

Collaborative Digital Citizenship Plan & Self-Assessment: Deep Fakes

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| Specific goals | Students will learn the impact of deep fakes on digital security as well as news and media literacy. |
| Instructional Issues | The school is an opt-in distance instruction or in-class instruction model. With the rise in Covid cases there are to be no face to face meetings where students must interact only with their assigned class. With the abrupt transfer to digital environments, the teachers feel overwhelmed with work and there is a heavy reluctance to learn new technologies. The STEM teacher seemed open to utilizing Flipgrid as the educational hub for the unit and attended an in-person meeting with me to learn how to utilize the platform. Another barrier was the transfer of content material that did not trigger distinct level blocking between the students and myself. |
| Characteristics & needs of the learners | This lesson will target a specific 5th grade audience. The student population of the 5th graders attends the STEM class from 18 to 22 students as the school is participating in opt-in distance learning. Unique learning needs of the student include 5 english language learners and 4 special education classified students who have parapro assistance. The school has just recently acquired 1:1 chromebooks as well as Promethean smart boards. Across the board implementation of technologies by staff remains at novice levels. Instructors will need a tutorial of how to utilize the featured application technology. |
| Course Content & Tasks | <p>Unit Title: Digital Citizenship Deep Fakes</p> <p>Overview: Students will navigate through a self-paced learning path in flipgrid to learn about all the aspects and impact deep fakes can have on digital security and literacy.</p> <p style="text-align: center;">Tasks in Sequence</p> <p>Task 1 - Flipgrid Practice Post Students will navigate to the shared link above and begin the first activity . They will be asked to Share the some information about themselves in their practice post:</p> <ol style="list-style-type: none"> 1. Your first and last name 3. Your favorite food 4. Your favorite animal 5. A place you would like to visit 5. Reply to at least one other peer post |

This is to allow the student to acclimate to the new learning environment. For those students who are comfortable adapting to something new an additional challenge task will be available. Students must use screen share to show me a picture of their favorite animal and food while they talk about it. **Time:** ½ a class period or 20 mins

Task 2 - What are deep fake videos? | Students will be given an intro video of the instructor informing them about the content they are about to learn. Students must then:

1. Watch YouTube "Digital Security for Kids | Deep Fakes" Link
2. Go to Quizlet link below and practice key terms with a partner
3. Pick one term you did NOT know and record a video using screen share. They must click on the Quizlet word flash card they have chosen and start recording. In the video they must say the word, the definition, then use the word in a sentence.

Time: ½ a class period or 20 mins

Task 3 - Detecting FAKES | Even before making fake videos, people have been making fake photos to trick your eyes into believing something is real when it isn't. Students will be challenged to identify fake photographs.

First they will click on the "Real or Not?" link embedding in the Flipgrid interface. They will then test their skills of observation on these 25 pictures. They must then write down how many they got right and wrong.

Next they must record a response with their partner discussing many photos they got right out of 25 and if they think identifying fake photos and videos is easy. They also will be challenged to expand this experience to a wider application of trusting what we see online.

Time: Full class period or 45 mins

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| | <p>Task 4 - How are deep fake videos harmful? Students will read the curated Newsela Article about deep fake videos and how it could be a national security problem. Clicking on the activities tab, they will answer the 4 question quiz to check for understanding. Students must now navigate back to Flipgrid and make a video response to this topic explaining what the article was about, something new they learned, and their personal opinion on whether deep fake videos are good or bad. To make potential personal connections they will be asked if they have you ever made an edited photo or video using face filters.</p> <p>Time: Full class period or 45 mins</p> <p>Task 5 - Can you work in cybersecurity? Testing what they have learned. Students will take a quiz with the Quizizz link attached to the Flipgrid Post. Students will be invited to review all materials before taking the test. students will then come back to flipgrid and reflect on their performance and consider if a potential future in cyber security is right for them.</p> <p>Time: Full class period or 45 mins</p> <p>Total Estimated Time: 4 class periods / days</p> |
| <p>Instructional Objectives and Learning Outcomes.</p> | <p>Objectives:</p> <ol style="list-style-type: none"> 1. With 100% accuracy, students will be able to post a video response to a question utilizing Flipgrid with at least 1 separate video enhancing element. 2. Students will be able to describe the main idea in detail in a digital security article verbally including at least 3 relevant facts. 3. Students will demonstrate deep fake knowledge acquisition through a quiz taken through quizizz with 75% accuracy. <p>Outcome:</p> <p>Students will be able to describe the larger impact and social implications of deep fake videos can have on a societal and global level.</p> |

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| <p>Instructional Strategies for Success</p> | <p>Social constructivism learning theory drives the creation of this unit plan. The role of the unit creator and instructor is a facilitator and guide through the learning paths, only intervening for troubleshooting or technical issues. Learning is made meaningful through the interaction and connection between the students responding to one another on questions made pertinent to their everyday life. The unit task gives room for personal choice of expression that will customize the experience to the learner in an effort to make it more meaningful and promote intrinsic interest in the topic concepts. Spaced practice with utilizing response videos allows for gradual comfort with a foreign technology before jumping full force into the guided instruction. Authentic assessments are created through dialogue and contextualized completion of activities to match both student interest and objective goals. Each task is visually chunked together for easy learning and made available to all. The nature of Flipgrid's response system allows all learners of differing abilities to participate with little trouble. The asynchronous nature of the unit allows it to be available in perpetuity with ongoing personal interactions between the students through text comments and video response that can be moderated. The selection of Newsela to be the crux of objective 2 comes from the need to make some reading differentiation for select learners. The site provides a flawless transition of articles to various lexile levels.</p> |
| <p>Technical details on instructional delivery</p> | <p>As per instructor request, this unit is designed to be a self-paced asynchronous learning path utilizing Flipgrid. Other technologies used are Tiktok, Snapchat, Lyre, iMovie, Audacity and YouTube for instructional video creations and hosting as well as various hardware peripherals. Newsela is used to further content knowledge on digital security measures taken against deepfakes as well as its built in reading differentiation tools. Quizlet is used for vocabulary acquisition and accommodation technology. Quizizz is used as the summative assessment platform.</p> |
| <p>Evaluation Instruments</p> | <p>Unit Evaluation The construction of the unit underwent many revision per instructor request and face to face meetings.</p> <p>Objective 1 Completion of Task 1 on Flipgrid will evaluate posting and creation proficiency of Flipgrids most important tool of instruction. These responses will gauge technology proficiency necessary for success in the rest of the unit.</p> <p>Objective 2 Completion of Task 4 will allow the instructor to</p> |

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| | <p>review all of the posted videos for reading comprehension as well as the results of the”check for understanding questions at the end of the reading.</p> <p>Objective 3 Completion of the final Task number 5, an 11 question test, will allow the instructor to evaluate summative understanding of all concepts acquired throughout the unit.</p> |
| <p>Additional resources</p> | <p>All resources created custom and linked by the instructor are listed here:</p> <ul style="list-style-type: none"> ● https://flipgrid.com/digitalfake ● https://quizizz.com/admin/quiz/5f9f97680a6198001be0051f/digital-security ● https://newsela.com/read/danger-of-deepfakes/id/52275/?collection_id=2000000398&search_id=c9ec16-8944-4e79-9595-4849f9678324 ● https://landing.adobe.com/en/na/products/creative-cloud/69308-real-or-photoshop/index.html ● https://youtu.be/9tr-4xGt0p4 ● https://quizlet.com/_8z7gvg?x=1qqt&i=1360jr <p>Additional resources researched to create this unit:</p> <ul style="list-style-type: none"> ● https://www.csoonline.com/article/3293002/deepfake-vid-eos-how-and-why-they-work.html ● https://www.youtube.com/watch?v=gLoI9hAX9dw ● https://www.cnn.com/interactive/2019/01/business/pentagons-race-against-deepfakes/ |

Evaluation Data & Analysis

Initial recorded participants: 81

Number of unique video Interactions: 1897

Number of unique student to student interactions: 111

Completion of Objective 1 task: 82

Completion of Objective 2 task: 20

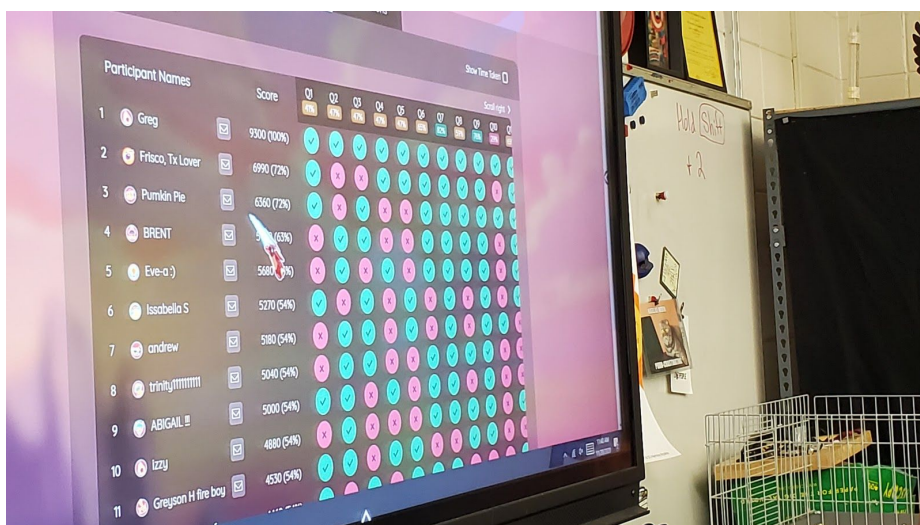
Completion of Objective 3 task: 26

Video confirmation of participants: <https://flipgrid.com/digitalfake>

Cumulative Assessment Evidence:



The screenshot shows a Flipgrid assessment interface. On the left is a profile picture of a person in a hoodie using a laptop. The title 'Digital Security' is prominently displayed. Below the title, it indicates the grade level is '5th - 8th grade', it has been 'Played 92 times', and has a '59% average accuracy'. The subject is listed as 'Computers'. There are icons for sharing, printing, and deleting in the top right corner.



Data observations: A variety of observations can be made while analyzing the descriptive data provided by Flipgrid. The singular class this unit was made for was able to complete all of the tasks within the timeframe. The large volume of additional videos are other classes beginning the unit. The teacher requested that he complete this with the entire 5th grade level. Reviewing the video submissions from on the flipgrid platform, accessible via link above, students felt comfortable navigating a new digital environment and applying foreign tools in their responses. Analyzing video responses attached to objective 2 yields some confusion about new terminology as well as its usage in an article. Students responded via video with main ideas and details learned in the article. The limited data received about the summative evaluation from the instructor had some conflicting data points. Though there were only 26 students to complete the quiz for objective 3, I received data from the program that it was started 92 times. This could be for several technical issue reasons like students starting and ending the quiz prematurely. Unfortunately this also affects my reported average of 59%. The instructor only provided me with a single image of the test results instead of the downloadable document. From this limited information it is surmised that the real student average is around 63%, still within the standard deviation of the website reported percentage.

Self Assessment & Revisions

Upon my initial meeting with the instructor I was collaborating with, I was very excited about the prospect of creating a unit about deep fake videos and their effect on additional security and literacy. As the topic itself was suggested by my collaborating instructor I performed days of research about this concept that has only just become an issue on a wider scale. Though there were some few amazing adult resources about deep take videos, educational resources were scarce. Even common sense media had only a singular article in the lesson plan

geared towards high school students only. After developing a firm grasp of the concept and its wider implications, I had another meeting with my collaborating instructor to assess technologies students have access to as well as being familiar with. This led to a few technical security blockages from the district that was remedied with a phone call to the director. As I was creating a professional development about Flipgrid for the school I requested that this also be based in this web application program. This will create an ideal exemplar for teachers at the school to witness their own students interact with the new program. As the collaborating instructor was not familiar with the program himself, I created the assignment hub and provided him with individual training on how to execute the lessons. Each lesson was a series of tasks that culminated in a video response and peer-to-peer interaction to solidify knowledge. Giving him the option to facilitate these parts as a whole class, I also provided additional instructional materials to be utilized with the Promethean board to help with pacing and displaying videos I constructed. Creating these videos prove to be a challenge all on its own. The collaborating instructor had the idea to connect the concept for his stem project, hippopotamus snot hand sanitizer, to deep fake videos. I have never created a deep fake video but was undeterred as I conducted more research about the technical aspects of how they are created. I quickly realized that in order to create a fake I would need hours of resource video for my computer to artificially analyze to match my face onto another person's. I did not have a computing power to do this with Fidelity, so I opted to create a deep fake video with voice changer software. After analysing and testing multiple voice-changing software, I settled on one with a few famous celebrity presets. I then searched for existing videos of these people to match the voice with the lips and talk about hippopotamus snot. In addition I created a wire frame of the instructor's face and

manipulated it to show initial steps on how deep fakes can be accomplished. Assembling all of these parts, I was satisfied with my unit and stood by for any technical or conceptual issues.

These issues started to immediately rise as the instructor contacted me with students not being able to access the “check for understanding” questions built into the Newsela program. I initially thought it was just a sign-in issue but that did not remedy the situation for half of the students. This had a trickle down effect to the summative assessment where half of the questions were based on those “check for understanding” questions. To preemptively combat this I quickly emailed the instructor a slide with the questions they were missing so he could at the very least go over them in class. Students were also recording but not submitting videos on occasion. A potential revision for this is making a quick video in the first task that demonstrates the steps to ensure success.

The final assessment reporting also included some issues. A miscommunication took place between the collaborating instructor and I. He informed me about his familiarity with the program Quizizz, the application I used to create the summative assessment. I favor this application as it provided a very detailed analysis of performance that is instantly shared to Google classroom. He had never used it in that particular capacity and only provided me a phone picture of his screen with none of the detailed analytics I was expecting. Next time I will insist on another meeting to go through each of the incorporated technologies to insure a flawless execution and data retrieval. As a whole, however, I believe the unit was a success. Objectives 1 and 2 were met, and objective 3 has unreliable data due to technical difficulties. However, listening to the student responses one-by-one gave an alternative form of assessment check that I believe will be more lasting.