

COMMENTARY

Infographics, Podcasts, and Videos: Promoting Creativity and Building Transferable Skills among Undergraduate Students

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Abstract

Introducing multimedia learning in the classroom has numerous benefits for students, including a higher level of engagement for an array of learning styles, development of transferrable skills, and encouraging creativity. In this commentary, I introduce two multimedia assignments, an infographic and a podcast/video, that I have successfully implemented in my courses. I outline the rationale, goals, guidelines, resources, assessment rubrics, potential modifications, student reactions, and examples of student work for each assignment with the hope that more educators will be able to integrate similar forms of deeper learning.

Keywords: *anthropology education; multimedia learning; transferable skills; critical thinking; communication*

“Two million years ago our small, naked, fangless, hornless, and clawless ancestors with a few sticks and stones surmounted near impossible odds. All because they had one another and a spark of creativity. And so do we.” (Fuentes 2017, 292).

Introduction

When we teach introductory anthropology courses, we are well aware that the vast majority of our students will not be seeking higher degrees in anthropology. Our students are a wonderfully diverse mix of future entrepreneurs, medical practitioners, educators, and more. With that in mind, structuring a class and assignments in ways that help build transferrable skills, while also assessing knowledge gained, is critical to student success (for greater detail on this, please see Blum 2016). Being able to produce multimedia deliverables that effectively communicate to a target audience is a highly desirable skill across fields. Furthermore, there are numerous benefits to incorporating multimedia learning into a curriculum. These include engaging a variety of learning styles and skill sets; encouraging active participation and group work navigation; supporting

students in directly applying academic and technological knowledge; and promoting problem solving and critical thinking (Ledonne 2014; Shank 2005).

With these goals in mind, I developed assignments for my *Fundamentals of Biological Anthropology* course (an introductory course aimed at first- and second-year college students) that encourage students to build multimedia skills. The first assignment assesses students' understanding of the forces of evolution by asking them to construct an infographic. The inspiration for this assignment came from Dr. Leslie Williams, who shared her paleopathology infographic assignment in the Teaching College Anthropology Facebook group (Williams 2019). Infographics are visual representations of data or concepts that are meant to be easily digested by the reader. In the age of quick click and scroll, infographics are a popular way to rapidly convey information. Infographics rely heavily on images with minimal accompanying text; infographic designers therefore need to be skilled at creatively condensing their message without oversimplifying or omitting necessary information. This is an ideal form of multimedia to use as an assignment as it encourages students to not only think about what they know but also consider how to creatively explain what they know. Thus, through this assignment, they improve their understanding of a particular concept, their communication competence, and their technical multimedia skills.

The second assignment was developed to address a roadblock when planning the unit on living primates. There is no possible way to do justice to the beautiful array of diversity among living primates in just four class periods. I decided to cover patterns of body size, diet, locomotion, and social structure in class and then have students independently produce a species-specific primate podcast or video.¹ In this way, students would be able to learn big-picture concepts related to living primates as well as take an intellectual deep dive into a particular primate species. Furthermore, I have students review one another's work so that they have an opportunity to not only see how other students went about this assignment, but to also learn about a primate different than the one they chose, thereby expanding their view of primate diversity.

In this commentary, I outline the goals, guidelines, resources, assessment, and potential modifications for an evolutionary forces infographic and a primate podcast or video so that others may easily adopt and implement these assignments.

Goals

The primary goals of these assignments are for students to 1) display their knowledge, in infographic form, of evolutionary forces and how those forces work, and 2) create a short (3-5 minutes) informational podcast or video about a primate of the student's choosing. However, both assignments have several ancillary pedagogical goals

¹ The *True Facts* YouTube series offers fun video examples. See <https://www.youtube.com/playlist?list=PLOHbM4GGWADc5bZgvbivvttAuWGow6h05>.

that help students build both abstract and concrete transferable skills. Through guided questions, I ask students to define a target audience and tailor their work to most effectively communicate with that audience. This requires them to think critically about an audience they are trying to reach and identify the best language and quantity of information they should use. For example, defining a maximum and minimum length for the podcast/video not only reduces the time it takes instructors to listen to and assess the assignment, it ensures that students are developing their communication skills by creating clear and concise narratives. In an age of misinformation, nurturing strong communication skills among students has become critically important. These assignments also encourage creative problem solving. Distilling one or all of the evolutionary forces into an easy to digest infographic with minimal text is both intellectually and technologically challenging. I allow, and even encourage, students to work in pairs or teams of three for these assignments, which further develops problem solving skills in the form of resolving content and creative differences. The assignments also require basic mastery of the technical aspects of producing a multimedia deliverable, including infographic design and audio/visual recording and editing.

Guidelines

I prefer to not provide highly structured rubrics to my students, as their future careers will rarely consist of following structured rubrics. Instead, I want my students to be able to exercise their independence and judgement when completing assignments. This is often met at first with a great deal of anxiety and trepidation, as most students are used to rubrics with associated point values. However, the absence of such structure encourages creativity, risk taking, and even greater engagement with the material. In place of a rubric, I provide guiding questions and tips. Below are the guidelines I provide to students; I give them two weeks to complete the infographic assignment and two and a half weeks to complete the podcast/video assignment.

Student Guidelines, Evolutionary Forces Infographic

1. Who is your audience for this infographic? Adults? Adults with certain educational backgrounds? Children? College students? Only biology majors?
 - a. It is a great idea to have a member of your chosen audience look at a draft of your infographic and provide you with feedback.
2. What do you want your target audience to learn from your infographic?
 - a. Really think about your audience, and tailor your infographic to them (jargon, examples, images, etc.).
 - b. Do you want to cover all of the evolutionary forces or just one or two?
 - c. Make sure you say what the force(s) is and how it works.
 - d. What are the big takeaways?
 - e. It should be easy and clear for your audience to understand why they should care about this topic.

- f. The information needs to be accurate and well sourced.
3. Infographics usually take two forms: data driven or story driven. I am not going to make you mine piles of data (but you can if you like), so you may want to take the story route.
 - a. Think about what story you want to tell. What real-life examples or metaphors will be most effective and correct?
 - b. There should be a narrative that clearly expresses your ideas.
4. Remember, infographics are image driven with minimal text! Only have in words what you absolutely need to have in words!
 - a. Images need to matter – they have to add to (if not entirely tell) the story. Images should not just be space filler.
5. Be sure to cite your sources! I recommend superscripts with the sources in small text at the bottom of the infographic.

Student Guidelines, Primate Podcast/Video

1. Who is your audience for this podcast/video? College students with science backgrounds? Children? What age range for children? Your grandparents?
2. Think about your audience, and tailor your podcast/video to them.
 - a. Does your intended audience change your thinking about whether you should produce a podcast or a video?
 - b. Are technical terms appropriate to use for your intended audience?
 - c. Think about your pacing for speaking and for images if you are doing a video.
3. What story do you want to tell about this primate? What do you think the interesting information is about this primate and why? Why might others find it interesting?
4. What do you want others to learn about this primate (what's the big takeaway)? Do you want to talk about unique adaptations? Conservation status? Behavior? Habitat? Diet? Locomotion? Evolutionary history? Comparisons to humans?
 - a. I think it is important to include some basic information such as what kind of primate this is and where it can be found.
5. Your podcast/video needs to be 3-5 minutes long!
6. The information needs to be accurate and well sourced.
7. You need to include your sources in a separate Word document.
8. You should submit you work as either a link to a podcast or video platform or as an mp4 file.

Resources

Students are able to complete these assignments using free software and either their smart phones, personal computers, or campus computers. Examples of free infographic software include Piktochart©, Canva©, and Venngage©, each with their own form of in-

house tutorial. For students doing podcasts or pre-recording audio for eventual integration into a video, Garageband® and Audacity® are free and relatively easy to use, and tutorial videos are readily available. For those students working on videos, iMovie© and Adobe Spark© are user friendly and easy to access.

Students should also be encouraged to utilize library resources such as recording equipment, sound booths, and potential software licenses that offer more sophisticated recording and editing capabilities. The University of Notre Dame has an excellent online resource aimed at helping students with multimedia projects (see <https://remix.nd.edu/projects.html>), which is also freely available. If you are considering a multimedia assignment, you should explore hidden resource gems at your home institution.

I also provide my students with other design resources such as how to determine appropriate and accessible fonts (<https://accessibility.psu.edu/legibility/fontface/>), appropriate and accessible color combinations (<http://colorsafe.co/>), and where to find high quality open access images (<https://pixabay.com/>; <https://unsplash.com/>; or <https://ccsearch.creativecommons.org/>).

Assessment

I do not provide a point-based rubric nor a grade for the student's work (see Bain 2004; Kohn 1993; and Sackstein 2015). Instead, students receive detailed feedback in three forms: from the instructor, through self-assessment, and from peer feedback. All feedback is compiled into a document for each student and given to them for review. I use and provide guiding questions for each form of feedback.

Questions for Instructor Assessment

1. Who is the audience for this infographic/podcast/video?
 - a. Can I easily tell who the target audience is?
 - b. Were students successful at speaking to their target audience?
2. What was the goal of this infographic/podcast/video?
 - a. For the infographic:
 - i. Which force or forces were students trying to explain?
 - ii. What were students hoping their audience would learn?
 - b. For the podcast/video:
 - i. Which primate is the focus?
 - ii. What key features do students focus on?
3. Is the information factually correct?
 - a. Did students provide the right amount of information for their audience to understand the concepts?

- b. Did students oversimplify or resort to information manipulation/conflation to reach their audience? Or were students speaking at too complex of a level for their target audience?
4. Is the medium used effectively?
 - a. For the infographic: What is the image-to-text ratio?
 - i. Are the images key to the overall product or just space filler?
 - ii. Is there too much text?
 - b. For the podcast/video: How is the pacing?
 - i. Do students speak too quickly to understand or too slowly to maintain audience attention?
 - ii. If a video, are font, color, and image choices appropriate? Are images or text left on screen long enough to be absorbed?
5. Is the flow clear and logical?
 - a. For the infographic: Does the infographic have a logical flow?
 - i. Is it easy to tell where to start and where to look next?
 - b. For the podcast/video: Is there a clear narrative? Or is it more like just a list of facts?
6. Did students provide a meaningful big picture or practical applications/implications for their audience?

Questions for Student Self-Reflection

The following questions are used for both the infographic and video/podcast assignments:

1. What did you learn?
2. What challenges did you face while completing this assignment?
3. How did you overcome these challenges?
4. How successful do you think you were with your final product?
5. What do you think you could have done better?
6. If you worked in a group, was it successful? What were the advantages and disadvantages of working in a group on this assignment?

Questions for Peer Review

1. What topic/prime is this infographic/video/podcast covering?
2. Who do you think the target audience is?
3. Do you think the authors successfully spoke to that audience?
4. What did this infographic/video/podcast do well? (For example, for the infographic: image-to-text ratio, information clearly conveyed, accurate information, design. For the video/podcast: information clearly conveyed, accurate information, design, pacing, engaging & easy to listen to/watch?)

5. How could this infographic/video/podcast be improved? (For example, for the infographic: image-to-text ratio, information clearly conveyed, accurate information, design. For the video/podcast: information clearly conveyed, accurate information, design, pacing, engaging & easy to listen to/watch?).

Potential Modifications

Both the infographic and video/podcast assignment can be modified to suit any topic, anthropological or otherwise. Topics that may work particularly well for the infographic assignment include, but are not limited to, hominin origin theories, modern human dispersal models, subsistence patterns, systems of kinship, or different tool industries. The topics can also be more narrowly or broadly focused. For example, each student could be assigned just one evolutionary force to cover, or pairs/groups could be instructed to cover all of the evolutionary forces in their infographic. For the video/podcast assignment, time limits can be expanded or contracted, and the assignment can be restricted to only a podcast or only a video depending on available institutional resources. This type of assignment may work well for any topic in anthropology for which there just isn't enough time to cover all the interesting details in the classroom, such as fossil primates, fossil hominins, ancient civilizations, or different religions.

Implementation is also flexible. A more structured rubric with associated points can be easily constructed (see Tables 1 and 2 for samples). This assignment can be done individually rather than in pairs or groups. It could also easily serve as a final project for students to convey either conceptual knowledge or results of a research project.

Table 1. Sample Point-Based Rubric for Grading an Infographic

Component	Point Value
Clear target audience	5
Clear which evolutionary force(s) is being explained	5
Infographic geared towards target audience (i.e., appropriate use/definition of technical terms, audience-appropriate examples, appropriate level of assumed audience background knowledge)	20
All factual information is correct	20
Image-to-Text Ratio	10
Infographic is easy to follow	5
Images are appropriate and useful	10

Big picture takeaway and useful applications/implications are provided	10
Appropriate font color and size	5
Appropriate color scheme	5
Citations included (at least 5 sources)	5
TOTAL	100

Table 2. Sample Point-Based Rubric for a Podcast/Video Assignment

Component	Point Value
Clear target audience	5
Clear focus of information about chosen primate	5
Podcast/video geared towards target audience (i.e., appropriate use/definition of technical terms, audience-appropriate examples, appropriate level of assumed audience background knowledge, appropriate images if used)	20
All factual information is correct	20
Podcast/video is a narrative rather than listing of facts and that narrative is cohesive	20
Podcast/video is appropriately paced	10
Big picture takeaway provided	10
Stuck to the 3-5 minutes	5
Citations included (at least 5 sources)	5
TOTAL	100

Student Reception

Students responded overwhelmingly positively to both of these assignments, and links to samples of student work are listed in Table 3. Additional examples, shared with student permission, are available at Ocobock 2020a and 2020b. Students completing the infographic assignment expressed appreciation for creative and intellectual freedom, and those completing the podcast/video assignment relished being able to inject humor into

their work. Positive feedback from students indicated that these assignments truly made them think about what they knew, learn how to assess which information was critical to include in the assignment and which was not, and learn how to creatively communicate that information. Their feedback also included an appreciation for learning a new and useful skill set.

Student critiques of the assignment frequently included initial difficulty navigating the new-to-them software, time management concerns, challenges scheduling and settling creative differences within a group, and struggling to exercise their humor and creativity or balance the tone between informative and casual. Student feedback also indicated they had difficulty determining which pieces of information/images to include and which to exclude. However, I consider that last common negative response to be incredibly important to the learning process.

The following quotes are from student self-reflections on what they learned in the two assignments (shared with permission):

“I have never done a project like this [infographic] before, but now having completed it I can say I gained a new practical skill. This will [be] especially helpful in doing science education for children and adolescents, which is important to me going into a PhD program next year.”

“While working on the infographic, I learned that it’s one thing to understand a topic and be able to explain the topic either verbally or in writing, but a different skill to be able to delineate information on a topic in a visual format. You have to really understand a topic to be able to clearly and concisely translate it in a way that is both easy to follow along and understand in an infographic.”

“Through this assignment, I learned more than just information about our chosen specific primate. ... I became knowledgeable about how to present the information I learned in a way that is interactive, exciting, and slightly humorous. ... By perusing different online resources about our primate, my partner and I developed a better sense of the primate’s heritage, anatomy, lifestyle, and social behavior. On the flip side, the video component of this assignment allowed me to learn how to manipulate and edit content in a way that is engaging and interesting to view.”

“I really enjoyed researching and learning about the exotic pet trade and its effects on the slow loris population. Overall, I learned a lot about the video making process and the technology needed to do so. I think that is a skill I will be able to apply in my other courses and through the rest of life, so I am thankful for the opportunity to have gained that skill.”

Table 3. Links to Samples of Student Work²

Authors	Title	Link
<i>Evolutionary Forces Infographics</i>		
Liana Arceri Isabel Snee	How Gene Flow Works	https://create.piktochart.com/output/43806092-bio-anthro-infographic-arceri-snee
Leah Gudex Katherine Franz	What is Genetic Drift?	https://create.piktochart.com/output/40796544-genetic-drift
Isabel Weber Hannah Morris	Random Evolutionary Forces	https://infograph.venngage.com/pl/1qVJxmYAhVA
Paul Wilkinson Jacqueline Kirsch	What is Genetic Drift?	https://create.piktochart.com/output/43960544-australia
<i>Primate Podcasts and Videos</i>		
Justin George	The Apes of Wrath	https://soundcloud.com/jwg5150/black-howler-monkey-podcast
Samantha Broomfield Sydney Nosbusch Vy Sanders	Protect the Slow Loris	https://www.youtube.com/watch?v=k0kM6ZxGrOU&feature=youtu.be
Mags Roccato Teagen Tibbot	Black Howler Monkeys	https://www.youtube.com/watch?v=logZt6ycugc&feature=youtu.be
Sophia Pantano Matthew Licursi	Cotton Headed Tamarins	https://www.youtube.com/watch?v=-ro8yWW4YXU

Conclusion

Implementing multimedia assignments into an anthropology curriculum serves multiple pedagogical functions including content curation, creative engagement with course material, and the development of transferable, marketable skills such as critical thinking, technological savvy, problem solving, and communication competence. Furthermore, it allows students to flex creative muscles that are so often allowed to atrophy in college. As the quote at the beginning of this paper says, creativity is part of who we are as humans – let’s use it a little more often.

² All links are shared with permission. Access restrictions for each link are controlled by the student authors.

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