CRITICAL THINKING ASSIGNMENT MODULE THREE

Tech-Driven Creative Project Plan

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Current Project and Lessons:

This Unit/Course is centered around developing real-world and academic applications of high-quality research, presentation, and analysis in the face of an ever-changing and exponentially more technologically focused future. Each contributing topic supports students' growth and awareness of what valid research is, how it is applied, how to utilize it in various forms, how to communicate in the face of widely different worldviews, and practical skills such as time management, thorough research, reading academic papers, presentation development, peer review, and personal reflection. Flipped classroom assignments, Socratic discussion, and work days are integrated to make use of personal inquiry, collaborative idea development, and appropriate social response.

Project Background and Description

One way of integrating technology and creativity into the classroom is through the lens of a "maker mindset", "the two characteristics of making highlight the necessity of having content area knowledge and knowing how to apply those to interdisciplinary projects, as well as mastering new literacies skills to successfully communicate with a community of makers." (Jin, 2021). While this project does not produce in the same way as a Maker Tech environment would as the result is a presentation in some form (as opposed to a robot, 3-D printed item, programmed machine production, etc.), the idea of "making" still applies. Integration of multimodalities as "image, gaze, gesture, movement, music, speech, using sound-effect, and digital technologies" is integrated into new literacies, and students must learn to apply them themselves as well (Jin, 2021). Since the COVID-19 pandemic, research has been shown that blended learning models focusing on developing creativity can be successful, and the integration of technology can

enhance creative ability through examples, use of various applied technologies, and involvement in community discussions or collaborative work (Atthachakura, 2021). While this particular Unit is designed for in-classroom work, it is highly adaptable to a blended learning environment. This project is also designed to provide highly personalized learning experiences with a range of autonomy, agency, collaboration, exploration, and paces, all of which have been proven to not only increase creativity, but motivation (Runco, 2023).

Description and Requirements: The end result will be a recorded presentation no longer than 6 minutes in length that communicates your journey to answer a Big Idea or Question that has arisen from researching your research topic. This must include how the idea or question arose from your research, how you are investigating it, whether you have formed an opinion or not (as well as what that is and why), challenges you faced, and where you are going next. This can take the form of any presentation you like (suggestions are below), and you should approach this as creatively as possible. I challenge you to get outside of your comfort zone. Try a new approach, integrate different visuals or music than you would not normally, consider how you will try to answer your question differently in the future. Your presentation will be peer reviewed by only a few people, and you will be reviewing a few others yourself. Assignments leading up to submission of the presentation will include videos and articles on creativity, scientific inquiry and creativity, tips on presentations, and research. You will have the opportunity to discuss your approaches and work collaboratively, incorporating feedback from work days to contribute to the novelty of your presentation.

Assessment

The assessment for this project will be provided in rubric form and final grades will be reported as both peer feedback and teacher feedback. While at first glance, it may not seem that scientific creative thinking has a place in an English class research presentation, scientific thinking fundamentally provides a methodology to creative inquiry. General assessments in the classroom often do not take into account students' process of acquiring the correct answer or producing the final product (Beghetto, 2019). This assignment is about the creative process, however, and therefore, in terms of assigning value through a rubric, the process is emphasized. This also places high value on the personalized learning occurring, critical thinking process of analysis, problem solving process, and reflection. Even though the final product is individualized, the process of discussion, research, production, and peer feedback highlights collaboration and communal discovery. Therefore, the rubric takes into account elements from a Collaborative Creativity Learning Model (CCL) which "value skills of scientific creativity of students acquired during the learning includ[ing the following] indicators: the use of unusual (UU), think[ing] of ways to create new products or improve the existing ones into Technical Production (TP), raise new questions or viewpoints of new forms of imagination or hypothesis in … Hypothesizing (H), develop problem-solving capabilities of … problem solving (SPS), testing creative experimentation with a variety of possible methods to produce creative products of creativity experimental (CE) and creative machine design of Science Product (SP)." (Astutik et al., 2020). The scientific nature of these indicators is altered for the rubric to reflect the more humanities base subject of the assignment.

Homework assigned

Work days and discussions are designed to spark inspiration for independent work either during the work days, over break, or between classes. Homework includes flipped classroom assignments to view certain videos on feedback, process presentation, and presentation examples, as well as identification of discussion points, additional research, and project development. A video bank is provided below for examples.

Resource Bank for Homework:

Topic	Media Type	Description (site is linked)
Identification of "Wrong Information" and the Demarcation Problem	Video	Science vs. Pseudoscience Ted Talk by Siska De Baerdemaeker
Differing views of creativity and application of different mindsets towards a product	Video	4 Lessons in Creativity Ted Talk by Julie Burstein
The importance of listening to imagination	Video	Taking Imagination Seriously Ted Talk by Janet Echelman
Viewpoints on approaching problems creatively	Video	The Surprising Habits of Original Thinkers Ted Talk by Adam Grant
Relationship between Science and Creativity	Video	The Case for Curiosity Driven Research Ted Talk by Suzie Sheehy
Recognition of valid/useful support	Article	"How to Trust Intelligently" by Onora ONeill
Presentation guidance	Video	The Three Magic Ingredients of Successful Presentations Ted Talk by Phil Waknell
Presentation guidance	Video	How to Give a Great Presentation - 7 Presentation Tips to Leave an

		Impression by Practical Psychology
How to Explore Big Ideas	Video	How We Explore Unanswered Questions in Physics Ted Talk by James Beacham
Identifying Scientific Curiosity	Article	Learning Scientific Creativity from the Arts by Gaskins & Lehman
Understanding Creativity	Article	The Science Behind Creativity by Kristin Weir

Possible Tools:

- YouTube
- Zoom Recording
- Slidesgo/SlidesMania
- Nearpod/Peardeck
- Powerpoint
- Visme

Big Ideas and Research Topics:

Note: These are research topics and big ideas that I have worked on with my students in 1:1 tutoring.

Research Topics	Big Ideas
How do Black Holes Form?	• How can we know the unknowable? • Can different research methods find the same outcome?
The History of Sandwiches	• How do people agree on a definition or name of a single thing? • How do ideas spread across cultures? • How do we come to agreement over various matters of taste or preference?
Cultural Comparison of China and the US	• What contributes to “culture”? • How does our sense of self contribute to government, art, cuisine, etc? • How does our sense of community lead to a sense of self?

The Relationship of Social Media and Teen Girls' Self Esteem	• What is self-esteem? How do we develop it? • What does social media project? • How does a culture agree upon ideals?
Dyscalculia and the Business Sector	• How does an understanding of numbers contribute to application of data? • How do we overcome perceived obstacles? • Does someone become stronger at something because of having to overcome it?

OTL545 Technology and Innovation
Module 3: Fostering Innovation and Creativity

Tech-Driven Creative Project Plan

Project Information

Project Title	"Because They Say So"
Grade/Subject Area	9/10th Grade English
Measurable Learning Objective(s)	• Complete a recorded presentation (up to 6 min in length) that addresses one Big Idea from your Unit project research. The rubric associated will assess presentation quality in light of the medium chosen (podcast, video, slideshow, etc.), as well as the process of discovery, creation, and explanation. This includes how many valid research points are integrated into explaining or defending an answer to the Big Idea, how visuals or sound integrate into the presentation, how alternative images or resources are used, etc. • Students will each use the agreed upon rubric to assess three other students' presentations. Feedback will be provided as well as the opportunity to address and integrate the feedback.
Curriculum Standard or Course Learning Objective	• Ninth/Tenth Grade Band, Standard 1. Oral Expression and Listening 1) Respond to others' ideas, and evaluate perspective and rhetoric. 2) Organize and develop credible presentations tailored to purpose and audience (*Colorado Academic Standards Online*, n.d.).

Technology and Creativity

Technology	• Technology used: One-Note Planning Tools, online search tools, Presentation software such as a recorded Zoom video, narrated slideshow, Podcast, YouTube Video, etc.
	• The student is taking notes throughout the unit in a shared One Note document that can be used to keep track of research, past ideas, brainstorms, and discussion topics. This is used to support the presentation. • Many online tools will be used to research the topic (search engines, online libraries etc.), identify other media to use in the presentation (additional videos, sound clips, clipart, pictures, etc.), draft and execute the presentation

	(Zoom, YouTube, Podcastle, Spotify, etc.), and edit the presentation (ClipChamp, etc.). • The presentation medium is chosen by the student, allowing for their agency and talents to shine through. Many professional careers and higher academics require technological fluency in some form of presentation medium, so it's important that students become comfortable finding their voices. • The limit of viewers during the grading process provides a safer environment for students to explore their creativity. • The recorded aspect of the project allows for vast variations on how the topics are presented as well as efficient transportation for grading and presentation purposes. • The final project will be uploaded to the LMS, and the teacher will distribute links randomly for the peer assessment portion. Rubrics will be provided to upload digitally as well.
Student Agency	• Students have had the choice of focus topic from the beginning of the unit and will use this presentation to dive deeper into a chosen aspect of that research topic. • The choice of style of presentation and presentation medium is open to the students' choice. • The questions the student asks and answers to get to the core of the presentation information is also up to the student. There is a question bank that they can pick from, or they can come up with their own.

Project Structure

Key Stages (select one or create your own)	Time Allocation	Description
Exploration of opposing viewpoints - "What if You're Wrong?"	**3 Class Sessions**	• *Intro to strength in thorough research/finding opposing viewpoints* • *Discussion on claims using resource- choose opposite side* • *Work day - Researching a multimedia source to present to class (work during fall break as well)*
Presenting Your Idea - Project explanation and tie in to Unit main ideas	**3 Class Sessions**	• *Intro to Professional Presentations and Q&A, examples provided* • *Discussion around what a presentation entails/brainstorming different styles* • *Work Day - turning annotated bibliography into a presentation*
What to Keep - Intro to Planning and Explaining Process	**3 Class Sessions**	• *Intro to prioritizing and presenting research, explaining your process* • *Discussion - what makes something important*

		• *Work Day - integrating feedback into presentation*
Presentations - "Because They Say So"	**3 Class Sessions**	• *Presentation will be recorded either as a video or as a narrated slideshow, no more than 6 minutes in length. Each student will review three presentations. This class will be an intro into HOW to do it, and a review of one presentation. A rubric and feedback template will be provided.* • *Two more presentation reviews* • *Work Day - Feedback reflection for students, clarification, and brainstorming of integration*

Unit Plan for "Why Use Fake News"

18 Weeks
54 Classes (M/W/F schedule)
32 Students
Colorado Fall Semester 2024-2025

Classes:
1-2 (8/7 & 8/9) - Authority and Resource Intro
- *Intro with syllabus, intro of fundamental concepts and intro discussion "what is authority"*
- *Explanation of semester project, intro of One Note journals and setup, examples of good and bad resources*
- *Work Day - Resource lookup exercise*

3-5 (8/12, 8/14, 8/16) - Research & Annotated Bibliography
- *Annotated Bibliography Intro with examples*
- *Discussion around "Validity" and "Why Use Sources"*
- *Work Day - Group Exercise centered around Chat GPT, wikipedia, and valid resources*

6-8 (8/19, 8/21, 8/23) - Making a Claim/Thesis statements
- *Intro to strong thesis statements*
- *Group discussion over What Comes First - thesis or research?*
- *Work Day - Creating BIG QUESTIONS from research*

9-10 (8/26, 8/28 - no Friday) Supporting Your Claim
- *Discussion around supporting your claim using evidence from valid sources*
- *Work Day - annotated bibliography research*

11-12 (9/4, 9/6 - Labor Day) Academic Writing
- *Intro to academic writing/grammar review/how to use editing tools and resources*
- *Work Day - re-writing exercise on turning non-academic pieces into academic pieces*

13-15 (9/9, 9/11 9/13) - Research - Academic Research How-To's
- *Intro do different Research Styles/Studies, statistical analysis, vocab around academic studies*
- *Discussion on what to look for, difficulties with research, what makes something "significant"*
- *Work Day - Find four papers with different research styles related to your topic*

16-18 (9/16, 9/18, 9/20) Critical Analysis
- *Intro to analysis of academic papers/studies*
- *Discussion around "What is Analysis", "How do you create ideas"*
- *Work Day- identify main themes and make connections among several academic*

19-21 - 9/23, 9/25, 9/27) Annotated Bibliography Drafts & Peer Editing
- *Intro to Peer Editing*

- *Discussion - open-mindedness to peer editing/feedback*
- *Work Day - Peer Editing*

22-24 (9/30, 10/2, 10/4) - 1st Quarter Ends - Annotated Bibliographies Due

- *Discussion on Growth Mindset Course from Khan Academy*
- *Work Day - Bibliographies due before next class*
- *Reflection Day*

25-27 (10/7, 10/9, 10/11) What if You're Wrong?

- *Intro to strength in thorough research/finding opposing viewpoints*
- *Discussion on claims using resource- choose opposite side*
- *Work day - Researching a multimedia source to present to class (work during fall break)*

Students off for a week

28-30 (10/21, 10/23, 10/25) Presenting your idea

- *Intro to Professional Presentations and Q&A, examples provided*
- *Discussion around what a presentation entails/brainstorming different styles*
- *Work Day - turning annotated bibliography into a presentation*

31-33 (10/28, 10/30, 11/1) What to Keep

- *Intro to prioritizing and presenting research*
- *Discussion - what makes something important*
- *Work Day - integrating feedback into presentation*

34-36 (11/4, 11/6, 11/8) - Presentations & Feedback - "Because They Say So"

- *Presentation will be recorded either as a video or as a narrated slideshow, no more than 6 minutes in length. Each student will review three presentations. This class will be an intro into HOW to do it, and a review of one presentation. A rubric and feedback template will be provided.*
- *Two more presentation reviews*
- *Work Day - Feedback reflection for students, clarification, and brainstorming of integration*

37-38 (11/13, 11/15 (Veterans Day) - Research Time Management

- *Discussion time management styles and priorities*
- *Draft a theoretical study and create a timeline for it, including style of research and analysis*

39-41 (11/18, 11/20, 11/22) - Critical Analysis Part 2

- *Intro to identification of gaslighting, false research claims, " considerations" in academic research papers*
- *Discussion - Why disclose "considerations" or add "recommendations"*
- *Work Day - Review "considerations" in research papers used for annotated bibliography*

Thanksgiving Break

42-44 (12/2, 12/4, 12/6) Work Week for final drafts

- *Work Day - finishing up research and making connections*
- *Work Day - draft for peer edits due EOD*
- *Discussion - Modern Topic "big idea" discussion and identification of what to look out for to ensure a valid claim, valid resources, and gaslighting*

45-47 (12/9,12/11, 12/13) Peer Editing & Final Drafts Due

- *Work Day - Peer edits round 1*
- *Work Day Peer Edits round 2*
- *Work Day - integrating peer edits*

48-50 (12/16, 12/18, 12/20) - 2nd Quarter Ends - Reflection Week

- *Final Drafts due before Class - Discussion on research process, timeline, key-takeaways of the actual physical process of writing a research paper*
- *Final discussion on Authority and validity, identify a "ridiculous topic" to defend*
- *Volunteer-based discussion - use your skills to defend your "ridiculous topic"*

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