Social studies preservice teachers' experience of technology integration (Qualitative research in UPI Campus Sumedang)

N Hanifah*, I Isrokatun and A N Aeni
Prodi PGSD Sumedang, Universitas Pendidikan Indonesia, Bandung, Indonesia

*nuradin.hanifah@upi.edu

Abstract. This research examined preservice teacher’s experiences of technology integration in social studies as a subjects in curriculum. We recognize school-based technology integration and implementation processes are influenced by a complex ecology of people. There are abundant ways social studies students can make social studies enjoyable and meaningful to students. As an interdisciplinary subject, social studies draws upon multiple curricular contents related to the social sciences. With increased innovation and technological developments, access becomes a concern. Campuses expecting technological fluency and seamless integration into the classroom must also admit that there are students with limited skills and exposure. This study will explore which students as preservice teachers are using technology and how technology is shaping their college experiences, also able to use technology creatively to facilitate their work, expand their instructional strategies, and improve social studies teaching. This study suggests that technology indeed offered social studies student a unique opportunity to enhance social studies instruction. Further, they can have incorporated technology into the social studies curricula in many and varied ways. Use of technology made it possible for them to conduct learning activities that both increased students' interest in social studies and improved their problem solving ability and higher order thinking skills.

1. Introduction
Youth live in a society that is seemingly more digital, with ambient media and content served through ubiquitous digital devices [1-3]. Compare to earlier generations, youth coming of age in the digital age are learning and exercising citizenship in fundamentally different ways. In contrast to the classroom and teacher-centered model for education that has education systems for the last century, digital technologies allow content from a wide variety of sources to be accessed from a range of geographical locations [4]. Digital technologies have also created new avenues for students to participate in their own learning [5] such as multimedia content using up and multimedia content creation that can offer students more constructivist opportunities to engage with learning communities both within and beyond the classroom [4-6]. Digital technologies are increasingly recognized for the ability they offer learners with a wide variety of needs to learn content and skills from a wider range of teachers, peers and experts than any time in the previous century.

Preservice teachers who are studied at Teacher education faculty can most effectively take full benefit of technology by introduce students to activities in which skills and substance are taught more dynamically and meaningfully. We caution, however, against using technology for technology’s sake, and encourage faculty and preservice teachers to consider if the technology is allowing them to learn in a way they could not without the technology or if they are at least learning in a more meaningful way.
One example of how we can use technology to get prepared social studies teachers to expand learning in a significant way is by using digital records. Preservice teachers must not simply obtain skills that make them capable at using technology, but also become skilled at how to use technology to make their teaching better than it would be without it. Therefore, preservice instruction enabling teachers to put together technology seamlessly into instruction is more creative than technology instruction that merely teaches preservice teachers how to use specific computer skills. For instance, preservice teachers should not learn how to create PowerPoint presentations or Excel spreadsheets merely with the purpose of mastering the technology. Rather, preservice teachers should create PowerPoint presentations that help in direct instruction of a particular social studies lesson or spreadsheets that help illustrate statistical data significant to the social studies preservice teacher.

2. Method
Participants in this study were Preservice teachers who are studied social studies subject. Study was guided by the following research questions.

- What are students’ access to, use of, and perspectives on digital technology supported learning in classroom class room at UPI Sumedang?
- How often and what kinds of digital technologies are students using in social studies?

This research was qualitative research methodology. A pilot study was performed for the development of observation techniques and questions for the study. Support for the case study design used in this study included first, the detailed examination of at-risk students in a technology education environment [7]. After reviewing various sampling techniques used in qualitative research, purposeful sampling was chosen for this study [7, 8].

A qualitative design guided data collection and analysis of this study. The primary methods for collecting data were document analysis, interviews, and observations. The documents included participants' lesson plans, instructional web pages, worksheets, handouts, slides from PowerPoint presentations, as well as students' technology-based projects and assignments, such as slides from Preservice teachers produced PowerPoint presentations, brochures, newsletters, and pictures of student projects. Two semi-structured interviews were conducted with each of the participants. The initial interview explored participants' perceptions of integrating technology, their experiences of using technology in the class, and how technology integration affected their instructional practices. All the interviews were audio taped and transcribed for data analysis. The researcher observed at least one technology-connected lesson conducted by each participant, and half of the participants were observed twice. Data analysis included the following steps: (a) identifying participant and classroom characteristics related to technology use, (b) reading and rereading interview transcripts, observation notes, and documents, (c) organizing data into retrievable sections, (d) coding the data and classifying the data into categories, and (e) connecting the categories and seeking relationships among them using constant comparative analysis method [9]. The interview transcripts were shared with participants for review, clarification, or confirmation. The tentative interpretations were taken back to the participants to ask for the plausibility of the results.

3. Findings

3.1. Students’ access to, use of, and perspectives on digital technology supported learning in classroom class room at UPI Sumedang

Science and technology have a complex interrelationship with society. While technology is the impetus to advancements in human development, technologies also contribute to the perpetuation of existing imbalances and inequities in power and diffusion of knowledge. Technology opens the door to learning social studies skills and substance in ways impossible in the traditional classroom. Technology Use in the Social Studies Classroom primary purpose of social studies is to help young people develop the
ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world [10]. Technology use in schools can be categorized in a variety of ways, including for productivity, instruction, and creation [11]. tutorials, simulations, games or gamification, problem-solving, and personalized learning, include sequenced curricular content that allow students to practice specific skills, such as digital literacy. The National Council for the Social Studies defines digital literacy as “the use of diverse types of media and information communication technology to question the roles of media and society and the multiple meanings of all types of messages” [12].

This trend increasingly drives teachers to incorporate advanced technology into their classrooms to put up student needs, encourage student learning, and better prepare students for the digital society. Within social studies, technology has served dual roles, "as both important instructional tools and as objects that have had significant effect on the political, social, economic functioning of society" [13]. Likewise, Sheffield [14] stated that as a result of the recent developments in technology, computers and the Internet have become more essential teaching tools in the social studies classroom. In this sense, social studies teachers should be more conscious of the changes technology has brought to modern society and try to reflect this change in their own classrooms. Almost all participants with efficiency-oriented perspective identified the benefits of more time for instruction as well as more time to center of attention on their students. They believed they could cover more curricula content and provide students with more information in less time. Some participants even equaled integrating technology with integrating Internet.” On this cases, the Internet was a living library which they could easily access for up-to-date information. as a result, searching the Internet for information was a common incidence in their classrooms.

Furthermore, participants saw technology as a way to supplement textbook information, diversify teachers' instructional strategies, and meet students' diverse needs. They also used technology to improve student learning, for example, to sustain students' collaboration, life skills, in-depth knowledge, problem solving ability, and critical thinking skills.

In recent years, there has been a slight emergence of new and innovative uses of technology in the social studies and more social studies teachers have started to use technology, especially the Internet; however, one literature review of computer technology in the social studies indicates that "computer continues to serve the primary role of facilitating students' access to content and stay put somewhat relegated to being an appendage to traditional classroom materials” [15].

3.2. The kinds of digital technologies are students using in social studies
Technology is a dynamic resource and tool that continues to develop over time, and subsequently has acquired an increasingly prominent role in society. Although the prohibitive cost of technology had initially inhibited widespread access for students in many schools, observations of the activities of children and youth today continue to bear witness to a generation that is immersed in computer technology for recreational purposes and more reliant on this global medium for information and social interaction [16].

Preservice teachers must not simply acquire skills that make them proficient at using technology, but also learn how to use technology to make their teaching better than it would be without it. Therefore, preservice instruction enabling teachers to integrate technology seamlessly into lessons is more productive than technology instruction that merely teaches preservice teachers how to use specific computer skills. For example, preservice teachers should not learn how to create PowerPoint presentations or Excel spreadsheets merely with the goal of mastering the technology. Rather, preservice teachers should create PowerPoint presentations that aid in direct instruction of a particular social studies lesson or spreadsheets that help illustrate statistical data significant to the social studies student.

The participants believed technology enabled them to present information in more visually appealing forms and to accommodate their students' different learning styles. One participant said:
“I do a lot of PowerPoint. A lot of my lectures are on PowerPoint because they can hear me, they can see it, and they have to write it down. So we get into the visual, the auditory learner, and they kind of study from that”.

4. Conclusion
We acknowledge school-based technology integration and adoption processes are influenced by a complex ecology of people, organizations, policies, and available technology. As an interdisciplinary subject, social studies draws upon multiple curricular contents related to the social sciences. There are numerous ways social studies teachers can make social studies enjoyable and meaningful. For most of the participants in this study, computer technology has become an important part of their teaching. In addition, social studies content requires substantive content knowledge and the Internet is a great source for this. The Internet provides a wide variety of sources, which represent different points of view. Using sources, which represent different worldviews is one of the best ways to foster students’ critical thinking, creative thinking, problem solving and decision making skills.

References
[1] Roberts J and Koliska M 2014 The effects of ambient media: What unplugging reveals about being plugged in First Monday 19(8)
[2] UNICEF 2017 Children in digital Age (New York: UNICEF)
[3] Ralling J 2015 Youth and the internet: a guide for policy makers Barnados
[4] Bonk C J 2009 The world is Open: How Web Technology is revolutionizing education (San Francisco. CA: Jossey-Bass)
[5] Davidson C N and Goldberg D T 2009 The future of learning institutions in a digital age MIT press.
[6] Herring S C 2008 Questioning the Generational Devide: Technological Exiticism and Adult Conxtruction of Online Youth Identity. In D. Buckingham (Ed.), Youth, Identity, and Digital Media (Cambridge, MA: MIT Press)
[7] Merriam S B 1988 Case Study Research in Education A Qualitative Approach (San Francis-co: Jossey-Bass)
[8] Patton M 1990 Qualitative evaluation and research methods pp. 169-186 (Beverly Hills, CA: Sage)
[9] Glaser B G and Strauss A L 1967 The Discovery of Grounded Theory: Strategies for Qualitative Research (Chicago: Aldine Publishing Company)
[10] National Council for the Social Studies 1999 The Curriculum Standards for Social Studies (Washington DC.: NCSS)
[11] National Council for the Social Studies 2009 Technology position statement and guidelines: A position statement of national council for the social studies Retrieved from http://www.socialstudies.org
[12] Roblyer M D and Hughes J E 2019 Integrating educational technology into teaching: Transforming learning across disciplines (8th ed.) (Boston, MA: Pearson)
[13] Berson M J 1996 Effectiveness of computer technology in the social studies: A review of the literature Journal of Research on Computing in Education 2(4) 486-499
[14] Sheffield C J 1996 An examination of self-reported computer literacy skills of pre-service teachers Action in teacher Education 17(4) 45-52
[15] Whitworth S and Berson M J 2003 Computer technology in the social studies: An examination of the effectiveness literature (1996- 2001) Contemporary Issues in Technology and Teacher Education 2(4) 472-509
[16] Berson M J 2002 Reflecting on technology in the social studies: Past, present, and future perspectives The International Social Studies Forum 2(2) 159–161