

Historiography in Graduate Technology Teacher Education

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Abstract

A proposal is made suggesting the inclusion of historiography (i.e., historical research and the writing of history) into graduate technology teacher education. In particular, a strategy is forwarded to have graduate students in technology teacher education, who are working at schools in different locations, conduct historical research and write histories describing how local inhabitants transmitted technical learning dating back to the earliest human inhabitants. There are potential benefits for the graduate students, the students they teach, and the field of technology teacher education. Collaboration among institutions is recommended. After arguing for the proposal, this article uses a personalized historical narrative approach to evoke a connection with the reader that is not possible with more impersonal approaches and thus illustrating some of the richness of historical techniques.

Keywords: Technology Teacher Education, Historiography, History Education

Historiography in Graduate Technology Teacher Education

It is common to see a course in the history of technology education at the graduate level. It is not common, however, for graduate students knowingly to engage in historiography, or original historical research and writing about their field. The purpose of this article is to suggest an active rather than passive approach to history in graduate-level technology teacher education. Students would engage in the uncovering of historical information, make original analyses of this history, and write an original historical account of formal and informal technical and technology education in their locality. The suggestion is not for students to look at the history of technology or technical artifacts, but for them to synthesize information and uncover new historical information about the local history of formal and informal education about technical content. In doing so, they may ask questions such as, “How did the first Native Americans in the area pass on knowledge of different technologies to future generations?” and “What effect did teaching industrial arts only to boys in the 1940s have on a girl’s relationship with technology?”

This article takes two paths to make a case for the inclusion of historiography in graduate technology teacher education. The first is a rationale for the proposal grounded in the literature. The second part provides a brief personal narrative from second author, followed by the first author’s biographical account of the development of this idea, including an example of integrating historiography into a graduate course. This is not a case study, but a personal narrative, similar to an oral history. It is included in an attempt to illustrate the power this method can have in evoking a connection between the reader and the authors. This technique is not common in the academic literature of technology education, though it can offer a richness not seen with other techniques. Because the authors advocate that students uncover often first-hand historical accounts, it was fitting to use the personal narrative technique.

A Rationale for Historiography in Graduate Technology Teacher Education

Often technology educators laud their profession as a “hands-on” field where students learn by doing. However, regarding the study of history within technology education and technology teacher education, learning by doing does not seem to have been emphasized, as evidenced by the lack of literature on this subject. After all, those who learn about hundreds or thousands of years of history have themselves only been alive for a matter of decades, so is it appropriate to suggest that these students should actually “do history” by creating historical works rather than merely learning historical information and reading the historical analyses others have performed?

Galgano, Arndt, and Hyser (2008) suggested that history not be thought of as “a collection of facts about the past . . . it is an interpretation of the past based on the weight of the available evidence” (p. 1). Historiography can be thought of as the research and writing of an original work of history: “The process of critically examining and analyzing the records and survivals of the past is here called historical method. The imaginative reconstruction of the past from the data derived by that process is called

historiography (the writing of history)” (Gottschalk, 1969, p. 48).

The study of history does not necessarily entail that students actually write history, or as might be said, that they actually “do history.” However, Loewen (2010) suggested that “history comes alive when students do, rather than merely read, history” (p. 83). He spelled out some typical processes this entails:

Doing history, broadly defined, means identifying a problem or topic, finding information, deciding what sources are credible for what pieces of information, coming to conclusions about the topic, developing a storyline, and marshaling the information on behalf of that storyline, while giving attention to information that may seem to contradict the argument. (p. 83)

Although historiography includes several techniques of investigative reporting, it also requires historical reasoning and making connections between what is uncovered and other events outside the narrow field of investigation.

When students study history, it might at first seem like a collection of names, dates, and events. However, just as Bloom’s Taxonomy (Bloom, Mesia, & Krathwohl, 1964) of the cognitive domain includes six levels from knowledge to evaluation, the study of history can be an increasingly rigorous and rich undertaking. Fallace (2009) argued that historical knowledge includes not just an understanding of facts, but of how the facts were constructed; he suggested that “historiographical knowledge will allow teachers to provide a more accurate view of the epistemological value of history, and that teachers will pass this knowledge to their students” (p. 206). Even without asking students to engage in historiography, a sound study of history provides a rich atmosphere where students analyze and question what has been written about history. Engaging in original historiography goes far beyond this: it includes finding previously unsynthesized historical data and making the connections.

Does it make sense for students to write history? Shouldn’t that be what learned historians do? If a technology education teacher is asked in any way to play the role of a social studies or history teacher, we can look to social studies teacher education for models to aid in the preparation of technology teachers.

Hoefflerle (2007) noted her initial reluctance to teach undergraduates historiography, but concluded from her experiences that “historiography can be relatively easy to teach and learn at the high school and undergraduate levels” (p. 42). She cited its value in terms of critical thinking. After teaching historiography to undergraduate preservice social studies teachers, Fallace (2009) noted, “the course was more successful at breaking down the ‘compartmentalized thinking’ between discipline and pedagogy [than at] closing the ‘breach’ between . . . preservice teachers and historians” (p. 210). In this case, the students were becoming history teachers, so they were practicing that about which they were teaching. Blaszak (2010) asked preservice teachers “to ‘do’ some history using only archival primary sources” (p. 438) and later had them consider the reasons different student authors took different paths. We advocate the use of historiography for graduate students in technology teacher education; Johnson (2005) concluded there are several advantages for using historiography in graduate education:

It serves as a continuum connecting past, present, and future that links all aspects of the discipline. Second, historiography trains the student to think historically over broad spans of time—a tool that can then be applied in their other courses and in their own research. Third, it challenges students to link themes, trends, methodological approaches over the breadth of time to see cause and affect within the spectrum of historical writing. (p. 528)

Those situated within a field may find it difficult to address the history of that field objectively due to their personal biases, their inability to realize that their own experiences are not necessarily those of others, and their unwillingness to convey or even acknowledge historical information that may portray the field unfavorably. Instead of objectivity being the goal, it is possible to leverage the subjectivity of the student/author. Munslow (2010) held that history is not “exclusively or even primarily empirical in origin, because it is a representation, history is an art form that asserts, argues, suggests and represents from a position or standpoint rather than provide objective meaning” (p. 108). It could be that an author’s professional and emotional connection to a field can lead to insights regarding the history of the field that might not have otherwise emerged. However, it

is also possible for the historical researcher to allow subjectivity to add too much of the author to the historical account; Bailyn (1994) suggested that this particular anachronism is a universal problem in the writing of history: “All historians are involved in this question; namely, whether or not one’s present views are read back into the past and, therefore, whether the past is distorted, foreshortened, and its distinctiveness lost” (p. 50).

Learning to Write History

A new historian in any field may attempt to learn the correct way to write about history. But rather than approaching this convergently and seeking a single correct method, we might instead suggest that the new historian use several techniques, approaches, and tones. As Commager (1965) asserted: “There is no formula for historical writing. There are no special techniques or special requirements, except the technique of writing clearly and the requirements of honesty and common sense” (p. 37). Although the writing of meaningful histories can take many forms, Commager (1965) identified some typical patterns for such writing: chronological, geographical, political, cultural, institutional, and biographical. If secondary students are asked to show how personal communication devices have evolved during their lifetime, they might use a chronological approach; if technology teacher education graduate students uncover the ties between the history of education about technology and its impacts on gender-role stereotypes, they are likely taking a cultural approach, at least in that part of their historical writing.

Historiography can also be taught by having students first contrast different historical accounts. DeRose (2009) put together an activity for his high school students that involved looking at American History textbooks written during the last 200 years. The students were asked to consider how different historical accounts were written in several textbooks from the time of the event until the present time. The students noted that most of the accounts were similar but all differed slightly with respect to the author. One area of more notable differentiation by the students was about U.S. President Harry S. Truman’s firing of General Douglas MacArthur. In a textbook written shortly after the incident, the author was critical of Truman’s decision; yet in later textbooks, authors favored Truman’s

decision. This is not to say that the writing of history should be affected by the proximity of the event but that views often change over time.

K-12 Education

We propose that historiography be included in graduate technology teacher education (as outlined near the end of this article.) However, one outcome of that inclusion may be a richer teaching approach that more readily integrates history and historical methods for K-12 technology education students because these teachers may have a greater understanding and appreciation of the methods used to research and write history. The integration of science, technology, engineering, and mathematics (STEM) has been at the forefront of literature in technology education of late. For example, all five articles in the most recent issue of *The Journal of Technology Education* (Vol. 23, No.1) address STEM education, even though this was not a themed issue. Technology education students also study science and mathematics, and the push to integrate meaningful grade-appropriate education from these areas abounds in the recently published curriculum and literature of the field. However, technology education students study more than the STEM disciplines (Flowers, 1998), and it is possible to integrate their other studies into a study of technology. In particular, they also study history.

The existence of one or more K-12 standards for students in history or social studies is not sufficient for justifying the need for technology education teachers, themselves, to meet that standard. However, this does provide support for a technology education curriculum that integrates those social studies standards. National standards for K-12 students in history (National Center for History in the Schools, 1996) include standards for historical thinking. Among these is Standard 4 for students in Grades 5-12: “The student conducts historical research” (p. 68). This standard is divided into the following expectations:

- A. Formulate historical questions from encounters with historical documents, eyewitness accounts, letters, diaries, artifacts, photos, historical sites, art, architecture, and other records from the past.
- B. Obtain historical data from a variety of sources, including: library and museum collections, historic sites, historical

photos, journals, diaries, eyewitness accounts, newspapers, and the like; documentary films, oral testimony from living witnesses, censuses, tax records, city directories, statistical compilations, and economic indicators.

- C. Interrogate historical data by uncovering the social, political, and economic context in which it is created; testing the data source for its credibility, authority, authenticity, internal consistency, and completeness; and detecting and evaluating bias, distortion, and propaganda by omission, suppression, or invention of facts.
- D. Identify the gaps in the available records, marshal contextual knowledge and perspectives of the time and place in order to elaborate imaginatively upon the evidence, fill in the gaps deductively, and construct a sound historical interpretation.
- E. Employ quantitative analysis in order to explore such topics as changes in family size and composition, migration patterns, wealth distribution, and changes in the economy.
- F. Support interpretations with historical evidence in order to construct closely reasoned arguments rather than facile options. (p. 68)

In addition to these standards for history, the curriculum standards for high school social studies identified by the National Council for the Social Studies (1994) include the following:

Social studies programs should include experiences that provide for the study of the ways human beings view themselves in and over time, so that the learner can: . . . systematically employ processes of critical historical inquiry to reconstruct and reinterpret the past, such as using a variety of sources and checking their credibility, validating and weight evidence for claims, and searching for causality. (p. 34)

The idea of asking secondary school students to write local histories is not new. Stevens (2001) recalled that when he began teaching history at a junior high school in 1978, there were many local histories of Rye, NH, that

had been written by eighth graders. Stevens' text, which is a primer on teaching secondary students local historiography, including the writing of local history, could be a valuable source for graduate students faced with a local history task.

Technology education teachers can integrate history and social studies into their curriculum. This allows technology education teachers to leverage the learning and experiences students gained in working toward those standards in their social studies classes. In particular, a technology education teacher who has personally engaged in historical research and the writing of history would likely be better prepared to integrate content that supports these history and social studies standards and to address Standard 7 from the Standards of Technological Literacy (ITEA, 2007): "Students will develop an understanding of the influence of technology on history" (p. 79).

Pannabecker (1995) suggested that within the history of technology education, a narrative approach seems at odds with a systems approach, though he believed both are needed. Although a systems approach may, for example, show how successive cultures used different systems to achieve certain needs (or in this case, certain needs for technical education), a narrative approach might convey both the interconnectedness among forces in the environment and an emotional connection by people of a given time.

Could engaging in historiography influence a teacher's approach to his/her own content area? Possibly. Pannabecker (1995) contrasted internalist, externalist, and contextualist approaches to the history of technology (not technology education) in a way that has implications for technology education. Though the internalist, he claimed, would consider technological artifacts primarily in view of the history of the design of those artifacts (as in the evolution of the bicycle), externalists may see the artifact as a mere instance or example in the primary discussion of social and political change (e.g., the impacts on society). A contextualist might include both the elements of internal product design and complex and changing interactions with several factors of society. A graduate student who engages in a historiographic journey in the field of technology education may tend to have the more holistic

contextualist approach because of the variety of information and connections that would be examined. It could be that information that was key to an alternative approach troubled a student so much, that, for example, it became impossible for the student to address the curriculum changes of the past adequately without trying to understand how the Great Depression and two world wars impacted that curriculum, and without considering how that curriculum influenced the local workforce and the quality of life for local inhabitants. A teacher who has faced such interconnected and confusing information in graduate education may well be apt to do more for her or his K-12 students than to end a design lesson with, “Oh, and brainstorm the impacts on society from this technology.”

One of the aims of graduate education is to prepare researchers in a field. Petrina (1998) recorded that of the 96 examples of research methods in the first eight volumes of the *Journal of Technology Education*, there were six (5%) instances of “historical” and one instance of “methodological (historiography)” (p. 35). He concluded that “JTE comes across as a text where conservative voices are favored and critical voices are the exception” (Petrina, 1998, p. 51.) Of the 16 categories of research methods he used, it could be argued that those related to historical research may tend to favor conservative voices of older researchers over the voices of those who are younger. But in a field where more research and more critical voices are needed, it might be that an emphasis on historiographic methods in graduate technology teacher education could influence a change.

Our Journeys

Although it is not customary to include a biographical narrative showing the emergence of an author’s idea, it seems informative in this instance, although it must be treated as anecdotal. After all, this account is actually the written history of the idea’s development, that is, a biography illustrating a bit of micro-historiography to show how it may evoke a different relationship between the reader and the content.

A Student’s First Step toward Historiography

As the coauthor of this article, I remembered an undergraduate perspectives course that examined how technology had influenced humans and how humans have affected technology. One assignment in that class stuck with me: it was to research the history of Thomas

Midgley and make a stand on his behalf. I read previously written works and found conflicting stories about a great inventor, an environmental killer, a mastermind of two evils, and a great asset to two industries. I soon discovered the reason for the conflicting stories was the dates of the articles. Midgley discovered that Freon was a great refrigerant and that by adding tetraethyl lead to gasoline he could boost the octane of the fuel increasing performance and fuel efficiency. When these discoveries were initially made Midgley was a hero; later when the environmental and safety issues behind Freon and leaded gas were discovered, Midgley was no longer a hero. I think I remember this best because I had to dig and find the information on my own but moreover that I had to interpret and evaluate that data to make a stand on his behalf. Although most of my work was historical analysis, I believed I had found something new that was worth sharing with others. This was a first step toward historiography for me, and it was empowering. But it did not push me to see myself as a writer of history where I could actually add to our society’s historical knowledge.

An Instructor’s Journey

I have been involved with technology education and industrial arts for several decades. I found myself newly assigned to teach a long-standing, online, master’s level course on the History and Philosophy of Technology Education. The graduate course was to be taught to those majoring in an online master’s program in technology teacher education. This program appealed to working K-12 technology education teachers from across the United States who were place-bound and unable or unwilling to relocate to a university to pursue graduate studies. They are situated at schools and within communities in a variety of states in the USA.

With a background that included a degree in philosophy, I have never considered myself to be an insider in the field of technology teacher education, but one who is more apt to offer criticism. Our field has a rich history, with many notable figures and movements; frankly, I felt out of my league when I learned I had been assigned to this class. Both my lack of knowledge of the history of the field, and my difficulty in promoting any current school of thought, or “party line,” as I called it, were problematic.

To prepare to teach this online graduate course, it made sense for me to consult many resources and to learn about the rich and varied history of the field, along with the different philosophical underpinnings. But I was still not willing to be a “sage on the stage” and to base the course content largely on my knowledge of these areas. I didn’t feel authentic in providing direct instruction that mirrored, say, the “This We Believe” document (ITEEA, n.d.), where a creed of the field is forwarded. Slogans such as “Technology for All Americans,” “Technology Education, The New Basic,” and even “Project Lead The Way,” seemed to each be incorrect if I logically considered what those words said (Flowers, 2010).

Moreover, I had never actually been a fan of history, other than watching movies about wars. Social studies had been my worst class in high school, and the need to remember names, dates, and historical events seemed so far removed from my life that the motivation to learn was often absent. Decisions affecting the future seemed much more important. The fact that this field itself deals with technology, a rapidly changing area of study, reinforced my emphasis on the present and future. I even wrote once that it might be a mistake to ask undergraduates in technology teacher education to study the history of their field, as this may root them too solidly in the past (Flowers, 1997.)

After wrestling with the idea of providing direct instruction so that students would learn about the different philosophies of the field and about the history of the field, I came upon a different approach.

A Different Approach

Instead of teaching students what the philosophy of the field is, would it be possible for me to teach them to philosophize regarding technology education? That is, instead of teaching so they would learn philosophical content of the field, could I teach in a way that would first assist them in understanding philosophical processes and second to have them use those processes regarding the field? My background in philosophy would be a distinct asset. I could even use the Socratic method with these students as their understandings became better and better honed. In the course of doing this, quite a bit of the comparisons among historical eras could emerge. Delving deeply into an idea sometimes requires the learner to look at the

history of the idea, and that approach to history was palatable.

If this approach were possible for addressing the philosophy of technology education (i.e., not just learning about the philosophy of the field but doing philosophy in the field), might it also be possible regarding the history of technology education. Could I ask students to play the role of a historian or a writer of history? Could I help them engage in original historical research? It would entail learning about and helping them use processes of historical research and writing, but if this were possible, might it become an empowering experience that helped them develop not just knowledge of history, but a personal relationship with it?

The Assignment

In the first semester this plan was implemented, this “local history” assignment charged each of the graduate students to compile an original history of formal and informal technology education and technical education in their geographic region, dating back to the earliest human inhabitants. Elsewhere in the course, materials related to the history of technology education were presented to students. They also worked on a separate assignment to report on a single historical movement in the history of the field. However, for the local history assignment, they were for the first time playing the role of the researcher and writer of history, rather than the role of the consumer of historical information.

Online learning materials were developed to assist students in historical research methodology. Topics included: the roles of historians; the scope of historical research; getting assistance in historical research; sources for historical research; assessing sources of historical information; using media in historical research; oral history methodologies; analysis and synthesis of historical information; and writing history. These can now be seen in a unit on historiography in technology education (Flowers, 2011). In addition, students were asked to participate in online class discussions addressing problems and issues that arose during this activity.

The work of each of these graduate students began with planning their own methods. They had to find out what historical information was available, and this included looking through yearbooks, old curriculum guides, old newspapers, information from historical societies,

books on the history of the area, and more. They also planned to speak with key individuals. But when they started to uncover historical information and piece it together, the activity took on a life of its own. When these students looked through pictures from the past about local schools 80 years ago, when they found information about industrial training at a factory 120 years ago, or when they talked with someone about the history of early Native American cultures in the area, the information would raise questions that sent them in directions that seemed to multiply at every turn. Students' interests and own character became evident: some would explore connections to world events (e.g., world wars) or make connections to local events (a new industry coming to town); others would look at the plight of the teacher and student, the town's economics, or how discrimination was evidenced. Each student synthesized what was uncovered and learned, drawing conclusions about the overall evolution of formal and informal technology education and technical education in that locality up to and possibly beyond the present time. Part of what made this so difficult was the tendency to follow fascinating side roads where interesting historical information was uncovered that had little to do with the history of technology education and technical education, and students were encouraged to add such information to an overflow document that they could revisit later. The principle result was a separate historical account, published online by each of the students to their university webserver account; they were careful not to violate copyrights or the rights of those pictured or discussed.

Reactions to Initial Implementation

As the instructor, I can anecdotally report that this activity soon developed its own momentum, as students seemed to find internal motivation. They reported that they saw themselves as playing a role in preserving a historical record. Many noted that they were seen by school colleagues as the "resident expert" on local history.

Of special note are two comments from students. The first of these was in reference to an elderly subject who was interviewed, but who passed away just weeks after the interview; the student researcher attended the funeral, and shared with others there some of the wealth of information he had gained during that interview.

He remarked that this was a unique and precious opportunity.

However, two other students complained of a problem in the design of the activity. It had been noted that this was a class-based report assignment, and was not intended to add to the historical record of the field by producing publishable information, as that would have entailed prior review by the institutional review board (IRB) for human subjects research. These students were frustrated at having put forward so much effort and care for this project, only to find that it would be inappropriate for them to add it to the historical record.

Therefore, a revised approach was developed and used in three later semesters. The students were required conduct interviews to gain oral histories, but to first go through human subjects research training and to submit research protocols for the human subjects portion of their local history activity. This covered, for example, the interviews they conducted, but not data that might have been gathered from the materials stored at their local historical society repository or library.

Outcomes

It could be argued that the local history of technical education is neither rich nor important. However, this activity can work as a lens through which students make connections with a wide variety of meaningful history. Although they were not all done under the auspices of the IRB, by the time of this writing, 46 local histories have been written from students in 10 different states. In some instances, students learned of the impact of early industries on technical education in their town. They saw evidence that African-American teachers were paid less than White teachers during the days of racial segregation. Classes that were for males only were a surprise for some to uncover, but hearing an elderly woman speak of what that meant to her when she was a girl seemed to grip them. Seeing how both world wars impacted the nature of Industrial Arts curriculum raised issues of national needs and societal responses to particular crises through educational initiatives. Because this activity expected them to extend back to the earliest human inhabitants, and to consider nonformal technical education, there were ample opportunities for cultural appreciation.

Teachers should appreciate complex historical connections. The Standards for Technological Literacy (ITEA, 2007), suggest that technology education teachers ought to facilitate K-12 students in historical studies related to technology as a driving force; recall: “Standard 7: Students will develop and understanding of the influence of technology on history” (p. 79). Pannabecker (2004), however, suggested, “We must avoid teaching a simplistic ideology of ‘effects’ and a timeline of decontextualized artifacts and processes portrayed as a canon with a predictable, linear trajectory . . . Teaching a contextualized heritage will increase the field’s capacity for reflection and analysis” (p. 80).

Later offerings of the class resulted in many benefits. For example, planning greatly improved. Students developed successive draft IRB proposals that were continually refined by comments from the instructor. When they met the instructor’s criteria for approval, the students were cleared to submit these to the IRB, with the instructor signing as a faculty sponsor. A second benefit was that some students tended to look at their undertaking as something greater than the course. In later discussions with the instructor, it emerged that some students began to see themselves differently in relation to the field and its history. They had become some of those people who write the history of the field and the history of their town. This type of empowerment is not new to graduate education, though it may be unusual for it to emerge in the area of the history of the field. Several students noted at the end of the course that their reports were gratefully accepted as an addition to their local library or local historical society. A third benefit was reported long after this experience. The instructor of these students’ research methods course noted that the learning and experiences associated with the local history activity were evident when the students participated in this class.

This activity also inspired the instructor: I used to shun history, and I now find it fascinating and captivating. I gained a new-found love of historical information as a direct result of guiding students through their experiences of unearthing and interpreting historical data. I became fascinated with the earliest issues of *Industrial Arts Magazine* and how some their contents from the time of World War I seemed

amazingly appropriate for the present time. I also became fascinated for the first time with personal genealogy; even cemeteries were seen as historical data repositories rather than graveyards. In short, the excitement for historical research and thinking was contagious, changing both my relationship to the field in which I had been working for more than 20 years and my very world.

A Proposal

Even though there have been benefits to students from this activity, it might be that collaboration among institutions could be of benefit to the field. A proposal is therefore made to other teacher education faculty who address the history of technology education and technical education in their graduate programs, especially those that offer degrees through distance education that have learners situated in different communities working at schools. If a similar undertaking takes place at a variety of institutions, it may be possible to compile the information graduate students have generated, where they have given their permission, to form a richer picture of the history of the field in a regional, national, or international scope. This would further be supported by asking students to publish their work online, and after the course has ended, requesting their permission to allow the institution/instructor to archive a copy for distribution from the institutional web server. A national referatory could then point users to the locations of these documents.

Conclusion

There may be advantages in including historiography in graduate technology teacher education curriculum. This article began by explaining a case for this inclusion based on the nature of historiography and of the field. It then switched to a biographic narrative to illustrate a change in perspective that might be seen in actual historiography, invoking different reactions from the reader. Even though connections can be made to the nature of technology education and to secondary school history standards, it has also been shown that one instructor’s personal path of revelations in teaching historiography has made a difference for him and his students.

For those who teach a graduate course in the history of technology education, or in the history of other areas of education, a proposal is made. First, can these classes include historiography and the writing of local histories of the

field by students in these classes? Second, if that is possible, then can these local histories be compiled to become a larger mosaic that facilitates even greater levels of comparisons, cultural awareness, and historical understanding?

Further research on the inclusion of historiography in graduate technology teacher education could consist of studies to determine in what ways technology education graduate students apply their learning about historiography in their later teaching. The attitudes of these teachers can be compared to those who had not engaged in historiography, comparing in particular their appreciation of history, their feeling of connection to it, their ability to be critical of historical information, and their self-image as a writer of history. Future research can also examine the impact on K-12 student learning outcomes in history after historical content and methods are addressed in technology education classes.

Graduate technology teacher education students could work together to create a “Wiki” history of technology education adding new facts from their geographic location and editing the document to fit the times, as new history is created every day. This could be expanded beyond technology education to include all areas of education. A national referatory could serve to preserve historical information, allow connections to be made, and influence the very nature of the field and the views of those in the field.

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