools on the TPACK self-confidence levels of prospective social studies teachers. *Review of International Geographical Education Online*. https://doi.org/10.33403/rigeo.691943

Wilson, M. L., Ritzhaupt, A. D., & Cheng, L. (2020). The impact of teacher education courses for technology integration on pre-service teacher knowledge: A meta-analysis study. *Computers & Education*, *156*, 103941. https://doi.org/10.1016/j.compedu.2020.103941

Young, J. R., Young, J. L., & Hamilton, C. (2013). The Use of Confidence Intervals as a Meta-Analytic Lens to Summarize the Effects of Teacher Education Technology Courses on Preservice Teacher TPACK. *Journal of Research on Technology in Education*, *46*(2), 149–172. https://doi.org/10.1080/15391523.2013.10782617

?