The Digital Imperative in the 21st Century Classroom

Rethinking the Teacher-Learner Dynamic

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Introduction

Many university classrooms have computers, projectors, document cameras, and smart boards, but meaningful use of these tools depends on the instructor's familiarity and comfort with technology. Teacher education faculty cannot overlook digital literacy for it provides them a unique opportunity to tap into teacher candidates' expertise in different forms of technology (e.g., video remixes, group blogs, social media, ePortfolios). Literacy can further support a person's critical reading and writing abilities, problem-solving skills, and creativity across subject disciplines. Indeed, the classroom should not exist in isolation from the world, but should be a positive and safe extension of the world.

Technology continues to evolve, so it is nearly impossible for one to keep pace with all innovations. Hence, the teacher must embrace a role reversal by acknowledging the learner's knowledge of technology. Case in point. The first author, an recent English teacher candidate, was a

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former student of the second author, a professor of education at a state university in Southern California. The second author sought the first author's digital literacy expertise to infuse technology in their co-authored conference presentation.

The authors use "teacher candidates" and "pre-service teachers" interchangeably to refer to individuals enrolled in a credential program toward licensure, while the word "secondary students" indicates pupils in public/non-public schools. Becoming more digitally literate offers the second author an opportunity to collaborate with the first author, but also requires a paradigm shift from sole owner of content and pedagogical knowledge to teacher-learner reciprocity. Their cooperation is an example of how faculty can capitalize on candidates' skills with current Internet platforms to collaborate, which also applies to practitioners and secondary students.

Jenkins (2009) asserts that it is a "digital imperative" for educators to develop their students' technology awareness and dexterity, but also their own. How can educators teach what they do not know? To make the digital imperative a reality in university and secondary classrooms, teacher preparation faculty can tap into the Internet and harness its inherent qualities of a "participatory culture." Jenkins (2009) explains:

> A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing creations, and some type of informal mentorship whereby experienced participants pass along knowledge to novices. In a participatory culture, members also believe their contributions matter and feel some degree of social connection with one another. (p. xi)

Jenkins' explanation suggests a reciprocal teacher-learner dynamic process. The concept of a participatory culture of the Internet can be a useful tool in two ways: 1) addressing the digital imperative by further developing teachers' and students' technology awareness and dexterity; and 2) maximizing student expertise and promote teacher-learner collaboration. Jenkins considers digital literacy a social skill that can be facilitated by the participatory nature of the Internet. Strategies presented in this paper can be adapted to most teacher preparation courses. In Part I, the authors discuss potential problems and criticisms in promoting digital literacy. Part 2 presents select strategies with corresponding rationales for promoting digital literacy. Finally, Part 3 illustrates practical ways for implementing and assessing the strategies in Part 2.

Part 1: Concerns of the Tech-Skeptics

First, we address legitimate concerns raised by educators about technology inclusion. Most importantly, traditional text literacy will always remain "a pivotal skill in the twenty-first century, and should not be pushed aside as an archaic skill in order to make room for new ones" (Jenkins, 2009, p. 28). Technology can supplement instruction, but cannot replace face-to-face interactions when guided by competent and caring educators. Some concerns of tech-skeptics include: (1) digital divide; (2) poor infrastructure; (3) student safety and conduct; and (4) plagiarism.

Digital Divide

The digital divide that secondary students experience, and in turn those in higher education and seeking the teaching profession, is one of the concerns. Campbell (2014) reveals that "students from low-income families aren't exposed to technology and don't see it used as much, or in the same ways, as students from high income families" (p. 4). Some candidates may enter the credential program without equal access to technology, which places them at a disadvantage in comparison to their middle and upper class counterparts. This phenomenon also applies to the K-12 classroom. Even though smartphone adoption has risen at a 50% rate, thus narrowing the technology gap caused by socio-economic status, but the skill of meaningful and academic Internet usage continues to widen in those social groups (Lee, Park, & Hwang, 2014, p. 54). This suggests that owning a smartphone does not automatically grant a person competency in Internet usage. Digital *literacy* is a skill that must be taught and developed, especially in an academic realm. The digital divide is a systemic, societal problem, beyond what educators can solve in one semester. In their limited capacity, what can educators do?

Two probable solutions are: (1) avoid using technology or the Internet altogether to completely eliminate inequality within the classroom; or (2) embrace technology and the Internet by applying those technologies in the classroom and assigning work that allows teacher candidates to develop needed skills. With the disparity of home accessibility to technology and Internet competence influenced by socioeconomic status, implementing the first solution could exacerbate the digital divide. Candidates with limited access to computers/Internet at home may fall further behind if they cannot avail themselves to technology on university campuses. Digital literacy can enhance K-12 and college students' skills, close the divide, and prepare them for an increasingly technological world.

An example of closing the digital divide can be found in a *New York Times* article on February 26, 2016. It reports that students in McAllen,

Texas, with no Internet access at home, stood by a crumbling sidewalk across from the elementary school nearest their home to use WiFi to download homework assignments onto their smartphones. Thus, teachers must be mindful of the type of homework they assign, but also schedule time, during school hours, for their students to access online sources in the computer lab. If their classrooms are equipped with computers, teachers can grant their students access, based on designated time availability.

Furthermore, the teaching profession is increasing technology and Internet use. According to national findings published in 2014 by *Speak Up*, 32% of high school students use mobile devices issued by their schools (iPads, Chromebooks), while 75% of students access class information and grades through online portals (p. 3). Teachers are becoming more reliant on using online platforms to post grades, take roll, and communicate to students, parents, and faculty. State-mandated testing, such as the California Assessment of Student Performance and Progress (CAASPP), is conducted online and 52% of high school students take class exams electronically (*Speak Up*, 2014, p. 3). In a 2016 independent evaluation report of CAASPP, numerous training sessions have been described to prepare secondary teachers to effectively proctor the online exams (Hardoin, 2016, pp. 24-25); however, many teachers encounter difficulties that were not addressed in their training—mostly related to miscommunication and poor infrastructure. The responsibility of problem-solving these issues falls upon limited IT staff on campuses. The inability to work through technical problems derives from the "newness" of this method of testing and the secondary teachers' unpreparedness in proctoring the exams. Much of the training for the proctoring of CAASPP is online videos and online resources that already require a certain level of Internet expertise to access (Hardoin, 2016, pp. 14-15).

Finally, 37% of high school students use online textbooks (*Speak Up*, 2014, p. 3). Undoubtedly, future teachers must be equipped to work in a technologically-driven environment to ensure student success. Faculty needs to include digital literacy in their practice and invite candidates to explore varying methods for demonstrating their technological knowledge and skills in course assignments. Closing the digital divide in teacher preparation (preferably earlier) is vital to the profession.

Poor Infrastructure

On college campuses, instructors frequently experience the burden of technical failure and overly complicated systems becoming counterproductive. Often in connected classrooms "the technological infrastructure at schools is generally poor…[Also,] lessons…stall due to technical failure,

and many teachers now prepare two lessons, one with technology and one for when the tech doesn't work" (Campbell, 2014, p. 5). Instructors often frantically attempt to get projectors to turn on, sound to work, DVDs to play, and Internet videos to load. If these educators become frustrated with technology in their classrooms, how can they support its use? This challenge is part of the outdated institutional infrastructure of poorly-funded public university systems.

When planning lessons and activities, practicing teachers must bear in mind that access to technology may be inconsistent at their school site. Flexibility in adapting to change in new environments and problem-solving through technology failures are key to success on the job. University faculty who grapple with these issues in their classrooms can model on-the-job learning for candidates. Preparing a low-tech, "Plan B" is a practical way for meeting this challenge. One can convert online presentations and documents into PDF's or Word documents that are saved onto a thumb drive when Internet is inaccessible.

Student Safety and Conduct

Due to the public nature of online publishing, third party Internet users can easily access student work; educators must closely monitor for red flags. Positive interactions with third party users are always welcome, since it sheds light on the candidate's sense of authorial ownership and empowerment. However, negative and harassing comments must not be tolerated. Some instances may call for users to be blocked, while others may need to be reported to appropriate law enforcement authorities. Discretion must be made and explicitly discussed with all teacher candidates.

Hiding behind the anonymity of the Internet can promote cyberbullying and intolerant rhetoric. Candidates can become perpetrators, but also victims to online harassment from their peers. A policy must be enforced with a conduct contract that references proper "netiquette," signed by candidates to avoid unethical behavior (Shea, 1994). A netiquette contract may include, but not limited to: remembering the human behind the screen; adhering to the same standards of behavior as in real life; sharing expert knowledge; keeping it academic; and crafting a positive and professional online identity (Shea, 1994). Electronic communication requires the same level of respect as face-to-face interactions. Professors must model what they expect of their candidates. In turn, candidates can guide their secondary students in the correspondence process via e-mail, discussion post, or text. Establishing and modeling netiquette is important considering the cultural shift into more emotionally and socially-detached communication. By explicitly stating rules for secondary students and candidates,

the importance of ownership and personal connection in electronic communication is brought to light. Teacher educators may consider including this policy language in their course syllabi (see Table 1).

Plagiarism

Lastly, plagiarism can occur when using technology in the classroom and assigning work that requires Internet access. In a report on plagiarism in higher education, 52.88% of university students submit assignments

Table 1
Suggested Netiquette Contract

	Netiquette Core Rules	
#	*Rule*	*Description*
1	Remember the human	When communicating electronically, practice the Golden Rule: Do unto others as you would have others do unto you. Written words are read by real people, all deserving of respect. Before pressing "send" or "post," ask oneself, "Would I be okay with this if someone else had written it?"
2	Adhere to the same standards of behavior online as in real life	While one may argue that standards of behavior may be different in the virtual world, they certainly should not be lower. Do your best to act within the laws and ethical manners of society whenever you inhabit "cyberspace." Would you behave rudely to someone face-to-face?
3	Make a good impression	The virtual world does not judge one's physical appearance, voice, or attire (unless in a vlog or podcast). However, one is judged by the quality of writing. Beware: Always check spelling and grammar; Know one's subject and state it clearly; Be pleasant and polite.
4	Share expert knowledge	The Internet is platform where information can be shared or accessed, so share what one knows! When posting a question and receive intelligent answers, share the results with others.
5	Help keep flame wars under control	A "flame war" is when two or more people exchange strongly-held opinions through angry posts, holding back no emotions (Shea, 1994). If not controlled, the camaraderie of the group could be compromised. Don't feed the flames; extinguish them by guiding the discussion back to a more productive direction.

Adapted from Shea, V. (1994). *Core rules of netiquette. Netiquette* (Online ed., pp. 32-45). San Francisco, CA: Albion Books.

with over 15% plagiarized content (Gomez, Salazar, & Vargas, 2013, pp. 768-769). Moreover, 12.5% of them had plagiarized more than 40% of the content of their submitted work (Gomez, et al., 2013, pp. 768-769). The fact that over 1-in-10 college students have significantly plagiarized material in their assignments is a tough reality that faculty must address, but students also bear responsibility for their actions and must be held accountable.

Rather than demanding candidates to completely stay away from their own Internet research, it is incumbent upon faculty to discuss proper citation and ethical appropriation early in the semester. Many universities use *BlackBoard* as a platform for faculty to upload their course syllabi and assignments, and for candidates to submit their work. On this platform is *Turnitin*, a tool for detecting the percentage of plagiarism on a paper submission and its deriving source. Candidates may have turned-in part of their papers for another course or at a previously-attended institution. In this case, candidates are strongly encouraged to rewrite parts of the paper in question and resubmit the final version; failure to do so constitutes academic dishonesty. By learning how to properly cite and use evidence-based practices, future teachers can model for their secondary students how to do the same in academic writing.

To ask candidates to avoid using the Internet is unrealistic. Working professionals in any field routinely turn to *Google* to seek answers. Those truly misinformed about plagiarism may be given the benefit of the doubt and educators can properly guide them in this effort. In addition to teaching the technical and grammatical mechanics of citations, educators can also encourage candidates' authorial ownership of their own writing through Internet publishing. Nevertheless, there will always be students who willfully plagiarize; in such cases, educators must hold them accountable for their disregard for ethical conduct. For example, professors may enforce an "Academic Dishonesty Policy" and include a statement in their course syllabi. The authors suggest the following example: Academic dishonesty includes plagiarism, namely cheating, inventing false information or citations, and helping someone else commit an act of academic dishonesty. Serious consequences including forced withdrawal from the course and removal from the university may result. Faculty need to verify such policies with their respective institutions.

Part 2:
Practices in a Participatory Culture and Pedagogical Rationale

The National Governors Association Center for Best Practices (2010) of the Common Core State Standards (CCSS) included technology and Internet usage for relevance and meaningfulness in planning and implementing curricula. *Writing Standard 6* for college and career readiness states that secondary students should "use technology, including the Internet, to produce and publish writing and to interact and collaborate with others" (p. 41). Tapping into the participatory culture of Internet users can meet this vital standard.

Takayoshi and Selfe (2007) assert that teachers (and by extension, teacher educators) must be open-minded and "willing to respect the full range of literacies" (p. 10) that students already possess, expand their literacies rather than ignoring their expertise in technology, social media, and the Internet. Teacher candidates and secondary students today are largely comprised of millennials who make up the most technologically-advanced generation. Access to tablets, smartphones, and social media occupy a large part of their daily lives. Although some of the technology they depend on were developed by baby boomers (e.g., Steve Jobs, Bill Gates), much of today's most popular social media was created by millennials, such as Facebook, Twitter, and Instagram (Gollnick & Chinn, 2017, p. 238).

Unlike millennials, teacher educators may not be as skilled in technology. The university where the second author teaches responded to this digital imperative by offering technology professional development workshops for faculty (and staff) during the academic school year. Presenters leading these sessions are both technicians and faculty who employ an interactive approach to assist participants in infusing technology in their course work (and daily business). This method is collaborative, without judgment, and not intimidating, aiming for participants to apply newly-acquired knowledge to enhance their own practice. Our college classrooms should be a safe and productive place that represents the world in all its complexities—including the digital world.

Although a plethora of technology is in the public domain, the authors offer some suggestions. These practices do not constitute a comprehensive list, but "opportunities for peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship" (Jenkins, 2009, p. xi). The multimodal, instructional practices are as follows: (1) video remixes,

(2) group blogs, (3) social media, and (4) ePortfolios. The authors begin with a discussion on the analytical power of *video remixes*.

Using Video Remixes to Analyze Critical Issues

A "video remix" is a creatively blended video whereby cultural artifacts are appropriated, combined, and manipulated in transformative ways (Callahan & King, 2011, p. 134). Clicking on the "share" button on a touching, inspirational, or funny video on a social media feed is a way to distribute popular content. Viral videos are frequently "remixes" and multimodal in nature. They interweave still images, video, music, sound, and text. Like supercuts and parodies, remixes can convey social and cultural commentary in creative and entertaining ways.

Catherine Burwell (2013) explains that the "exploration of video remix allows for important ideas to be introduced and questions to be asked" (p. 12). Showing remixes can spark valuable "discussion of theoretically rich concepts" (Burwell, 2014, p. 12) like sexism, racism, and social injustice in a compelling and, even, humorous manner. It can lay the foundation for critical thinking and analysis necessary in teaching students from diverse backgrounds and experiences.

Future teachers can also create their own remixes. Through appropriating cultural content and remixing them in transformative ways, they essentially "learn by taking culture apart and putting it back together" (Jenkins, 2009, p. 55). This strategy adds to the teacher education process in several ways. First, this skill requires much creative effort and analytical thought. Moreover, workshopping their videos can stimulate collaborative learning and group problem-solving by composing storyboards and watching peers' rough cuts. Finally, the creative potential in authoring an original remix can diversify "cultural expression" and reinforce the importance of "intellectual property" (Jenkins, 2009, p. xi). Because fair-use must be discussed when appropriating videos, music, sounds, and images, plagiarism and proper citation is at the forefront. Writing group blogs is yet another mode of communication.

Discussing and Learning by Writing Group Blogs

Journaling is a learning tool that teachers and college faculty often employ in order to assess writing skills and reading comprehension, stimulate reflection, and learn about their students. Blogging possesses all of these qualities, but offers even more benefits. Blogs (an abbreviation of "web-logs") are personal web pages that allow entries to be published periodically—similar to the genre of journal entries.

Online publishing can "change [students'] attitude toward intellectual

property" (Jenkins, 2009, p. xi). Teacher candidates will become more mindful of the quality of their writing and develop empowering authorial ownership of their own voice and opinions. They can also cultivate a sense of "citizenship" by writing about topics that are meaningful and relevant to them, while understanding how they fit within a wider discourse community (Jenkins, 2009, p. xi).

Another added benefit of blogging is the potential for fostering a participatory culture and crafting a professional identity. By assigning small groups to read, comment, and reply to each other's blog entries, a social activity is created. Collaborative learning in this participatory culture can occur, while allowing candidates to express their authentic voice through a more engaging and dynamic medium. Blog entries are validated by this interaction. Candidates can design their blogs based on their interests and personalities by adding images, videos, and music to reinforce the rhetoric in their entries. Teacher educators can use candidates' blogs across courses and subject concentrations, fostering supportive and engaging teacher-learner partnerships. The fact that 32% of high school students use mobile devices issued by their schools attests to the importance of practicing these skills in order for future educators to hone those mobile devices for academic purposes (Speak Up, 2014, p. 3). Netiquette must be addressed at the forefront of this strategy in order to prevent the challenges encountered in online communication.

Developing Professional Online Identity through Social Media

Many pre-service teachers come to classrooms with incredible skills. Their ability to write succinct status updates, share pictures, spread viral videos and articles, and respond with comments demonstrates their proficiency in interacting within a participatory culture. Educators can tap into the recreational talents of their secondary students or teacher candidates to further their academic and professional growth. Whether it is *Linkedin*, *Facebook*, *Snapchat*, *Instagram*, or *Twitter*, these social media platforms illustrate the user's likes and dislikes, relationships, interests, political stance, and more. Understanding the affordances of this type of medium can be a valuable tool in professional and identity development.

Social media is a new domain where professionals can develop their networking skill over time and with practice. It will ultimately help teacher candidates understand the professional role of social media and its ability to "maintain an online digital identity and embody the authoritative and authorial claims that come with that identity" (Clark, 2010, p. 34). A tool that was once used for leisure can become an instrument for

self-promotion and continued professional development. The challenge is to shift the mindset of social media being a purely social platform into a polished, professional platform that can be used to establish or further careers. By "following" or "friending" peers, practicing teachers, professors, experts in the field of education, and pre-service teachers can avail themselves to recent news, research, advice, and pedagogy from reliable resources. Candidates can also join in the discourse community by reblogging, retweeting, reposting, and sharing and creating content.

Evaluating Growth with ePortfolios

"ePortfolios" (aka, electronic portfolios) are digital portfolios that give candidates a chronological record of their academic work throughout their credential program. Clark (2010) explains that "students use their portfolios to demonstrate an authority over their own lives and educational trajectories and to establish online identities built on the quality, content, and character of their own work" (p. 30). Future teachers can track their work and discover a common theme or interest, intentionally create a body of work that supports it, and build upon previous work to delve deeper.

Candidates can view their progress and continually revise and refine essays and lesson plans -- helping them learn the value of growth, reflection, and revision (Clark, 2010, p. 29). Once again, by publishing their essays, reflections, and lesson plans online, candidates can "own" their online and professional identity. Additionally, creating an ePortfolio can promote the "development of skills valued in the modern workplace" (Jenkins, 2009, p. xi). Via ePortfolios, peers and professors can offer feedback digitally—either in comments or recorded voice messages—ultimately, taking advantage of document sharing. Collaboration among employees and digital feedback are workplace realities that should be taught in credential courses. Finally, many school districts have opted to require candidates to submit their job applications, resumes, and professional statement as ePortfolios. Being digitally literate helps candidates to navigate through online job postings, upload resumes, and share bodies of work.

Part 3: First Steps toward the Digital Imperative

Video Remixes

Here are two examples of video remixes that can be used in teacher preparation methods courses:

Avatar Remix - A.V.A.T.A.R. (Anglos Valiantly Aiding Tragic Awe-inspiring Races) by Craig Saddlemire and Ryan Conrad is a video remix

that explores racism in the entertainment industry. This video (see Figure 1) essentially frames postcolonial critical theory into an engaging visual masterpiece, which can be used in multiple subject disciplines (e.g., English, Social Science, languages other than English, or even Science). *Postcolonial theory* is the examination of "reshaping" the structures and myths of dominant cultures that were imposed upon colonized cultures (Rao, Mittapalli, & Rao, 2003, p. v). It is a supercut of many films that share the thematic quality of the "white savior" trope. After showing it in a methods or cultural diversity course, candidates can be prompted to write down initial thoughts. Then show the video again and have them revise and add to their written responses. They can then share their quick writes in a small group, which may spark a class-wide discussion on the message of the video.

Instructors need to address the rhetorical strategies of both visual and sound elements by asking candidates questions such as: What story does the video tell? What movies did they recognize? Why are certain scenes juxtaposed next to others? Why are some lines repeated? In the end, the video remix should shed light on institutional racism that is displayed in (often) subtle ways through popular entertainment. Ultimately, this video can initiate a dialogue about cultural diversity and racism, as part of a larger conversation given our nation's persistent struggles with these critical social issues (Banks, 2014; Bucher, 2013; Gollnick & Chinn, 2017). These conversations also promote the development of visual literacy, analytical skills, and critical thinking.

Idiocy of Videocy by Sarah Arroyo and Bahareh Alaei supercuts various parodies of Alexandra Wallace's UCLA racist rant against Asian students in the library. This video (see Figure 2) illustrates the power of parody as social commentary and social activism. After watching this video, candidates should keep in mind their own online identity and consider what

Figure 1

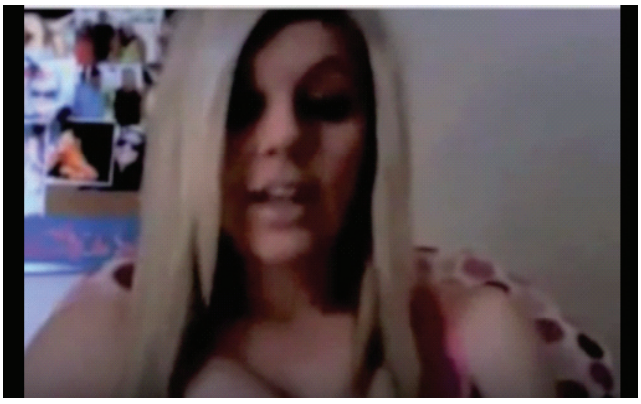
type of presence they wish to have on the Internet. This video remix can be used in methods, literacy, and cultural diversity credential courses. Similar to the *A.V.A.T.A.R*. video, it can spark a discussion on race, cultural diversity, and promote social awareness and social activism (Bucher, 2013). This type of experience provides preservice teachers opportunities to systematically examine their stated and implied beliefs, attitudes, and expectations about diverse students, and develop pedagogical practices that foster high expectations for academic performance from all participants, particularly marginalized groups (Banks, 2014). Because classrooms are increasingly diverse and racial tension continues to erupt across the nation, candidates must be prepared to encounter situations similarly to those presented in the video and address them in a responsible and developmentally appropriate manner. In doing so, future teachers begin to develop the ability to recognize and minimize bias in the classroom, and to create an equitable classroom community that contributes to the overall development of all students (Gollnick & Chinn, 2017).

Group Blogs

Blogs and websites can be created for free using *Tumblr*, *Wix*, or *Wordpress*. *Tumblr* is the simplest and most user-friendly platform that allows users to comment on other entries. Blogs can serve as reflective journals, reading logs, and brainstorming for the invention and arrangement of essays. They can be used in all credential courses to address various topics. Candidates can use blog entries to demonstrate knowledge via academic writing, engage in meaningful discussions, and reflect upon their professional development.

Additionally, using website building platforms like *Wix* and *Word-*

Figure 2



press, teacher candidates can build websites around curriculum units. These unit websites can integrate lessons with relevant clips, articles, resources, worksheets, and lecture slides. For instance, English single subject candidates can create websites based on canonical novels or authors. One English candidate can craft a website based on *The Great Gatsby*, while another can make one about the short stories and poetry of Edgar Allen Poe. Blogs can be crafted by candidates across the subject disciplines. For instance, social science candidates can create blogs based on historical figures and events. Science candidates can design websites based on principles, theories, or cycles, while other candidates can utilize these platforms in their content areas of art, mathematics, and physical education. Candidates can present their websites to their peers, which promotes sharing of teaching resources. Eventually, candidates can use these websites in their own teaching careers.

Social Media

Online profiles can be utilized for professional identity and development. Platforms like *LinkedIn*, *Facebook*, *Twitter*, and even *Instagram* can be tailored to suit the professional needs of preservice teachers. Giving candidates in-class time to sift through their current social media "feeds" for any unprofessional or inappropriate content can help them craft a more professional online presence which highlights their versatility and enhances their employability. Future teachers can also create new education-centered social media accounts where they can network with peers, professors, working teachers, administration, and education experts. Professors can recommend resources and professionals for pre-service teachers to "follow" on social media, but candidates can also share new resources and professional organizations amongst each other. Professors can request candidates to present education articles found through social media networks and original deriving sources. For instance, they can share articles and relevant information with their secondary students and their parents. They can also post homework, test reminders, personal reflections, and praise for specific classes and students.

This practice affords future teachers a chance to network with colleagues. Candidates are exposed to the latest education research, reform, policy, and pedagogical practices. If used for these purposes, social media accounts become valuable tools throughout their careers. Additionally, teacher educators who may not be skilled in technology could collaborate with prospective teachers in infusing it into their coursework to enhance engagement.

ePortfolios

ePortfolios can be easily made through *Google Drive*. By uploading or creating documents in *Google Drive*, candidates can sort their work into folders, much like on personal computers. These folders can then be shared two ways: (1) inviting readers by adding their email addresses; and (2) emailing a unique website address to readers. Reader permissions can also be determined, which means that specific readers can be assigned to simply view content, comment on content, or edit content. Individual works or entire folders can also be incorporated into professional websites, blogs, and online resumes.

Assessment

Similar to the subjective nature of assessing student writing, grading Internet-based, multimodal assignments encounters the same issue. Rubrics make grading fair and state clear expectations. The rhetorical strategies can be assessed similarly to traditional compositions. Analyzing visual choices and participation is what sets this type of assessment apart. Grading on a sliding scale may make assessment easier. Table 2 is a sample rubric of some components for visual and multimodal creations that can be used for video remixes and social media content.

Group blogs can be assessed with the suggested rubric shown in Table 3.

Conclusion

The digital imperative is a reality in all facets of society. The classroom should not exist in isolation from the world, but should be a positive and safe extension of the world. In Clark's words (2010), "The future of writing—based on a global, collaborative text, where all writing has the potential to become public--informs our classrooms and forms a new 'digital' imperative, one that asks how we can reshape our pedagogy with new uses of the technologies that are changing our personal and professional lives" (p. 28). While practicing teachers and professors must share responsibility for equipping their students with digital literacy skills, their respective school institutions must also enhance the system's technological infrastructure to ensure consistent and sustained access to technology. Furthermore, all educators must make an honest evaluation of their instructional practices and properly revise their pedagogies to nurture and support their students' digital literacies.

Educators must be open-minded and willing to respect the full range of literacies that students already possess. By reconceptualizing the teaching-learning dynamic, faculty can tap into their students' repertoires

Table 2
Sample Rubric of Visual and Multimodal Creation Components

Elements	*Exceeds Standards*	*Meets Standards*	*Below Standards*
Attention to audience and purpose • •	◆ Accurately considers genre and audience ◆ Exceeds the purpose of the project ◆ Word and image choices are thoughtful and reflect the intention and purpose ◆ Audience is carefully considered and can easily decipher the message	◆ Considers the genre and audience ◆ Fulfills the purpose of the project ◆ Word and image choices reflect the intention and purpose ◆ Audience is considered and can decipher the message	◆ May not consider the genre and audience ◆ May not fulfill the purpose of the project ◆ Word and image choices may not reflect the intention and purpose ◆ Audience may not be considered and unable to decipher the message
Graphic elements	◆ Colors are visually appealing and do not interfere with graphic elements ◆ Text is legible and enhance the rhetorical argument ◆ All other graphic elements enhance the content and purpose	◆ Color scheme is not distracting ◆ Text is legible ◆ Some graphic elements support the content and purpose	◆ Color scheme may be distracting ◆ Text may not be legible ◆ Many graphic elements may not support the content and purpose
Organization	◆ Organization is clear and thoughtfully enhances the content and purpose ◆ All content is arranged in a coherent manner	◆ Organization generally supports the content and purpose ◆ Most content is arranged in a coherent manner	◆ Organization may not support the content and purpose ◆ Some content is not arranged in a coherent manner
Analysis	◆ All multimodal content support and enhance thoughtful analysis ◆ Analysis, thesis, and/or message is clear and thought provoking	◆ Most multimodal content supports analysis ◆ Analysis, thesis, and/or message is coherent	◆ Some multimodal content may not support analysis ◆ Analysis, thesis, and/or message may not be coherent

Table 2 (continued)
Sample Rubric of Visual and Multimodal Creation Components

Elements	*Exceeds Standards*	*Meets Standards*	*Below Standards*
Language, Grammar, and Syntax	◆ Language conveys proper tone of genre and purpose ◆ Clear and coherent ◆ Free of spelling and grammar errors ◆ Content keeps audiences engaged	◆ Language conveys general tone of genre and purpose ◆ Most content is clear and coherent ◆ Most content is free of spelling and grammar errors ◆ Content includes some interest	◆ Some language does not convey tone of genre and purpose ◆ Some content is not clear and coherent ◆ Some includes spelling and grammar errors ◆ Content does not produce interest
Creativity and Insightfulness	◆ Elements add uniqueness to the project ◆ Includes personal flare and perspective	◆ Elements fulfill requirements of project ◆ Includes personal perspective	◆ Elements do not fulfill requirements of project ◆ May not include personal perspective

Table 3
Rubric for Group Blogs

Elements	*Exceeds Standards*	*Meets Standards*	*Below Standards*
Original Post (OP) • •	◆ Responds fully to question/prompt, well developed, and thoughtful ◆ Includes multiple examples and connects to course concepts and recurring themes ◆ Exceeds minimum word count, grammatically correct, and maintains academic tone and language throughout	◆ Responds to the question/prompt but may not be fully developed ◆ Includes an example and may connect to course concepts and themes ◆ Meets minimum word count, generally grammatically correct and maintains academic tone and language	◆ Relies on summary and/or unsupported assertions ◆ Does not contain examples ◆ Does not meet word count, contains grammatical errors, and fails to maintain academic tone
Response Post	◆ Thoroughly acknowledges the OP's ideas ◆ Builds upon the ideas in the OP ◆ Contributes newly-developed understandings of discussion	◆ Acknowledges the OP's ideas ◆ Begins to build upon OP's ideas, but does not develop a synthesizing understanding of possible conclusions	◆ Off-topic and contains irrelevant information ◆ Does not build on OP or contribute a greater understanding of the concepts

in the continually evolving world of technology wherein everyone is a valuable resource. Netiquette and proper appropriation of original works must be observed. The participatory culture of the Internet promotes collaboration among users and supports their personal and professional identities in an innovative and nurturing learning environment. Teacher-learner roles switch and shift as the exchange of ideas become reciprocal in all directions. Utilizing the affordances of the Internet allows this participatory culture to emerge; therefore, rethinking the teacher-learner dynamic via digital literacy.

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