

**Evaluating the Cross-Curricular Integration of Technology in IUPUI's
Urban-Focused Teacher Education Program**

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Jeremy Forest Price

Assistant Professor of Technology, Innovation and Pedagogy in
Urban Education, Teacher Education Program in the School of Education

IU School of Education-Indianapolis at IUPUI,
902 W. New York St., Indianapolis, IN 46202

ES 3162 || Phone: 317-274-6818 || Fax: 317-274-6864

jfprice@iupui.edu

Abstract

The School of Education has not kept pace with the preparation of preservice K12 teachers to use technology so we will address and evaluate areas identified from a baseline survey: aligning technology use with standards and SoE's mission; improving faculty use of technology; distributing knowledge of technology; and modeling technology-mediated professional networks. This project will: develop and validate a faculty survey; assemble a technology "library;" and pilot a faculty technology fellowship. We will use data collected from surveys, observations, curriculum reviews, and student teacher rubrics to inform and improve the Teacher Education Program's preparation of K12 teachers to use technology.

Project Description

Project Purpose

The School of Education (SoE) at IUPUI has not kept pace with the preparation of preservice K12 teachers with respect to the use of technology. As such, the SoE has identified educational technology as the Selected Improvement Plan (SIP) area for the Council for the Accreditation of Educator Preparation (CAEP) accreditation process. Because of the nature of teacher education programs, the impact of this project also include the K12 students of our preservice teachers. Based on a survey of Teacher Education faculty in February 2017, four areas of improvement were identified to assess and evaluate:

- *Aligning the Use of Technology with Standards and SoE's Mission.* Technology is an increasingly important in terms of K12 students' academic achievement and for democratic participation, justice, and inclusion (Davis, 2010; Lemke, 2002), especially in urban contexts. In order to meet this challenge, this project will support helping faculty connect the use of technology with the urban focus and justice- and inclusion-oriented mission of the SoE. In addition, this project will support the process of making explicit connections with InTASC (Interstate Teacher Assessment and Support Consortium) Standards #2 (Learning Differences), #3 (Learning Environments), and #9 (Professional Learning and Ethical Practice), and NETS•T (National Education Technology Standards for Teachers) Standards 1 (Facilitate and inspire student learning and creativity), 2 (Design and develop digital age learning experiences and assessments), and 3 (Model digital age work and learning). This is an essential part of accreditation and evaluation efforts and to support high-quality preparation of future teachers.
- *Prepare Faculty to Draw Upon High-Impact Practices for Using Technology.* High-impact practices around technology are concentrated in a small number of faculty so intentional steps will be taken to distribute these practices across the program.

- *Distribute Knowledge and Use of Digital Tools.* The use and knowledge of a range of digital tools—such as Padlet, VoiceThread, and the Google Suite—is localized within specific faculty, so work will be accomplished to disseminate this expertise.
- *Provide Models of Technology-Mediated Intentional Professional Networks.* Efforts will be made to provide faculty and teacher candidates with experiences that use technology for building intentional professional networks to collaboratively uncover, discuss, and solve problems of practice (Baker-Doyle, 2012; Baker-Doyle & Yoon, 2010).

The theoretical grounding for this project lies in situated learning theory (Lave & Wenger, 1991). Situated learning theory posits that future teachers will be successful in their technology integration when they are engaged in intentionally designed environments that foster the application of understanding and knowledge of technology and teaching purposefully.

This grant will support the SIP process during the first year as a way to set the stage and laying the groundwork for subsequent years. The SIP process, as presented to CAEP, will span four-years (2017-2021) to facilitate purposeful and successful use of technology to prepare teacher candidates to likewise purposefully leverage technology.

Intended Outcomes

During this first year, we will be: (a) developing and validating a survey that will be used in subsequent years; (b) assembling a “library” of technologies; and (c) piloting a faculty technology fellowship program to help build capacity.

Survey Development. A pilot survey for faculty was administered in the 2016-2017 academic year to better understand faculty members’ practices, purposes, and skills with respect to technology use. We will use this survey as a starting point and will align survey items with InTASC and ISTE standards and validate the survey with the collaboration of a postdoctoral fellow who has extensive preparation and experience in survey development and validation for accreditation purposes.

Technologies Library. In order to collect relevant and appropriate evaluation data and help faculty members prepare preservice to use technologies for educational purposes, faculty need access to technologies that would be available to inservice teachers. As such, we will build a small “library” of technologies that are typically available to inservice teachers and appropriate for K12 classroom settings that can be “checked out” for instructional purposes.

Faculty Technology Fellowship. A Faculty Fellowship will be established to promote the development and diffusion of high-impact purposes, practices, and digital tool use. Faculty fellows will be responsible for: (a) transforming at least one unit within a course to deeply and purposefully integrate technology and (b) subsequently present on their approach and their experiences to the rest of the Teacher Education faculty. These faculty fellows will in essence become mentors and coaches for the rest of the teacher education faculty. Technology Fellows will receive research funding and one-on-one mentoring and support during Spring and Summer 2018 to develop at least one technology-integrated unit or assignment. The Fellows will enact the unit or assignment in the Fall 2018 and then share their approach and experiences at the end of the term. The unit or assignment as well as the video recorded presentation will be added to a shared resource library.

Assessment Methods and Data Analysis

The process for collecting and analyzing data will follow a comprehensive mixed-methods program evaluation model by matching data to the explicit program theory, purposes, and goals (Weiss, 1998) as outlined above. Specifically, the data and analysis processes include:

Survey construction, validation, and analysis. In partnership with a postdoctoral fellow, a survey guided by InTASC and NETS•T standards will be constructed, validated, and analyzed in order to understand the practices and approaches of the Teacher Education faculty in modeling intentional technology use for preservice teachers. This survey will be administered during all years of the SIP process, providing information for decision making.

Curriculum reviews. As a way to triangulate the survey, course curricula, syllabi, and assessment tasks in Teacher Education courses will be reviewed in terms of technology integration degree and quality. The unit or assignment adapted by the Faculty Technology Fellows will be assessed particularly closely. The criteria for review will be developed during the first year and will continue to be used through the multiyear SIP process.

Faculty Fellowship application data. The applications for the Technology Faculty Fellowship will be considered data during the SIP process. The applications will be analyzed for changes over time in terms of number of applications and purposefulness as outlined above.

Faculty Fellow presentations. The presentations given by the Faculty Technology Fellows will be analyzed and evaluated for evidence of intentional and purposeful technology use. In addition, we will also collect data in terms of attendance numbers and feedback from the audience on an event evaluation form.

Student teaching rubric scores. There are currently a number of rubric items related to technology on the SoE Student Teaching Rubric, with which preservice teachers are evaluated at specific points during their preparation. Preservice teacher scores will be followed and analyzed for change over the course of the SIP process.

Evaluation and Dissemination of Results

The evaluation of this project will include formative and summative components, providing perspectives on the project's work, contributions, and quality of outcomes.

Formative Evaluation. The formative component will focus on monitoring the quality of project activities and providing feedback that facilitates reflection and allows the project to make midstream adjustments with respect to the project purposes and intended outcomes. Data and analysis, as they are completed, will be brought to the SoE Assistant Dean for Program Evaluation and Assessment and to the Chair of the Teacher Education Program for feedback and guidance. In addition, this data and analysis will be reported on a regular basis at Teacher Education program meetings in order to obtain feedback and guidance. At particular points in

the SIP process, attention will be paid to specific benchmarks and outcomes, such as the Faculty Technology Fellowship or the technology use survey, and will be the focus of the research and evaluation process in order to make midstream changes to the program in order to promote and model intentional technology use for justice- and inclusion-oriented educational purposes.

Summative Evaluation. The summative component of the evaluation will focus on reviewing the project's findings in light of the data collected and assessing the extent to which claims based on the assessment are supported by the evidence with respect to the project's purposes and objectives. All of the data will be analyzed and collected into yearly reports which will be submitted to CAEP as part of the SIP process. We will report out on the changes over the course of the SIP process in terms of the data collected, and we expect to see growth and change. If the data unexpectedly shows neither growth nor change, we will perform a postmortem examination in order to determine where the program fell short in terms of meeting the needs of faculty to promote the purposes and outcomes of this project. If the data shows growth and change as expected, the analysis of the data will form the basis for scholarly products that can help inform the field of research and evaluation of teacher preparation program accreditation efforts with respect to promoting the use of technology in urban classrooms for academic achievement, justice, and inclusion.

Dissemination. Dissemination will occur through a variety of outlets. Possible conference proposals include the American Education Research Association, American Association of Colleges of Teacher Education, Association for the Study of Higher Education, and Society for Information Technology in Teacher Education. Possible submissions of manuscripts include research journals such as *Assessment & Evaluation in Higher Education*, *Educational Research and Evaluation*, *Journal of Teacher Education*, *Journal of Technology and Teacher Education*, and *Practical Assessment, Research & Evaluation*.

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Budget Summary

Funding Component	Justification	Amount Requested
Survey Development Honorarium	A postdoctoral fellow with specialized experiences and training in developing surveys for accreditation and evaluation purposes will further the development of the technology use survey to be used over the multiyear SIP process.	\$1000
Technology Library Development	A lending "library" of inexpensive technologies typically available in K12 classrooms will be made available to faculty so that the intentional use of these technologies can be evaluated.	\$2000
Technology Fellowship Honoraria	One year of the Faculty Technology Fellowship for two faculty members (\$1000 each) will be supported by this grant to demonstrate proof-of-concept. Responsibilities include adapting at least one course unit and sharing the experience and outcomes as a way of mentoring and growing the capacities of the rest of the Teacher Education faculty.	\$2000
TOTAL		\$5000

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