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POLITICAL SCIENCE INSTRUCTION

Beyond Learning Management Systems: Teaching Digital Fluency

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ABSTRACT

Employers increasingly seek employees with more sophisticated technical skills to meet the changing global marketplace. A significant portion of political science graduates do not pursue advanced degrees, instead entering the job market and holding an array of occupations in organizations using social media, websites, and digital political marketing. While political science instructors are adept at fostering oral and written communication, emphasis on cultivating digital skills appears somewhat less common. This shortcoming may be a disservice to our graduates.

Based on reflections from instructors teaching political science at two public universities, this paper describes pedagogical approaches to building digital fluency skills among Generation Z learners using platforms beyond learning management systems to align with learning outcomes that emphasize new and emerging technologies. This pedagogical approach facilitates content retention through higher order learning while building practical skills. Through innovative course assignments students learn new platforms thereby improving their digital fluency. To mitigate potential obstacles to implementation, we offer reflections on these assignments along with advice to facilitate student success.

The twenty-first century has ushered in technological innovations that require new skills to succeed in the workplace. Companies and organizations seek culturally competent candidates who possess not only oral and written communication skills but also digital proficiency and the ability to use emerging technologies with ease. While colleges and universities include technological skills as an institutional learning outcome (LaCount and Jackson 2019), the vast majority of employers contend recent graduates remain un- and underprepared as they enter the global marketplace (Bauer-Wolf 2018). Students' perceptions of their digital skills often outstrip their competencies, and the capabilities they do possess do not fall within those expected by employers. For example, more than 90% of recent graduates describe their digital skills as average to very good but just 39% display comparable skill levels in a practical test (ECDL Foundation 2018).

While political science instructors are adept at fostering oral and written communication, emphasis on cultivating digital skills appears less common despite research by political scientists (Amit-Danhi and Shifman 2018; Dragseth 2020; Florez-Morris and Tafur

Table 1. Top occupations for college graduates who majored in political science.

Bachelor's degree only	Percentage in occupation
Management/administration	9.4
Sales	4.8
Supervisors/proprietors of sales jobs	4.3
Managers/specialist in marketing	3.9
Legal assistants/paralegals/legal support	3.8
Chief executives/public administrators	2.6
Police detectives/private investigators	2.5
Computer system analysts/computer scientists	2.3
Financial specialists	2.3
Primary school teachers	2.3

Source: Lewis (2017).

2010; McMahon 2021) advocating technology-driven assignments. Nevertheless, relevant technologies may attract majors to the discipline (Shellman and Turan 2006), and the digital skills obtained using these technologies can benefit political science graduates entering the job market. We believe instructors understand the critical importance of digital skills, however anecdotal evidence suggests a reluctance to embrace this approach for a few reasons. First, instructors appear unsure about how to foster digital skills in ways useful to political science majors. Second, data about the type of jobs graduates acquire is sparse. A recent study shows political science graduates hold an array of occupations (Table 1) that require more sophisticated digital skills beyond word processing. Finally, instructors often assume students pursue advanced degrees when in fact 46% of political science majors earn a terminal degree (Lewis 2017). We argue instructors must adapt course assignments to reflect changes in the contemporary workplace by integrating technology beyond learning management systems (LMS) to increase the competitiveness of political science graduates on the job market, and provide them with digital skills to thrive in their new occupations.

While scholars acknowledge the use of technology to aid teaching and learning, studies focus on delivering content through technology (Mancillas and Brusoe 2016) rather than cultivating digital skills through content creation. Courses rely on the LMS to provide content reducing students to three activities: downloading materials, uploading assignments, and interacting through the discussion board. Since the LMS emphasizes content consumption it narrows students' opportunities to learn other technologies, fostering digital literacy rather than digital fluency. Thus, curricula should provide students an opportunity to build their digital skills to meet the demands of a "digitally disrupted workplace" (Coldwell-Neilson 2017, 85).[1]

Skills related to technology however are often undervalued by instructors who mistakenly believe Generation Z[2] learners are already technologically proficient. While these students have grown up with technology, "exposure does not equal understanding when it comes to students' daily interaction with digital technologies" (Murray and Pérez 2014, 85). Students may be digitally literate but lack the technical know-how to create content using technology. By accentuating the integration of Web 2.0[3] technologies in assignments students create content; cultivating skills to become digitally fluent. Based on our reflections teaching political science courses at two public universities, we explore how to build digital fluency among Generation Z students to hone their digital

skills and make them more marketable. This article details our pedagogical approach to integrating social media, infographics, podcasts, videos, and websites in assignments to meet student learning outcomes while building practical skills.

Digital literacy and digital fluency

Generation Z and Millennial learners who have used technology their entire lives are described as digital natives while Generation X[2] and older generations who have learned and adopted technologies are termed digital immigrants (Prensky 2001; Plante 2012). These accounts describe generational affects, suggesting that the technology gap between two groups is insurmountable with instructors lagging behind. Critical analysis (Bennett and Maton 2010; Selwyn 2009) however asserts earlier studies lack empirical evidence, and engage in technological determinism about how young versus older generations use technology. Aside from social media, large scale studies of students show only a minority of respondents engage in user-generated content (Bennett and Maton 2010). For example, in our experience students have familiarity with infographics and websites but few students have created either.

Student use and mastery of technology is described in the literature as digital literacy and digital fluency[4] respectively (Briggs and Makice 2012; Russo et al. 2018; Spante et al. 2018; Sparrow 2018). Digital literacy constitutes the functional use of technology and skills adaptation, and more broadly emphasizes one's ability to handle information and technology (hardware and software) (Machin-Mastromatteo 2012, 574). In contrast, digital fluency occurs when an individual "leverages technology to create new knowledge, new challenges, and new problems, and to complement these with critical thinking, complex problem solving, and social intelligence to solve the new challenges" (Sparrow 2018). Fluency is marked by individuals creating something—namely content—via technology (Briggs and Makice 2012). To be digitally fluent one must have excellent "communication skills, new media literacy, and cognitive load management" (Sparrow 2018).

Ascertaining what percentage of political science students are digitally fluent remains underexplored though existing studies (ECDL Foundation 2018; Ilomäki et al. 2016) suggest many students are underprepared for the expectations of the new global marketplace. While Generation Z students are digitally literate, socioeconomic status (SES) and school resources prevent many of them from becoming digital fluent (Hargittai 2010; Russo et al. 2018). Russo et al. (2018) find low SES along with rural and remote schools contributed to student perceptions of lower levels of digital fluency. According to Hargittai (2010), first-year college students[5] in households with at least one parent holding a graduate degree demonstrate increased digital skills. Neglecting digital fluency in political science curriculum likely disservices our graduates entering the job market. We contend assignments employing Web 2.0 technologies encourage students to generate content based on course materials, promotes higher-order thinking, which builds marketable skills.

Promoting practical skills

Opportunities for students to gain practical skills is important given the cost of a college degree, coupled with workplaces that demand greater digital skills. The National

Table 2. Free applications for digital fluency assignments.

Technology	Resources
Social media	Facebook, Instagram, Twitter
Infographic	Piktochart, Canva, Vengage
Podcast	PodBean, Anchor
Video	Windows Movie Maker, iMovie Blender, Lightworks, Shortcut
Website	Tumblr, WordPress, WIX, Google Sites

Source: Authors (2021).

Association of Colleges and Employers (NACE) lists eight core competencies for career readiness[6] upon graduation including leveraging technology "to enhance efficiencies, complete tasks, and accomplish goals" while also adapting to "navigate change and be open to learning new technologies" (NACE 2021). Despite institutional learning outcomes and criteria established by the NACE (2021), a cursory review of political science syllabi demonstrates assignments using technology focus on content consumption rather than creation, leaving a notable gap in the practical application of digital skills. Political scientists Bradbury and DeMaio (2019, 96) argue that "students who develop career ready competencies as undergraduates have a competitive advantage over their less ready counterparts in securing jobs." Their survey of political science alumni weighed the impact of simulations and experiential learning with respondents reporting these assignments instilled practical skills, preparing them for their future careers. The authors note, "experiential learning programs that provide a unique opportunity for students to work on skills that are hard to replicate in a traditional classroom, will be required for success in their careers after graduation" (Bradbury and DeMaio 2019, 96). Our work builds on Bradbury and DeMaio's (2019) analysis incorporating Web 2.0 technologies in assignments that "experiment with product generation for real-world situations" (Jones, Sage, and Hitchcook 2019).

Cultivating digital skills

The below assignments describe how to integrate social media, infographics, podcasts, videos, and websites in introductory and advanced courses highlighting a variety of platforms at no charge (Table 2). They can be modified to accommodate any political science course or class size. Projects might be assigned to individual students, in pairs, groups (large groups consist of five or more students, and small groups fewer than this), or teams.[7] Table 3 compares Web 2.0 platforms relative to one another illustrating the skills obtained.

Social media

Used in educational settings, social media increases student engagement, enhances participation, and fosters collaborative learning, improving student performance (Dabbagh and Kitsantas 2012; Evans 2014). Although social media mimics aspects of LMS discussion boards, two important distinctions emerge. First, students generate content on social media whereas the instructor drives the questions and discussion on the LMS. This autonomy allows students to post new content and investigate issues in greater depth. Second, students create posts using private or public settings, engaging in open

Table 3. Web 2.0 technology and skills.

Technology	Technical skills*	Skills developed
Social media	Low	Public writing and discussion, raising visibility via retweets, and hashtags.
Infographic	Medium	Analytical and numeracy through graphics.
Podcast	Medium	Oral communication, writing, audio editing.
Video	Medium, high	Oral communication, audio-visual editing.
Website	Low, medium, high	Web design, templates.

Source: Authors (2021).
Notes: *Technical skills signify the skill-level associated with each platform relative to one another.

discourse while navigating the norms of online communication with appropriate language (Greenhow and Robelia 2009). Additionally, they also learn to select appropriate images and captions, an experience not replicated on discussion boards.

Social media assignments can be structured taking several approaches. Instructors might use Facebook for a course (1) creating a new group each semester including multiple sections of the same course across the department or the same instructor; (2) adding new students to an established group each time the course is taught, bridging current and past students; or (3) combining students who attend different colleges and universities to facilitate inter-institutional collaboration. For example, an international relations course on a Facebook group populated with students from a university in the US and Turkey might discuss a range of current events incorporating course concepts, and facilitate greater cultural awareness. Another approach to the assignment incorporates Facebook, Twitter, and Instagram and asks students to simulate a political campaign to advertise, credit claim, take positions (Mayhew 1974), and mobilize voters. Students pose as a social media coordinator posting photos with captions and hashtags, while also linking to articles featuring salient issues. By retweeting and reposting students disseminate the candidate's message using appropriate hashtags to improve the visibility of the campaign.

Both the private and public sectors use social media, often relying upon recent tech-savvy graduates. Skills obtained from the social media assignment are invaluable for political science graduates who secure positions in sales, marketing, and public administration (Table 1).

Social media reaches millions of viewers allowing companies to generate brand awareness, and interact with consumers while also offering a virtual space for political discussion, contact with elected officials, and mobilization efforts. Along with political campaigns, state and federal agencies maintain social media profiles to raise awareness and inform the public about the agency's activities. Nonprofit organizations "lobby for legislation, build coalitions, educate the public, and provide awareness to the community" (Jones, Sage, and Hitchcook 2019, 205). Familiarity with these techniques may aid political science graduates with occupations in government and advocacy.

Infographics

Taking complex or complicated often data-driven ideas, infographics translate information in a manner that is more accessible to readers (Jones, Sage, and Hitchcook 2019; Smiciklas 2012). Studies of infographic assignments (Jones, Sage, and Hitchcook 2019; Mendenhall and Summers 2015) illustrate how other disciplines have successfully

incorporated infographics to improve engagement and align learning outcomes. Since student projects can be shared and viewed by each other the results yield higher quality (Mendenhall and Summers 2015). Student evaluations indicate infographics are more valuable than traditional assignments because they foster better comprehension (Jones, Sage, and Hitchcook 2019).

An infographic requires creating a narrative featuring icons and images with data beyond pie charts and bar graphs (Martix and Hodson 2014). To facilitate student success, instructors should incorporate infographics in their lectures highlighting the elements of a successful infographic, what data are conveyed, and design elements. When assigning infographics instructors might select a common topic or concept or opt to have students choose their own issue. More appropriate for introductory courses, the former offers comparative value producing multiple infographics on the same concept conveyed in different ways. In advanced courses, the latter yields greater breadth of topics and may result in greater investment attributed to student choice. Designing infographics demonstrates comprehension of course materials, the creative process (e.g. overall design, selecting contrasting colors, and choice of graphics[8]), and technical execution. Examples of student projects include designing a visual narrative of the impeachment process; showing the history of immigration; and depicting a law and its effect. Figure 1 illustrates a student generated infographic for a public policy course.[9]

Infographics are a popular and effective way for companies and organizations to present information to engage their target audience. Given the prevalence of infographics, the skills obtained from this assignment might aid political science graduates who pursue marketing and public administration occupations (Table 1). Among political science graduates with positions in government and related fields, infographics educate individuals about salient issues, sway public opinion, and highlight differences between candidates (Amit-Danhi and Shifman 2018).

Podcasts

Tailored to individualized interests, radio, news organizations, and experts create podcasts featuring products, ideas, and people. Some political science instructors create or use existing podcasts to deliver content (Killean and Summerville 2020; Roberts 2008; Taylor 2009) yet few instructors ask students to create their own podcasts. In contrast, courses in other disciplines (Guertin 2010; Kidd 2012) regularly ask students to create podcasts to enhance "knowledge, aid in developing skills while fostering feelings of collaboration and community" (Killean and Summerville 2020: 31). Pedagogically this assignment "promotes critical thinking and analytical reasoning in student-generated communication about political issues" (McMahon 2021) teaching students to engage in civil political discourse (Shulman 2015).

There are several ways to incorporate podcasts into assignments. One assignment featuring podcasts asks students to simulate an interview with an elected or appointed official. Students model their podcast interviews on other podcasts or radio interviews. Working in pairs students generate a script posing as the interviewer and interviewee. Students learn to evaluate relevant information, and consider how to attract listeners. Another assignment asks students to address a policy
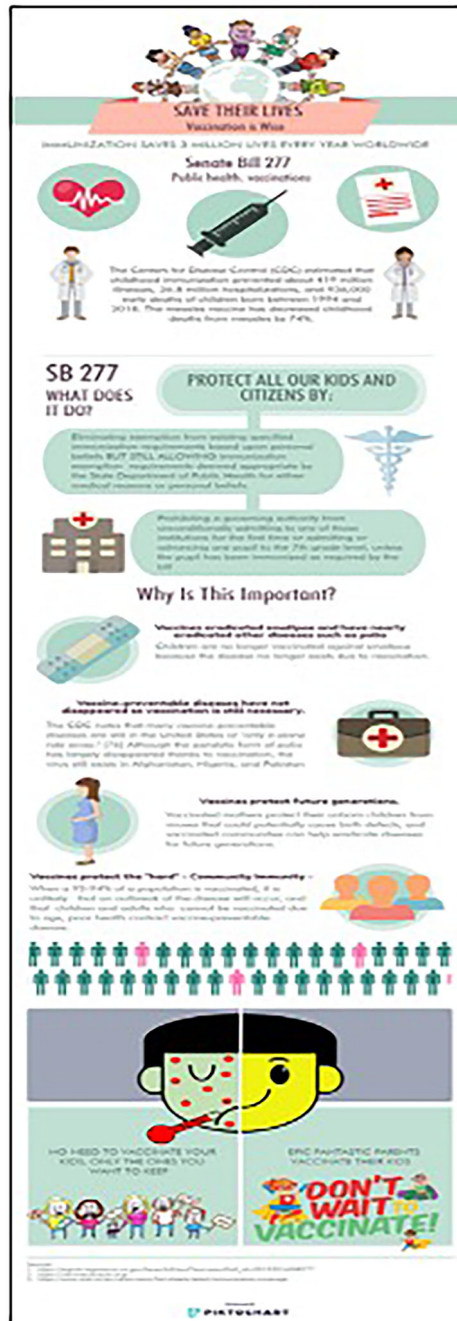
Figure 1. Student infographic illustrating public policy. *Note*: Sample work from a student in an introductory course, Public Policy and California Politics.

problem suggesting possible remedies. Working alone, students interview a government official asking about the implementation of a policy. Alternatively, they might interview someone not enrolled in the course to discuss how the policy affected them. Language, word choice, and intonation are critical components to delivering a
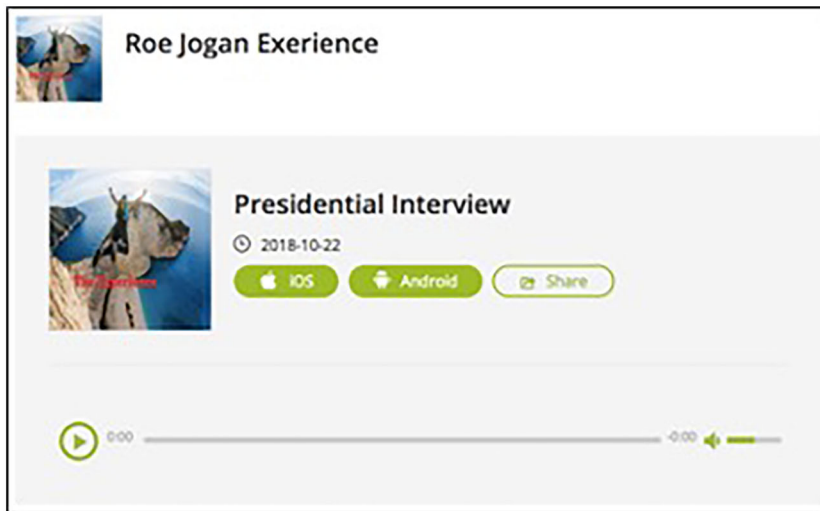
Figure 2. Student Podcast "running for President". *Source*: https://www.podbean.com/media/share/pb-npcqu-9cfe33. *Note*: Sample work from a pair of students in an introductory course, American Government and Politics.

clear message. Podcasts can range from 5-15 minutes or consist of shorter segments with multiple episodes. Showcasing their creativity, students produce audio recording and editing while also incorporating music, applause, and mitigating background noise, valuable digital skills for the workplace. Figure 2 illustrates a podcast produced by students.

Podcast topics vary widely with creators not only informing audiences but also raising awareness and increasing visibility. Studies show producing a podcast offers practical marketable skills requiring students to articulate an argument and navigate a political discussion in a professional manner (Killean and Summerville 2020; Tomlinson 2008). Thus, knowing how to create a podcast might aid graduates who pursue a legal path or even private investigators who wish to share their expertise (Table 1). Political science graduates pursuing journalism or political advocacy might find this exercise especially useful since these occupations increasingly produce podcasts to disseminate information and offer critical commentary.

Videos

Companies and influencers[10] have capitalized on the ease of recording and uploading videos to disseminate information and advertise products and services, yet this medium is equally important to campaigns and elections, and social movements. A variety of disciplines have integrated video production into assignments especially those that use problem-based learning (Hakkarainen 2011). Florez-Morris and Tafur (2010, 316) suggest video production allows students to obtain hands-on experience "exploring political issues, fostering their curiosity about studying social problems, developing the students' ability to apply knowledge in novel situations, honing their communications skills, and broadening their problem-solving abilities." It underlines course concepts, enhances
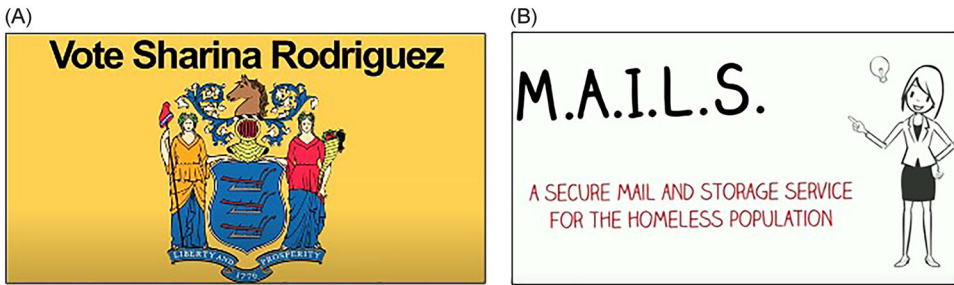
Figure 3. Student videos illustrating a congressional campaign and public service announcement. *Source*: https://www.youtube.com/watch?v=8UfQbxkVRJE. *Note*: Sample work from a group of students in an advanced course, American Congress. *Source*: https://youtu.be/s_4co_-S49U. *Note*: Sample work from a team of students in an advanced course, Race and Ethnic Politics.

student motivation, and increases content retention (Morgan 2013; Siegle 2009). While students may have experience recording and uploading videos, they likely have little experience editing them. They gain digital skills by editing videos (Florez-Morris and Tafur 2010), selecting and incorporating music, and transitioning between scenes. Even rudimentary videos without music or clean transitions illustrate mastery of concepts (Morgan 2013) while still cultivating digital fluency.

Best suited to groups or team projects assignments might ask students to create a video of a presidential press conference, public service announcement, or campaign advertisement. The length of videos varies from 3 to 12 minutes; a campaign advertisement might be three minutes while a press conference 12 minutes. To simulate a presidential press conference, students create a script, stage the scenario, acting out their respective parts, all while paying close attention to audio-visual elements. The "president" may opt to wear a suit and tie at a podium, while reporters might hold notebooks, recorders, or laptops. Alternatively, another assignment asks students to produce a public service announcement designed to inform viewers about a salient issue. This assignment requires students to use evidence-based data to convey a message to a target population using compelling audio-visuals. Two examples of student videos appear in Figure 3.

Producing a video offers practical experience for political science graduates in a range of occupations. Since many political science graduates secure occupations in marketing and sales (Table 1) video production is an invaluable skill. Increasingly, the political landscape uses videos to convey messages in an efficient and cost-effective manner that makes political issues more accessible to the public (Florez-Morris and Tafur 2010). For political science graduates who secure government and related occupations, video production offers digital skills that are particularly useful given the prevalence of videos in the political arena.

Websites

While an older technology, websites often remain more credible than social media alone (Verisign 2015). Integrating website design in a curriculum may appear more appropriate for computer sciences or graphic design courses, yet exposure for political science

Figure 4. Student website "running for president". *Source*: https://colebecker54.wixsite.com/website. *Note*: Sample work from a student in an introductory course, American Government and Politics.

students is equally useful. Students leverage existing technology, a core competency established by NACE (2021). Designing and creating a website allows students to interact with the course materials and most students are eager to learn how to make a website (Bunz 2003). Students create websites promoting an individual (e.g. candidate or elected official) or organization becoming familiar with standard elements of website design ranging from menu bars to text, pictures, and other visuals. It encourages students to organize information both hierarchically and visually producing high quality content. The level of sophistication varies with some students creating text-laden pages and others designing hierarchical sites robust with images. Some students use templates (Table 2), while more technically adept student might code.

Assignments might ask students to create a fictional campaign or nongovernmental organization website. For example, students might design a congressional campaign website for prospective voters using campaign websites as models. Based on course materials students determine the important components of a congressional campaign integrating this into their website design. Students use the US Census to gather demographic data on the district while newspaper articles offer insight about constituent preferences. The website also highlights candidate events, press releases, and fundraising. Figure 4 illustrates a student example of a campaign website for US president. Another assignment asks students to create a fictional nongovernmental organization (NGO) website including a logo, mission statement, and salient issues. To reinforce course materials, students must explain how and why issues are advantageous to potential members. Though the NGO is fictive, students provide analysis of existing congressional
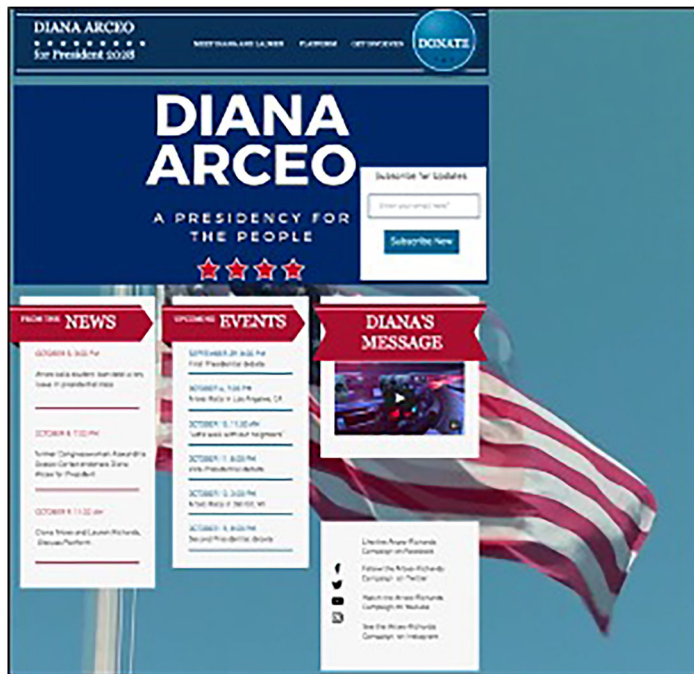
Figure 5. Student website and video integrating Web 2.0 Technologies. *Source*: https://arceod1.wix-site.com/mysite. *Note*: Sample work from a pair of students in an introductory course, American Government and Politics.

bills, and endorse candidates running for office. Student generated social media profiles, infographics, podcasts, or videos might be integrated into the website demonstrating a greater range of digital fluency (Figure 5).

The digital skills gained are applicable in both private and public sectors given the prominence of websites. Positions in sales and marketing that depend heavily on websites or occupations in computer science or finance might draw upon the skills learned in this assignment (Table 1). Students who secure positions in government, on a campaign, or advocacy organization should be familiar with website design that not only provides the public information, but also promotes transparency, and offers transactional services. This assignment affords students exposure to essential components of website design, and though graduates may not be coding, it provides them with critical skills to provide content and/or contribute to the overall design.

Instructor reflections and advice

The assignments described herein (see Appendix A for sample assignments) have been used in introductory and advanced courses since 2015. Digital assignments are incorporated in one to two courses every semester with a maximum of 35 students per course. In discussions following the assignment, course reflections, and anecdotally students report positive experiences with the Web 2.0 assignments. For example, students indicate the projects are fun, and they enjoyed working with their peers. They also expressed appreciation for learning how to create content and learning new skills,

although it is unclear if they recognize whether these skills are indeed useful in their future careers. During class presentations students express enthusiasm while also admiring the technical proficiency displayed in the projects. Still, design and implementation considerations of assignments contain some limitations and cautionary warnings.

When designing these assignments, we encourage instructors to consider the composition of their students and institution. Teaching at public institutions with many first-generation and nontraditional college students[11] results in dissimilar levels of digital literacy and digital fluency. We have observed first-generation students display high levels of digital literacy but they may not be digitally fluent, while nontraditional students exhibit varying levels of digital literacy. Even among the broader student population, there appears to be differential skills with some students possessing very sophisticated technical skills and others more limited (Hargittai 2010; Russo et al. 2018). Instructors might dedicate time to familiarizing students with the various platforms, and previewing tutorials. We recommend diversifying groups, placing self-identified technophiles with those who may not be as technically adept. Since students will need more sophisticated digital skills in the marketplace, it is incumbent upon instructors to underline the importance of becoming acclimated to different platforms and highlight the practical skills gained. For students who resist social media, drawing parallels to LinkedIn—used by most recent graduates—helps them understand the value of social media.

Although we have not used these assignments in courses with more than 40 students, a course with 100 students can adapt these assignments accordingly. Generally, groups of more than four and less than six students are ideal though not always possible. Larger groups are beneficial because they mitigate differential skills and free rider problems, but they can pose scheduling challenges. Pairs or smaller groups reduce large group dynamics offering more opportunities to speak. Further with a larger scope of work, student exposure to technology naturally increases. However, free riders who do not contribute are exacerbated in pairs and smaller groups. We recommend allocating class time for students to work on these projects so they may ask questions, seek clarification, alleviate scheduling conflicts, and ensure student progress.

Not unexpected, students in introductory courses often need more guidance than students taking advanced courses regarding the parameters of the project. For introductory courses explaining how to organize and implement the project might be prudent, or even scaffolding these assignments might help students to structure their projects. In addition to instructions, we also recommend providing students with a checklist of objectives (for example see Jones, Sage, and Hitchcook 2019) or rubric (discussed below) to help guide students. First year students often lack familiarity with Web 2.0 technologies and underestimate the time commitment needed, thereby producing underdeveloped projects. In contrast, students in advanced courses tend to take greater creative license, understanding the depth and detail needed to execute projects; a result of more coursework and increased familiarity with technology.

Technical problems can occur. To troubleshoot technical glitches and ease the submission process, instructors might create a folder on DropBox or Google drive for students to upload larger audio/visual files too large for the LMS. Occasionally students also have difficulty submitting assignments, so we recommend flexibility with deadlines, and encourage students to submit assignments early. Since many of these platforms are

publicly accessible we recommend a disclaimer indicating the project is associated with a course including the instructor's contact information. Further, we recommend students delete their social media profiles created specifically for our courses thereby decreasing their digital footprint.

In our experiences allocating time for class presentations so students can showcase their digital projects has been especially beneficial, provoking discussion and feedback among students. As noted by Mendenhall and Summers (2015) higher quality projects may result when tied to class presentations. Still presentations reinforce course materials, and students can observe a range of digital fluency in the projects produced by their peers. Viewing and listening to the videos, websites, and podcasts produced by their peers was enjoyed by students.

Finally, to facilitate grading these assignments instructors might use the checklist of objectives or a rubric. The former allows assignments to be assessed based on content, presentation, and technical components, whereas the latter reduces the time associated with evaluating student submissions however may limit student creativity. Application of course content, written communication, and visual appeal are elements that might be included in a website rubric, whereas a rubric for a podcast might evaluate oral communication, intonation, quality of the questions and responses. For examples of podcast and infographic rubrics see Bolden (2013) and Nuhoğlu Kibar and Akkoyunlu (2017), respectively.

Conclusion

The platforms described in this article afford students an opportunity to develop practical digital skills such as professionalizing online communication, visualizing data, editing audio-visual media, and designing websites. Web 2.0 assignments encourage creativity by producing work that is dynamic and interactive. These assignments reinforce course objectives and foster student learning outcomes while imparting transferable practical skills for students to use in their careers. Moreover, the use of digital platforms does not undermine the integrity of research undertaken by students nor does it require instructors to attenuate their lessons. Web 2.0 assignments go beyond interpreting, explaining, and comparing course materials; demonstrating higher-order learning in which students create content to reflect on the relationship of theory and practical application (Jones, Sage, and Hitchcook 2019).

Although this reflection was written prior to the pandemic—before colleges and universities learned to rapidly deliver content through emerging technologies—students and instructors alike have been forced to adjust to a new tech-forward environment. Still our initial reflections have been reinforced, illustrating a digital fluency gap among both students and instructors. During the pandemic we noticed our colleagues took an ad hoc approach to incorporating digital tools such as Google Jamboards, Google slides, and Padlet, which does not foster digital fluency. Importantly, the adoption of digital solutions to solve problems occurred not only in higher education but throughout the global marketplace. As a result, we believe companies will seek candidates with advanced digital proficiency in conjunction with strong communication and collaborative skills.

To mitigate career-readiness gaps among students graduating from institutions that boast significant first-generation and nontraditional student populations, instructors should undertake pedagogical approaches that emphasize digital fluency. For students unable to secure internships or engage in service-learning due to familial obligations or work commitments, Web 2.0 assignments develop practical skills through experiential learning (Bradbury and DeMaio 2019, 96) that might offset the digital skill gap. Digital fluency may bolster student confidence, allow graduates to list technical skills on their resume, and empower graduates to apply to positions requiring greater technical proficiency. By adapting course assignments to develop digital fluency, political science instructors can better serve their students cultivating digital skills that will ensure political science graduates are more competitive on the job market. We believe Web 2.0 assignments—even more so because of the pandemic—are one step to ensuring career-readiness in the global marketplace.

Notes

1. A digital disrupted workplace describes the gig economy and reliance upon temporary workers.
2. According to Pew Research, Generation Z refers to individuals born since 1997; Millennials are individuals born between 1981 and 1996; and Generation X are individuals born between 1965 and 1980 (Dimock 2019).
3. Web 2.0 technologies consist of websites and applications that emphasize user-generated content.
4. The term digital fluency and digital competence are comparable terms, used in the US and Europe respectively. Digital competence involves the confident and critical use of information technology for work, leisure, and communication. It consists of five components, and one component of digital competence includes digital content creation (European Commission 2019).
5. Consistent with Hargittai (2010), we use the term first-year student to denote students entering college for the first time.
6. The eight core competencies for career readiness are as follows: career and self-development; communication; critical thinking; equity and inclusion; leadership; professionalism; teamwork; and technology.
7. Team-based learning uses fixed-groups throughout the term. Teams build community and trust, students are able to rely on each other's assets to compensate for potential liabilities on the team (Michaelsen and Sweet 2008).
8. For design elements of an effective infographic see Dunlap and Lowenthal (2016).
9. This research was approved of by the California State University East Bay IRB #: CSUEB-IRB-2020–34, and under Montclair State University IRB-FY19-20-1802 RDF, this study was found not fall under 45 CFR 46 regulations.
10. An influencer is a person with the ability to influence potential buyers of a product or service by promoting or recommending the items on social media.
11. First-generation students consist of students who are the first in their family to attend college, while nontraditional students might meet one of seven criteria including being older than 24 years of age; working or having prior work experience; or being a parent (MacDonald 2022).

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Appendix A.

Sample assignments

1.   *American Government and Politics (introductory course)*

You're Running for President! Along with a partner, using a technology of your choice (podcast, website, or video) create a campaign advertisement targeted toward prospective voters. Consider the following:

- Your political party and the party's ideological stance
- Your stance on issues and the message you want to convey
- Which blocs of voters will you target? e.g. young v. old; married v. not; soccer mom's; blacks, Latinos, etc. [Note: negative campaigns turns voters away!]
- Demographics, and geography (urban, suburban, and rural areas)
- Role of the electoral college: red v. blue states; or small v. large states
- The current political climate and items that have been in the news over the last few weeks.

Demonstrate you read the assigned chapter, and the *New York Times*. For example, you might decide to stage a podcast interview with someone acting as a newscaster and the other person running for President, or alternatively you might try to stage a debate between candidates.

2.   *Congress (advanced course)*

You're Running for Congress! Using a technology of your choice (podcast, website, or video) create a campaign advertisement targeted toward constituents in your district. Consider the following: your stance on issues and the message you want to convey to voters; your district's demographics; current political climate and items that have been in the news over the last few weeks; your party's ideological stance; PACs that have given money to your campaign; etc. Be sure to draw upon the readings.

You might decide to work with a partner on this assignment with approval from the instructor. For example, you might decide to stage a podcast interview someone acting as a newscaster and the other person running for Congress or you might try to stage a debate between candidates.

3.   *Food and Politics (advanced course)*

Facebook Group. Join the Facebook group created for the course, and respond to posts focusing on the intersection of food and politics. You will be required to 14 posts created by the instructor; and respond to 14 comments by other students. Posts should be at least one paragraph in length. In addition to the posts generated by the instructor, you are free to generate a post from the assigned readings; news/magazine items; videos etc. generating a post that raises interesting discussion questions.

What makes this political? How is it political? How or why this is important, and particular how or why this is important in the context of politics? Finally, offer a critique of the article/posts. How/why is the article flawed or problematic and why. Explain.

4.   *Advocacy and Action (advanced course)*

Mobilization Infographic Overview: Apply course concepts to create a mobilization campaign with the goal of uplifting and mobilizing a historically underrepresented community to exercise their voice. Research an issue or a candidate to mobilize the surrounding community.

The project consists of five parts and a debrief. Each segment of the project offers a different point value, and the various stages build upon one another. Teams will (1) identify a community, an issue/candidate for the community; (2) develop a mobilization strategy; (3) create an infographic; (4) generate an informational flyer; and (5) film a mobilization video. The goal of this project is for students to gain a sense of agency that may result in uplifting and empowering marginalized communities.

Assignment: Using the research that you have collected, create an infographic to raise awareness about an issue in your community. Be sure to include citations at the bottom of your infographic.

- What is an infographic? Essentially, it contains graphics with lots of information. It is a visual representation of data and information designed to engage the audience and deliver complex information in a user-friendly manner.
- As a source of inspiration, students are encouraged to do a Google image search of infographics related to their issue.
- Free software to create infographics are available in Canva or Piktochart. You will have to sign up for an account, but they are free.

Assessment: Students will be assessed on the following criteria: data and information, visuals, ease of interpretation.

Data and information
- Are there research-driven data being presented?
- Are data presented accurately?

Visuals
- Is the infographic visually appealing? (i.e. color contrast, font choice, readability)
- Does the infographic use graphics or pictures in a meaningful way?

Ease of interpretation
- Can audience look at infographic and quickly understand information presented?
- Does the infographic need to be explained by the creator?

5. Advocacy and Action (advanced course)

Mobilization Video Overview: Apply the course concepts to create a mobilization campaign with the goal of uplifting and mobilizing a historically underrepresented community of exercise their voice. Research an issue or a candidate to mobilize the surrounding community. The goal of this project is for you to gain a sense of agency that may result in uplifting and empowering marginalized communities.

Assignment
This part of the project is the culmination of your work. You should not have to be collect data or research, but rather assemble it for an informational video to mobilize the target community.

1. Design and create a 1–1:30 minute mobilization video.
   - Students will make videos and use their phones to film if needed. Students may also opt to use existing clips or images to splice together a video.

- To edit, students can use free video editing software; you are eligible to access Adobe Creative Cloud for free, and can use Premiere Pro for video editing. Alternatively, students can make a video using PowerPoint.
2. Video must include political action (parts 1 and 4) and research.
   - Students do not need to "star" in the video, but voice overs are always nice.
   - Research should be integrated (parts 2 and 3)
   - If the video is delivered in another language, please provide closed captions.
3. Upload Video to YouTube or to Google Drive and share with the instructor.

   - To submit, include link to YouTube or Google drive in Canvas link

Assessment: Students will be assessed on the following criteria: effective mobilization; sound and visuals; information delivery.

Effective mobilization
- Is there a clear call to action?
- Does the audience have enough information to take part in the action?

Sound and visuals
- Does the music and/or voice over contribute to the tone of the message?
- Are the visuals consistent with the sound and message?

Information delivery
- Are the data used appropriately and compellingly to mobilize the target audience?
- Is the information being conveyed in a manner to activate the target audience into action?