WORKSHEET FOR DEVELOPING A MENTORED TEACHING PROJECT
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Teaching and Learning Goal:

- What skill or ability do you want students to acquire?
    - Ability to use digital tools for academic/educational purposes
- What behavior do you want to change?
    - Uncritical or inappropriate use of technology, inability to use digital tools for educational purposes, lack of digital literacy in undergraduates
- What assumptions (either students' or the instructor's) do you want to test?
    - Whether current students are digital natives who can innately use technology for educational purposes, can leverage these digital tools for learning

Teaching Question:

- Assess the myth that students are "digital natives" by evaluating differences between perceived and actual digital literacy, and attitudes towards digital tools in their classrooms
    - If students are innately digitally literate, they will be able to: Describe and evaluate an archaeological controversy by locating, organizing and annotating evidence found online through the Storify platform
    - Better understand archaeological concepts from video, rather than traditional reading, about archaeological methods
- By integrating technology in various forms into the course, students will gain confidence in their ability to use and reuse new digital technologies for learning

Assessment Technique:

- Surveys
    - Pre-Course Survey of digital tool use, attitudes and perception of literacy
        - Conducted in class
    - Post-Course Survey of whether confidence and digital literacy improved
        - Conducted online
- IRB approved, proctored and explained by individual outside of the class
- Analyzed using R Analysis for correlation and significance
- All surveys are anonymous

Classroom Practice:

- Interventions
    - Storify Assignment to evaluate digital literacy abilities
    - Analog vs Digital Quiz to evaluate whether learning improved with digital media (YouTube)
    - Implementation of other digital tools and ability to choose digital vs. non-digital options of assignments

- IRB approved, part of the course and were assigned for a grade, analysis only occurred after grades were submitted, all names were removed prior to analysis
- Analyzed using R Analysis for correlation and significance

Summary of Results:

- Pre-Course Survey of digital tool use, attitudes and perception of literacy
    - Demography:
        - Wide range of ages and classes, as well as majors, although there does seem to be a larger number of women and individuals enrolled in the college of social science.
        - When these demographic values were compared with answers from the digital tool use and literacy survey, there were no significant correlations between answers and age, class, major or gender
    - Perceptions:
        - Most students were positive about their own tech skills, except when it comes to creating more intense materials like websites or databases. Students wanted to improve their digital skills, and were confident they could apply the skills they had for learning.
        - However, students tended to be neutral about digital tools in the classroom, not necessarily preferring technology or believing it would motivate learning.
- Post-Course Survey of whether confidence and digital literacy improved
    - Perceptions:
        - In general, there were more positive changes in attitudes, especially the ability to articulate reliable sources, preferring open ended assignments with possible digital deliverables, increased motivation to learn with digital (which previously was negative), and general confidence to learn new tools.
        - However, there was a slightly negative decline in confidence to use digital tools for learning.
        - Finally, students were asked if they liked having the digital components in the course and if they would want them again. In general, most students were positive, selecting either yes option, and only a minority picked neutral or no. This shows that even in a course where digital wasn't the focus, it was a benefit.
- Interventions
    - Storify Assignment to evaluate digital literacy abilities
        - Students were assessed using a rubric on the following criteria: whether they could find materials appropriate to the controversy, whether they could annotate and evaluate them, how well it was organized, and if they were able to explain the controversy. In addition to this, I noted whether they could actually use the technology or if there were problems
        - Students didn't seem to have any issues with finding appropriate social media for their arguments.
        - Many confused popular news, blogs and magazines with scholarly resources, and some people cited other Storify annotations from the

class as scholarly. Some of those who could find scholarly resources were unaware of how to place the link to them on Storify.
        - In general, the majority of students used Storify incorrectly in some manner although not being able to locate scholarly material was the most common. Next, many confused social media with meaning video, didn't know how to share the material online, some cited each other, some sent a PDF version of storify rather than the digital version, a few included no resources or annotations, and two students left the help text in place.
        - However, students did do a fairly good job of annotating and organizing sources, showing that they are able to translate some writing literacy skills into digital ones.
    - Analog vs Digital Quiz to evaluate whether learning improved with digital media
        - Students were quizzed on archaeological dating techniques, two of these techniques they read about in their book, and two they watched videos of online. The two that were watched online were dating methods that are notoriously hard for students to learn- radiocarbon and thermoluminescent dating, while the text-based questions were on two dating techniques that are easier to grasp- seriation dating and the law of superposition.
        - Students did equally as well on both questions taken from text and video, which may demonstrate that video can be helpful for more difficult topics. There was no correlation between answers- no student answered all incorrectly and most answer ¾ correct.
    - Implementation of other digital tools and ability to choose digital vs. non-digital options of assignments
        - A review of the tools we used from the year showed that the majority of students liked using the various tools and almost half would reuse them for educational or professional purposes. Only a handful didn't like the tools, and a minority said that they never used them.
- Comparison of Surveys vs interventions
    - Students were correct in that they perceived they would learn better with digital tools, and were able to provide correct answers more frequently when the material was learned from video or a digital tool. Students did fairly well on questions that are notoriously hard, demonstrating that the video did help learning, and student recognize that video helps their learning.
    - Most students believed that they could identify scholarly and expert resources online, and the majority could not in assignments. In the Storify assignments, less than half could find scholarly resources, and although it was never tested, this issue seemed to continue throughout the course.
    - Students stated that they were highly confident in their ability to use technology and digital tools for learning, however, the majority of students had problems using Storify for their controversy as discussed earlier.

Conclusion:

- Based on these findings, it appears that students perceive themselves as more digitally literate than they actually are. Students didn't innately know how to use and share digital tools, were unable to evaluate digital materials, and couldn't find scholarly

resources online. Very few asked for help, and a help video was provided although few looked at it.

- Another finding was that I perceived they were more digital than they actually were. I sought to address higher levels of digital learning, and didn't expect that many of the issues would be simple ones like online sharing, using links, inability to locate appropriate resources, issues using D2L, and sending inappropriate emails.
- Integrating technology into the classroom does appear to have been successful- students liked the technology, would reuse it in academic settings- some of which have already alerted me they've used it in other ways, and they appear to learn some topics better through digital materials. Since digital literacy is an essential 21st century skill, we need to start treating it like basic reading and writing skills, and make integrating it into our courses a priority.
- For future research, I need to look closer at the skills that students are lacking, and exactly how this technology can support better learning. Further, it was an unexpected result that the most frequent issues with technology were not the digital tools I added, but D2L and email. I think I need to reassess the level of literacy I start with, and create better scaffolding from the beginning.