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Digital Internships: Enriching Teaching and Learning with Primary Resources

Jenny M. Martin, Ph.D.

These are exciting times for teacher education, times that invite teacher educators to bring together classroom teachers, K-12 students, and teacher candidates using the technology at hand. Increasingly, K-12 schools seek to enhance learning through digital conversion initiatives. These digital conversion initiatives support learners by providing them with digital tools so they can participate, collaborate, share, experiment, and innovate in a school setting that has been like no other generation. Over half of K-12 students in the United States are now provided with one-to-one devices, with a 31% increase from 2012 to 2016, and this trend is predicted to continue (Molnar, 2015). Teacher educators can now adapt their pedagogy to harness the learning power of the tools at both teachers' and students' fingertips. However, this rapid change comes with challenges for teachers who are nondigital natives, and fear and frustration often accompanies immigrating to teaching with technology (Martin, 2014). Ultimately, teacher candidates who are soon to enter the ranks of the teaching profession hold a unique and invigorating responsibility to become change agents in their schools. This means that teacher educators must help candidates understand the realities of the digital landscape that now exist in teaching and learning.

Digital Internships and Teacher Education

In the context of this chapter, a digital internship is a practicum experience for teacher candidates to mentor students, from afar, by harnessing the technology available. Mentorship and research with digital internships in teacher education remains exploratory, (Dredger, Nobles, & Martin, 2017; Nobles, Dredger, & Gerheart, 2012; Martin & Morris, 2017; Townsend & Nail, 2011; Townsend, Cheveallier, Browning, & Fink, 2013) and, although K-12 online courses are

offered in all 50 states, less than 2% of teacher education programs address this need for online teaching and learning experiences by providing opportunities to explore teaching with digital tools (Kennedy & Archambault, 2012). Research and practitioner journals related to digital internships fail to provide explicit replicable designs to assist teacher educators who wish to model a digital internship in coursework. From the teacher candidate's perspective, the opportunities remain slim for experiencing or researching digital internships. The purpose of this chapter is to invite teacher educators to try a digital internship, outline how to implement a digital internship, and finally, share the results that can come from this collaborative learning experience.

Frameworks

This work in digital internships is supported by new literacies theory (Knobel & Lankshear, 2007) and theories on motivation and learning (Jones, 2009). Teachers are expected to teach digital literacies (Hicks & Turner, 2013; NGA & CCSS, 2010; Reich, Murnane, & Willet, 2012) and students are expected to manipulate, create, participate, and evaluate using various technologies. New literacies theory (Lankshear & Knobel, 2011) emphasizes the participatory culture that digital technology provides. Congruent with this participatory culture new literacies provide are motivational theories which support that students who are more motivated to learn, learn more than those who are not engaged (Dredger, Woods, Beach, & Sagstetter, 2010). Students' perception of instruction greatly affects their learning. If they are situated in learning environments they perceive to be useful, then they will likely be motivated and therefore learn more.

New literacies. Hicks describes the first theory, *new literacies*, developed by Knobel and Lankshear (2007) as the change from students citing library books and encyclopedias to

currently citing and perhaps even contributing to Wikipedia. In addition, Hicks includes the evolution from assignment listing to publishing students' work on a closed course management system, such as BlackBoard or Moodle versus a blog which parents and students can see wherever they have online access (Hicks, 2009). New literacies (Lankshear & Knobel, 2011) in the context of this chapter deals with any digital technology that mediates student work in such a way that responsive features allow the student to receive digital feedback and to participate in distributed knowledge construction, sharing, experimentation, and innovation.

Motivation. A model of academic motivation (Jones, 2009) also frames the digital internship and supports the engagement of teacher candidates and the students they work with in this type of academic learning environment. Motivation in teacher education largely depends on candidates' perceptions of their competence and the amount of autonomy they have with respect to their learning (Deci & Moller, 2005), as well as factors such as perceived usefulness and interest in the content, and positive relationships with professors and other students (Jones, 2009). This research on motivation supports the need for teacher educators to provide useful teaching experiences for candidates as well as the need for teacher educators to attend to developing intrinsic motivation via a more autonomous versus an overly controlling learning environment.

To further bridge what is known about motivation research and theories and application to instruction, Jones' (2009) MUSIC model of academic motivation and inventory encompass five key motivational constructs: empowerment, usefulness, success, interest, and caring. The motivational inventory measures these five key constructs derived from research and theory (e.g., Ames, 1992; Bandura, 1986, 1997; Deci & Ryan, 1985, 1991; De Volder & Lens, 1982;

Wigfield & Eccles, 2000; Hidi & Renninger, 2006), and consideration of the five constructs from Jones' inventory can assist professors with engaging students in learning environments. The ideas in the inventory are not new, but combining the constructs and creating a means of measuring the constructs is a significant contribution to research on motivation and learning, because the inventory has been validated by research (Jones & Skaggs, 2016; Jones & Wilkins, 2013). Jones' inventory can help teacher educators understand if digital internships are perceived by students as a motivational force in the classroom, and this tool is available at no cost as a validated measure that can also be used for accreditation purposes.

Why to Consider a Digital Internship with Primary Resources



After working with two cooperating teachers for seven years on five different units and in two different content areas, I would say that a digital internship can enrich a teacher education course in four distinct ways (1) Teacher candidates gain confidence in what feels like a safe space to begin teaching; (2) Candidates have time to process how they will provide students with feedback and time to reflect on the results of feedback given; (3) Candidates observe how the classroom teacher plans in this space and this planning being observed can help bridge theory to practice; and (4) Candidates are exposed to a wealth of online primary resources and curricular support to explore and use.

Confidence. Teacher candidates are afforded the opportunity to work with students in a one-to-one manner within the digital internship, and in this environment, that lends itself to few management issues, the voices of self-doubt seem to diminish and confidence in guiding learners increases. One student shared the insecurity she felt just before the internship started. She said she was afraid she would be “completely useless to my student” (personal communication, May 2017). After the internship, she reflected, “As a teacher, I need to be

confident in my ability to guide my students through different projects and subjects and I think that this experience really helped me build some confidence in that aspect.” Comments like this one emerge each semester in student reflections. Mediating the initial stages of becoming a teacher with teaching in an online environment creates a safe space for teacher candidates to experiment in their new role of guiding students toward growth. Bandura (1997) communicated the impact of self-efficacy, and research in education supports that teacher self-efficacy affects how much is learned.

Process time. Perhaps teacher candidates feel a sense of confidence because they have time to think about what feedback they will give. If they are unsure, then they can seek guidance from classmates, friends, their professor or the cooperating teacher. Also, they have time to reflect on how their feedback was received by the student through analyzing the change in the product when they get the revised work. One candidate experienced the challenge that teachers face when students are unresponsive and do not care about their work: “The most challenging thing of this internship, was telling my student what to change and he/she never changed it nor listened to any of the advice that was given.” Unlike the face-to-face classroom, where students often observe and teach the whole class or small group, this more intimate mentorship experience keeps students who are not performing in the light and allows the candidate to consider ways to motivate and engage through the next iteration of feedback. These attempts at motivating students, as this candidate experienced, are not always successful, “It seemed that he/she didn’t care for the feedback he/she was only going for the grade and trying to finish the Annotated Bibliography as soon as possible.” These frustrations bring with the digital internship a dynamic situation that can be unpacked with the teacher candidates whole class.

Observation of planning and theory to practice. Shared folders and learning management systems allow instructors to join one another's sections, and this capability brings with it the ability to see planning in real time. Teacher candidates like the ability to explore documents in the planning folder, whether it be a slide for an upcoming class or the cooperating teacher's syllabus for an upcoming digital internship unit (see Figure 1). For example, Figure 1 shows the contents of a shared folder entitled "Westward Expansion Unit Materials" that was created by the cooperating teacher who was participating in a digital internship housed in my Educational Psychology class. The candidates in this class mentored 7th graders in a social studies class. The CT, the teacher candidates, and I (college professor), all shared access to the unit folder, so the candidates had the ability to observe the last highlighted document, "Westward Expansion (WE) Unit Mentor Experience Syllabus" while it was being developed. The first highlighted document "BC Planning of Learning Experience" was created by the candidates to begin planning how they were going to design a learning exercise for the 7th graders. The learning exercise was to help support them in successfully meeting the expectations of the second highlighted document, the "Scaffolded WE Summative Activity." In this way, everyone's planning is visible, and course content can be pulled in to discuss the teaching and learning in the university classroom. Much like Kittle (2008) models writing with her students in dynamic and effective ways, the digital internship allows candidates to see the construction of literacy lessons and units.

	BC Planning of Learning Experience
	Copy of Visual Instructions: Changing Census Year





	Finding State Data
	Scaffolded WE Summative Activity
	Unit Lesson Flow- WE
	Westward Expansion Unit Mentor Experience Syllabus

Figure 1. Contents of a shared folder housed within the learning management system.

Professors can draw on this internship experience to help bridge theory to practice. For example, during class I could point out the moves the CT was making in the “Scaffolded WE Summative Active,” where he linked words to Google Translate to support his English language learners. This was a salient moment, because the reading for the class dealt with learning and culture as context. Following the class, I realized that scaffolding was introduced in their reading and that it was a good opportunity to make the connection between the titling of the CT’s document. To ensure this transfer from theory to practice was not missed, I posted this announcement (see Figure 2) in our learning management system:

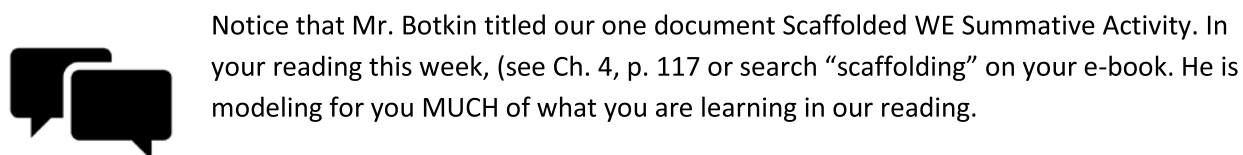


Figure 2. Update to educational psychology class posted in the learning management system.

This ability to have the visual of the teacher’s planning and incorporate it with the course reading and activity within the teacher education classroom is unlike anything we could have

experienced a couple decades ago, yet relatively few are taking advantage of this opportunity.

Primary resources. The National Governors Association Center for Best Practices and the Council of Chief State School Officers (NGA & CCSS, 2010) outline common core standards, adopted by 42 states, which include research with primary resources. Teaching literacy skills is a cross curricula responsibility and the digital internship positions teacher educators nicely to make this happen. Research skills need to be emphasized in all K-12 classrooms, and teaching with primary resources opens the door for helping candidates a) differentiate between primary and secondary resources, b) “teach artefactual literacy, archival intelligence, and domain knowledge (Garcia, 2017, p. 196), and c) know about the wealth of primary resources and supplemental teaching materials at the local, state, and national level.

Initiating and Implementing a Digital Internship

In my experience, the digital internship works best when initiated and led by the cooperating teacher. Digital internships I have been involved with were initiated by two classroom teachers (one middle and one high school), who were doctoral candidates at different institutes pursuing degrees in education and technology. One of the cooperating teachers was working toward a degree in Learning Technology Design Research and taught in a public school, and the other CT’s degree was in Composition and New Media and taught in a private school. The latter digital internship (Dredger, Nobles, & Martin, 2017) began with a request from a secondary ELA teacher via social media, which ultimately resulted in an internship between the ELA teacher’s high school students and graduate students at a remote university site.

The landscape of how digital internships emerge is bound to change though, with more newly minted teachers exiting with digital internship experience and with more new teachers entering the profession as digital natives rather than digital immigrants. Increasingly, higher

education is incorporating new certificates, concentrations, and degrees, and this begs the question: How can teacher educators support candidates in being technologically and pedagogically competent when it comes to best practices in digital literacies? What programmatic moves need to be made? Initially, a digital internship inserted into an existing unit is a step. Table 1 outlines steps for both the cooperating teacher and the professor, with merged columns delineating action for both parties.

Table 1.

Digital Internship Implementation

Cooperating Teacher	Teacher Education Professor
Set a meeting with an appropriate administrator to gain support for a digital internship.	
Find a collaborator. <i>Suggestion: Teacher Education Professor reaches out to an alum.</i>	
Arrange a video conference between CT and professor to discuss the unit and first steps.	
Create and share unit syllabus and determine length of unit.	Create and share course syllabus with digital internship built into semester.
Create timeline with due dates for K-12 students with expectations for teacher candidates.	Create timeline and make syllabus calendar adjustments if needed.
Arrange a video conference to discuss how unit goals and objectives can be met. <i>Suggestion: Set the best time for the next video conference based on timeline.</i>	
Create a shared folder to plan and load materials.	
Share class rosters and decide on anonymity and introductions of mentors to mentees.	
Assign students in K-12 class to mentors using class rosters.	
Decide on mode(s) of student communication.	
Students create and share introductions to mentors.	Mentors reply, sharing their introductions.
Decide on project-based learning experience.	
Frontload students with content that students will use in the collaborative project.	Share necessary unit materials with candidates.
Workshop time for students to research, problem solve, and create.	Candidates research upcoming learning experience on the unit topic.
Draft #1 of K-12 students' product to mentors.	Mentors give feedback to students on Draft #1.
K-12 students read feedback and revise.	Candidates continue with coursework, making connections to bridge theory to practice.
Draft #2 of K-12 students' product to mentors.	Mentors provide feedback to students on Draft #2.
Final draft of K-12 students' product to mentors.	Mentors grade with the CT-provided rubric for summative assessment.

Students thank mentors for feedback.	Verbal and written reflection of the digital internship experience.
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Communicating expectations

A concerted effort to keep all stakeholders informed may prevent unintended consequences. Administrators deserve to know that the internship has been thoughtfully constructed, parents and guardians deserve to know the purpose and method of instruction, and students and teacher candidates deserve to know the expectations and timeline for the internship.

Administration. Clear communication with the appropriate leaders in your institution should be the first step. If this form of internship is new to the school, lay the foundation by sharing successful digital internships and what was accomplished in each. Success stories should show this work has been executed by colleagues and highlight the benefits for teacher education. Communicate the desire to engage students through this learning experience by outlining goals for the unit. These goals should demonstrate the need for the collaboration. Share how anonymity will be handled. Will all students have pseudonyms or student numbers? If this is a priority, then communicate that the roster with the students' name, pseudonyms, and corresponding partner names will be housed in a locked document to ensure students cannot locate their mentor on social media. Will synchronous or asynchronous communication be used? Why? Forethought and communication of this intentional curricular design matters to administration.

Parents/Guardians. Once support has been gained from administration, suggest to the cooperating teacher that a letter to parents be sent home. The informational letter should communicate the exciting opportunity of the digital internship by including

- An overview of the learning unit content.
- An introduction to the collaborative partners (e.g. school, professor, course)
- Contact information (e.g. email) for both the teacher and professor
- Excitement for the project by addressing the benefits for the students.
- A timeline for the digital internship.
- Clear direction that nothing needs to be done if they wish for the student to participate.

This letter should have a place at the bottom where students and/or parents can choose to opt out of the project, and the letter should detail what this student will do while the other students are participating in the digital internship. In the 12 semesters that I have participated in digital internships, only one parent has signed the opt out.

Unit planning. These internships require a structured unit plan created by the cooperating teacher that makes clear the learning goals of the unit and outlines the candidates' responsibilities within the unit. Professors need a timeline for when student work will be submitted and when candidate feedback will be expected. In turn, the university supervisor's syllabus needs to reflect the expectations for the internship, including learning goals objectives for the internship.

Sharing the unit plan models teacher candidates what lesson planning looks like on the end of an experienced teacher. In teacher educator programs, the candidates are expected to write detailed plans, and a detailed plan is needed here to ensure clear communication. However, this plan is likely to look much different than a template that is often filled out in teacher education programs. It would behoove teacher educators to hold the teacher's unit plan up against the lesson plan used by the school. What elements from the school lesson plan are included in the

teacher's plan? This analysis can be an illustration of how experienced teachers seamlessly weave their knowledge into the iterative planning style.

Decide on a problem/project-based learning experience. Rather than traveling out to schools, teacher candidates mentor students online, often asynchronously. One way to encourage meaningful learning with digital engagement is to design a shared unit, with the K-12 teacher hosting teacher candidates remotely to mentor students on problem-based learning.

Once the unit has been decided, then pose the problem/project-based learning experience. What scenario can the K-12 students be placed in where they can learn vicariously? In one of the social studies units, the CT asked for students to pretend they were muckrakers, choose a topic, and write a 1920's radio broadcast script. Feedback from the mentors centered on the writing of the script. The mentors also created instructional videos to give their mentees tips for writing a radio broadcast script. In another unit, the CT asked students to choose a robber baron to research and write an annotated bibliography on their robber baron. Another unit required the students to collect data using the social explorer's map, a digital tool with over 220 years of data. Teacher candidates created a problem-based experience to help the students be prepared to be successful on a summative assessment, where they would be asked to collect data, analyze the trends in the data, and write up a summary of their analysis. Mentors also helped them analyze an image, using a primary resource, and write a written image analysis summary. Problem-based learning situations encourage creativity and if designed well, require rigorous study of material.

Mentorship can happen in a variety of ways. They can create instructional videos to support student learning on a topic, provide written feedback, design learning experiences followed by a question and answer discussion, etc. Generally, this mentorship provides an intensive and symbiotic relationship, with 1 teacher candidate mentoring 1 to 3 students,

depending on the size of the education course versus the class size of the students being mentored. To protect students and candidates, consider using pseudonyms and student #s. This anonymity ensures students will be focused on the learning of the unit and less on finding the mentor on social media sites.

Feedback expectations. Generating specific feedback needs to be taught. Plan for how much time students will have to work, create, design, or problem solve and how the students will give input regarding the feedback they wish to have from their mentors. As with any classroom assignments, deadlines get missed. Professors should be prepared to conference with candidates who miss feedback deadlines. Noncognitive skills and teacher educator dispositions are shaped here. Addressing with candidates the implications of a missed deadline and the need to communicate as soon as possible is important, because students will be waiting for their feedback.

Platforms for communication. Communication for the internship can include email, various Google apps (Slides, Hangout, Docs), Hangouts on Air, Camtasia, student selected programs for making instructional videos, and Schoology. The digital internship may involve a variety of media, but one medium to house the work will streamline activity. Students can quickly become overwhelmed if there are too many technologies and are required to log in to too many places. To avoid this type of confusion, create a home base and link to other places for use. For starters though, keep the initial internship experience simple. Begin with one thing and move from there. It can be as simple as communicating asynchronously using Google slides.

Wiki. Emerging from the Hawaiian language, where wiki means “fast.” Ward Cunningham, creator of the first wiki software, described it as “The simplest online database that could ever work” (<http://www.wiki.org/wiki.cgi?WhatIsWiki>). The wiki is just one place where

a digital internship can be housed to build “repositories of knowledge” (Hicks, 2013, p. 64) on the topic and interest driving the unit of learning.

Ning. A Ning is a web-based social network platform that allow you to build customized social website and interactive virtual communities. Ning, invented by Netscapes’s Marc Andreessen, is a web-based space to create a customized social network platform can include virtual communities. This platform costs money, between \$25 and \$99 a month depending on the package; ning.com has free trials for 14 days and the basic free trial can house up to 1,000 users. At \$25 (think grant funds here), a teacher could host a month-long unit at a reasonable price.

Schoology. Schoology is a learning management system that invites collaboration between schools. Teachers from one class can join as teachers from a different school system. This is a rarity for learning management systems. For example, while the “walled gardens” of a university and public school kept me from inviting two professors from different institutions to join my class, but Schoology made this type of interaction seamless. I simply gave the access code for my Schoology class to the cooperating teacher and he was able to join. This afforded us the opportunity to have a discussion thread with the cooperating teacher. In this case, the teacher candidates in my educational psychology class chose one of two articles written by the cooperating teacher, and he graciously did a question and answer session with the students.

Google Slides. While more sophisticated internships can be housed on a Ning or developed using a wiki for the learning unit, Google slides can be an effortless way to share student work and mentor’s feedback. Audio and visual can be imbedded and the cooperating teacher and university supervisor can monitor the exchange of information. Asynchronous communication works to add security for parents and school systems, as does a layer of anonymity.

The Result of Doing This

Teacher education programs value strong cooperating teachers who model sound pedagogy for candidates; likewise, cooperating teachers who model best practice in digital pedagogy are important. In order to gain this type of cooperating teacher, higher education needs to share what is in this for the schools. One reason schools should consider this internship experience is because of the intensive feedback the K-12 students can get in a timely and personal manner. K-12 students gain time and attention with video creation and specific feedback that does not fall into the standard comments that tend to get copy and pasted into multiple papers/projects that is bound to come with grading 25, 50, 75 or more products of student work.

Limitations

Digital internships are one type of practicum for teachers, but they should not replace face-to-face teaching hours in teacher education. While some candidates have shared that they have been surprised at the connection they were able to make with their students, other candidates thought the relationship with their mentors was limited by the technology.

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