

# Educational Technology Policy in Teacher Education

Danielle E. Kaplan

Institute for Media, Technology, and Development, San Francisco, USA

Email: [danielle.kaplan@columbia.edu](mailto:danielle.kaplan@columbia.edu)

**How to cite this paper:** Kaplan, D. E. (2024). Educational Technology Policy in Teacher Education. *Creative Education*, 15, 1991-1997.

<https://doi.org/10.4236/ce.2024.1510122>

**Received:** September 1, 2024

**Accepted:** October 7, 2024

**Published:** October 10, 2024

Copyright © 2024 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

---

## Abstract

This study investigates the efficacy of teaching for educational technology policy understanding in teacher education. A group of teacher education candidates in a small School of education were brought together to analyze issues in educational technology policy and asked to design policies for educational technology integration in a course on technology and the curriculum. Articles were presented addressing pressing concerns in technology integration and teacher education candidates were prompted to analyze their technology Integration designs and write policies for technology in the classroom. All of the participants were inspired to create inventive policies for technology integration.

## Keywords

Technology Integration, Educational Technology Policy, Online Teacher Education

---

## 1. Introduction

The need for intelligent consideration of our systematic structures for incorporating technology and managing and growing its use is pressing. Multiple sources have expressed a concern over integration of technology into our schools (Davies & West, 2014; Harris, 2005; Iansiti, 1995; Ramorola, 2013; Perrott, 2011; Reigeluth & Joseph, 2002). International efforts to address these needs have been overwhelming (Jhurree, 2005). It is believed that teacher beliefs and teachers efforts in this area are necessary (Ertmer, 2005; Ertmer et al., 2012; Christensen, 2002; Plair, 2008; Vrasidas & Glass, 2005). The following study addresses some of these needs, engaging teacher candidates in the future technology integration design.

There is growing necessity for technology use and education in its use in all of

our institutions including schools. Included in this requisite is thoughtful plans and planning on how to incorporate technology. There has been a gap in including teachers in policy making and in training teachers to make policies. This research encourages further involvement of teachers through teacher training in understanding policy issues in technology use and applying sharp devices for meeting technology application needs.

## **2. Design**

### **2.1. Participants**

Study participants included online School of Education Credential and Master of Education students enrolled in Technology and the Curriculum over the course of several terms over two years. Twenty of sixty students volunteered to include their work in the study, four male and sixteen female, when asked with no pressure if they would include their work. Volunteers in the study did not differ in quality of work compared to non-volunteers. The participant body was made up of teachers and teachers in training on intern and student teaching tracks in special education, single subject in varying subject areas and multiple subject credentials. Selection was determined by required participation in the course and volunteering for the study. The volunteers were representative of the course participants and teacher candidates in the University.

### **2.2. Procedure and Instruments**

The course was divided into eight weekly modules covering technology in curriculum theories. Each module covers a set of theorists in technology in the classroom and instructional design. Modules include: 1) Blended Learning and Flipped Classrooms, 2) Technology and Education Policy, 3) Media Literacy, Learning Theories, Multimedia and Introduction to Instructional Design, 4) Anchored Instruction, Situated Cognition, and Goal-based Scenarios, 5) Teaching and Learning by Design, and Problem and Case based Learning, 6) Games, Simulation, Microworlds and Programming, 7) Communities of Practice, Learning Communities, Data Analysis and Visualization, and 8) Technology in Education Evaluation. The modules were made up of resources including links to course content and assignments and communication forums. Resources include readings and applications. Assignments include reviewing and discussing application of theories, creation of artifacts applying theories, and evaluation of artifacts applying theories. Assignment categories include discussion, course project, and lesson plans. Additionally, the course included a Syllabus, Announcements, Course Materials, Discussions, Conferences, Grades, Chat, and a Questions center.

Study instruments for this study were embedded into the Technology and Curriculum course in the Technology and Educational Policy Module. Participants were presented with resources and assignments comprised of readings and discussion prompts. Participants completed activities individually and submitted their assignments online. Understanding and application of theory were measured

in policy analysis and design and received through online submissions in digital web format.

Several sets of prompts were utilized. The first prompt queried policy understanding in analysis of policy. Participants were directed describe their understanding of the policy issues described in the module readings. The second prompt queried applications of theory in their technology integration designs. Participants were directed to reconsider previous technology integration designs based upon newly discovered policy information. The third prompt queried designs for policy in the classroom, school and world. Participants were invited to imagine ideal designs addressing policy concerns.

### 2.3. Analysis

Participant responses to query prompts about policy analysis and application were analyzed for quality and meaning. Analysis included recognition of participant understanding of policy issues raised in the course and their own work and creativity and purpose of suggested policy designs. A summary of participant suggested designs was made. Participant application of policy was accounted for and coded as having occurred.

## 3. Educational Technology Policy Module

Module 2 of the curriculum and technology course was a unit on Technology and Education Policy. The goal of the module is to provide an overview of technology and education policy. Learning objectives include analyzing issues in technology and education policy and determining how to effectively apply the issues in policies, lesson plans and project design. Learning objectives connect to School guiding Principles of Leadership, Application and Engagement.

The module is made up of readings, forums, and assignments. Readings include [Edutopia \(2008\)](#), [Perrott \(2011\)](#), [Worthen & Patrick \(2014\)](#), [Lakhan & Khurana \(2008\)](#), and websites such as the U.S. Department of Education on Science, Technology and Engineering, on the National Education Technology Plan, Privacy Technical Assistance Center, California Education Technology Blueprint, ISTE, AACE, Embrace Civility Digital Citizenship, and ConnectEd Initiative. Each reading presents foundational issues related to technology and education policy such as privacy, intellectual property, training and access. Assignments include brainstorming in project groups over how to incorporate policy issues into project design, researching technology for project, designing an educational technology policy, writing a letter to parents about classroom and school technology and education policy, incorporating policy issues into lesson designed in Module 1, and providing meaningful feedback to classmates' lesson and policy designs.

## 4. Results

**Table 1** is a summary of coded responses to prompts of policy application prompts. Each participant was registered as having applied policy design. **Table 1**

shows 20 of the 20 participants successfully understood educational technology policy theories and applied educational technology policy theories in designs. A number of thoughtful suggested policies evolved from the experience. All of the participants referenced and analyzed standards and policy documents presented in the course and provided meaningful analyses of readings indicating understanding of the issues. From these analyses, participants made a number of policy suggestions in government and in the classroom. One participant advocated teachers adhere to the standards and that there be government partnership in technology integration. There was believed to be a need for support of development of technology skills. There were Intellectual property concerns, safety concerns, adherence to Ferpa policy and other privacy issues considered. Another participant noted the importance of copyright, licensing, fair use, standards, expectations, agreements in use, such as privacy, standards, access, parental communication, plagiarism, locking devices for safety and access to limited sites.

**Table 1.** Understanding and application of theory.

Understanding and Application of Theory	Activity	
	Understanding	Application
	20	20

**Table 1** shows a number count for whether Educational Technology Policy Theories were understood and applied in lessons and projects out of twenty-participants.

One participant highlighted communication with parents, school presentations on school wide policy and at home policy, policies on intellectual property and referencing, and use of appropriate sites. Another participant felt initiatives clarifying innovations historically, access to computer labs, ipads and chromebooks for individual at home use, remedial online courses, fostering digital citizenship, collaborative civility and appropriate communication were important to consider. Another participant believed policies around implementation of standards, new assessments, partnerships, and access to technology are fundamental and the classroom might include class time and specific links curated to address these issues.

Access to technology, class time to support use and standards implementation, and policies for more blended lesson incorporating video and mixed media encouraging teachers and students to apply tech in some ways were considered an imperative by one participant. Digital contracts with parents, teachers and students and informational exchanges with parents on tech use were believed to be an ideal initiative for better digital citizenship by another participant. Class time dedicated toward discussion of tech use with teacher and each other, and a required computer or tech course implemented or integrated into programs were believed to be of importance in policy to another participant.

One participant weighed policies for privacy and private sites, and believed passwords should be kept private, and there should be restraining of websites to

educational sites on school computers. Another participant emphasized the digital divide and digital access as fundamental, and felt teaching of teachers to teach with technology and more funding for tech in the classroom was needed. An additional participant stressed the importance of tech in development of critical thinking and allocation of resources for developing learning.

Teaching fair use and copyright to teachers and students for the internet and common sense and critical thinking was believed to be of importance by one participant. Another participant advocated for resources provided for free by the school, reduced cost of books and materials, and expanded use of mixed media. Teaching awareness of standards and applying them, giving more technology time in the classroom to address accessibility concerns, and blocking undesirable sites was suggested by another participant. Digital contracts between parents and students and teachers regarding technology use and awareness were encouraged by one participant. Some participants felt the need to restrict access to personal devices as a policy in the classroom.

A number of participants felt there should be more policies for funding for technology in the classroom. Funding was believed to be needed for computers, tablets, whiteboards, and assistive technology. One participant believed there should be policies directed toward showing students important personal uses for technology such as use in commerce and banking, law, stocks and bonds. One participant noted making sure policies ensure students do not lose previously existing hard writing and reading skills, such as knowing cursive. Some personal technology policy initiatives involved teaching new technologies and skills. Additional initiatives included having digital etiquette training and safeguarding activity.

## 5. Conclusion

This course was successful in encouraging teacher candidates to analyze issues of concern in integrating technology into our institutions. The participants appeared to understand policy issues and concerns addressed in the readings and in their own experiences. All of the participants wrote detailed suggestions for technology policy. Many of the suggested policies revolved around access to technology, training for technology use and management of resources and technology users. It was evident from all of the participant responses that teacher candidates took seriously the urgent need for directives in all of these areas and felt participant in making these social and technological movements happen.

One of the greatest challenges to meeting the policy suggestions is in having the human capital to implement the policies. Included in the research study were a number of modules on training teachers to build a more competent body of users who would be able to understand the need for fulfilling these policies and having the competency, which likely furthered the training experience and the policy suggestions. This study furthered the need to include teachers in policy making and policy making in teacher training. The study would be furthered by incorporating

teacher policies internationally.

## Acknowledgements

The author would like to thank participants in the study and technology designers and policy advocates of the world.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

## References

- Christensen, R. (2002). Effects of Technology Integration Education on the Attitudes of Teachers and Students. *Journal of Research on Technology in Education*, 34, 411-433. <https://doi.org/10.1080/15391523.2002.10782359>
- Davies, R. S., & West, R. E. (2014). Technology Integration in Schools. In J. Spector, M. Merrill, J. Elen, M. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 841-853). Springer. [https://doi.org/10.1007/978-1-4614-3185-5\\_68](https://doi.org/10.1007/978-1-4614-3185-5_68)
- EduTopia. (2008). *Results of a Survey of America's Teachers and Support Professionals in Technology in Public Schools and Classrooms*. American Federation of Teachers: National Education Association.
- Ertmer, P. A. (2005). Teacher Pedagogical Beliefs: The Final Frontier in Our Quest for Technology Integration? *Educational Technology Research and Development*, 53, 25-39. <https://doi.org/10.1007/bf02504683>
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher Beliefs and Technology Integration Practices: A Critical Relationship. *Computers & Education*, 59, 423-435. <https://doi.org/10.1016/j.compedu.2012.02.001>
- Harris, J. (2005). Our Agenda for Technology Integration: It's Time to Choose. *Contemporary Issues in Technology and Teacher Education*, 5, 116-122.
- Iansiti, M. (1995). Technology Integration: Managing Technological Evolution in a Complex Environment. *Research Policy*, 24, 521-542. [https://doi.org/10.1016/s0048-7333\(94\)00781-0](https://doi.org/10.1016/s0048-7333(94)00781-0)
- Jhurree, V. (2005). Technology Integration in Education in Developing Countries: Guidelines to Policy Makers. *International Education Journal*, 6, 467-483.
- Lakhan, S., & Khurana, M. (2008). Intellectual Property, Copyright, and Fair Use in Education. *Journal of Academic Leadership*, 6, 1-11.
- Perrott, E. (2011). Copyright in the Classroom: Why Comprehensive Copyright Education Is Necessary in United States K-12 Education Curriculum. *Intellectual Property Brief*, 2, 5-18. <http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1058&context=ipbrief>
- Plair, S. K. (2008). Revamping Professional Development for Technology Integration and Fluency. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 82, 70-74. <https://doi.org/10.3200/tchs.82.2.70-74>
- Ramorola, M. Z. (2013). Challenge of Effective Technology Integration into Teaching and Learning. *Africa Education Review*, 10, 654-670. <https://doi.org/10.1080/18146627.2013.853559>

- Reigeluth, C. M., & Joseph, R. (2002). Beyond Technology Integration: The Case for Technology Transformation. *Educational Technology, 42*, 9-13.
- Vrasidas, C., & Glass, G. V. (2005). Achieving Technology Integration in Classroom Teaching. *Preparing Teachers to Teach with Technology, 3*, 1-20.
- Worthen, M., & Patrick, S. (2014). *The iNACOL State Policy Frameworks: 5 Critical Issues to Transform K-12 Education*. iNACOL, The International Association for K-12 Online Learning.