The Educational Psychology and Educational Technology Program
Michigan State University

Proposal Submission for the AACTE 2013
Best Practice Award for the Innovative Use of Technology

Dr. Punya Mishra
Director of the Master of Arts in Educational Technology
punya@msu.edu

Dr. Leigh Graves-Wolf
Co-Director of the Master of Arts in Educational Technology
gravesle@msu.edu

Dr. Matthew J. Koehler
Director of the Doctorate in Educational Psychology and Educational Technology
mkoehler@msu.edu

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Abstract

This application showcases some of the innovative work currently occurring in the nationally ranked Educational Psychology and Educational Technology (EPET) program at Michigan State University. The graduate degree program interweaves theory and practice and research and design, into a synthesis aimed at developing the next generation of educational technology leaders. Our conceptualization of this program is deeply grounded in the TPACK framework, and enmeshes students in the hands-on work of understanding the interplay between technology, pedagogy and content. Graduates develop knowledge that is deep, complex, and flexible, with a focus on learning by design.

This narrative emphasizes several key aspects of our program, and notes the important ways in which TPACK is instantiated in the work of our faculty, master's, and doctoral students. Some essential program elements that we describe include, Learning by Design, Conceptual Integration over Multiple Modes of Delivery, Innovative Use of Technology, and Scholarship for Continual Improvement. Through learning by design activities and considerations that are woven into coursework at all levels, we ensure that the theoretical underpinnings of TPACK take place in hand-on, creative learning experiences. The conceptual elements of the program are also integrated across multiple and varied modes of delivery, to bring the fast, flexible and context/content appropriate learning, in a TPACK consistent manner. We strive for innovative uses of technology that focus on the educational task at hand, and seek out the best technological tool for that particular context. Finally, our program engages in continual improvement, through scholarship and research to drive the development of meaningful and TPACK centered learning. Our program's aim is to meet the demands of current and future learning contexts, by giving teachers, scholars, and researchers opportunities to engage in creative processes that consider 21st century contexts for teaching and learning.

Introduction

In this application we will showcase the work currently underway in the nationally ranked Educational Psychology and Educational Technology (EPET) program at Michigan State. The EPET program offers Master's and doctoral degrees, and over the years has developed an innovative, forward-looking program that connects theory to practice and research to design, to develop the next generation of educational technology leaders as practitioners and researchers. Our programs are a direct response to the growing demand for educators who understand how technology is transforming the world of education, through their work in K12 schools, higher education institutions and research organizations. In brief, the master's degree programs integrates technology, pedagogy and content through innovative assignments, projects and courses that are offered across multiple modes – including, online, face-to-face hybrid, and campus cohorts. In addition, around three years ago, we began to offer a hybrid Ph.D. program aimed at individuals who seek to earn a research degree while continuing in their current positions. Through all of this we seek to develop the next generation of practitioners and scholars, who understand the need to create, implement and sustain innovation both in practice and research.

Our conceptualization of our programs is deeply grounded in the TPACK framework (AACTE, 2008; Mishra & Koehler, 2006). We expect our graduates to develop and demonstrate knowledge that is deep, complex, fluid and flexible, so as to meet the demands of current and future learning contexts. We do this by an approach we call "deep-play" (Koehler et. al., 2011). By deep play we mean an engagement with rich problems of pedagogy, technology and content and their interrelationships. It is a creative process, seeking to construct new ways of seeing the world, and new approaches to using technology, in order to develop innovative pedagogical solutions.

Essential Elements of the Program

We identify three key themes that cut across our programs

1. *Learning by design*: We believe that the best way to learn about educational technology, design, research and scholarship is by actually engaging in educational technology design, research, and scholarship. In our master's program this means real-world engagement with tools, pedagogies and their relationship to content domains. In our approach, participants engage in deep conversations about their practices through opportunities to experiment and play with ideas, tools and subject matter and finally, reflect on their own learning. Students design websites, and movies, lesson plans, and conduct action research—working individually and in groups under the guidance of faculty.

   Learning by design is a fundamental part of the master's program in all aspects of student work, from micro-design assignments (such as creating a visual demonstration of letterforms found in the natural world; to making stop-motion video interpreting a given student-selected haiku; to designing podcasts of interviews that explore how students understand content ideas); to macro-design

activities – such as collaboratively co-authoring a multi-media book on creativity (http://deep-play.com/sparksofcreativity); or delivering a full scale conference for other educational professionals on topics of leadership, technology, and education (http://great12dublin.weebly.com). An integral aspect of the TPACK framework suggests the importance of learning by design activities to develop fluency for teaching content through technology (Mishra and Koehler, 2008). When teachers learn about technology and teaching via the act of designing content or teaching artifacts, they learn to navigate TPACK knowledge in real-world and applicable ways. Their knowledge of technology, content, and pedagogy is heightened, and they understand the relationship between these elements in more sophisticated and authentic ways. So learning by design is integral throughout our program, just as it is integral to the TPACK framework overall.

Finally students also engage in reflections on their learning through large-scale projects such as the TPACK driven "DreamIT" project. In the DreamIT project, students identify a problem of practice, use the TPACK framework to address the problem, and create a web-based experience that presents this to their peers, even while explaining the deep design process of coming up with the proposed solution. The majority of the students go on to implement the DreamIT solution in their own teaching practice.

In the hybrid PhD program students engage in authentic research and publication opportunities (often in their own work context – a genuine advantage of having students who are working full time in educational contexts). For example, just a few of these research studies include, developing and testing whether middle school students in an technology rich innovative program actually develop better self-regulation skills; or examining how different theoretical frameworks can lead to different analysis of online discussions in a high language arts class.

2. *Conceptual integration across multiple modes of delivery*: Our programs are offered in multiple contexts and using multiple modalities. For example, our Master's program can be completed online, in a hybrid format (some time on campus in summer with other online experiences), or completely face-to-face (over summers in an off-campus international location). Despite these differences in modality, we have worked hard to ensure that all students receive the same course content (at the level of readings, assignments, and assessments) even while being receptive to the contextual constraints. All students in the MAET program complete some form of the TPACK DreamIT project – though the specifics (deadlines etc.) may vary depending on whether the class is being offered face to face or in a hybrid format.

   Similarly we have made significant efforts to purposefully integrate both facets of our PhD program: students in our regular face-to-face PhD program and those in the hybrid program (again within contextual limitations). To successfully meet the needs of students in varying learning contexts, we have designed extremely innovative approaches to bring the two groups together. This includes having our doctoral students create a group blog (http://ideaplay.org), which is completely

run and managed by the students and receives contributions from students across both versions of the program. It has also meant creating highly blended classrooms where students from both the hybrid and traditional settings meet and work together synchronously and a-synchronously, real-time and online. For instance, a course about design being taught this semester has 10 students fully online and 9 traditional face-to-face students in it. The class "meets" synchronously every alternate Tuesday from 6-9PM (to accommodate the working students) through a combination of video and text-based tools. We insist that working groups include students from both versions of the program to further this integration.

3. *Innovative use of technology*: A complex program such as this one demands innovative uses of technology. That said, we are eclectic with respect of the technologies we use—our goal is pragmatic rather than merely high-tech for the sake of being high-tech. Our courses are offered through multiple platforms. Some faculty use the standard university-supported LMS (Angel) while others choose to develop their own course-websites using everything from GoogleSites to Wordpress. Students submit/host their course-work electronically, again using a variety of tools. Increasingly our sites are being more mobile/tablet friendly as more and more of our students access course-content through these devices. We have incorporated a range of social media in our teaching and outreach activities (these include the use of private Facebook groups in our teaching and public groups for keeping connected with alumni).

   The blended doctoral seminar on design being taught this semester provides an excellent example of the innovation underway in our program. The on-campus students in the course come to a classroom every other Tuesday for a synchronous session – while the online students join in to this very session using GoToMeeting. The class is broadcast out to the online students in two ways – one full-class camera and another roving iPad camera that is supported on a tripod (actually a music stand that has been repurposed). This iPad moves from student to student as they speak in class – so that a close-up video can be beamed to those who are at a distance. The idea is not just to make the instructor present to the students at a distance, but the in-class students as well. Students work in teams that include a mix of on-campus and online students. These groups of students use a range of technologies to collaborate, from Google Hangouts, to GoToMeeting, to GoogleDocs, Etherpad, and more. Even further still, during the a-synchronous weeks of the course, the students in both the online and face-to-face versions collaborate and discuss readings and assignments via a dedicated course website. The website for this course was designed through Wordpress, and has become an integral part of the course, for organizing content and discussion that are ongoing outside of the Tuesday night 6-9pm timeframe. The readings and assignments that are discussed in the class periods are also detailed and presented on this site. Instructors also present weekly videos about the readings, to facilitate a critical reading of materials for students. More importantly this site has become a place for an active discussion board, to keep the design topics alive and at the forefront of student thinking.

Again the idea is to develop a fluid and flexible approach to technology use, which *focuses on the educational task at hand and chooses the best technological tool for teaching the content in that particular context*. This we believe is TPACK in action.

The innovation we have demonstrated can be seen in the fact that four of our courses have won university wide competitions for excellence in technology integration (The MSU-AT&T Awards for instructional technology which recognize and encourage best practices in the use of technology to enhance teaching and learning.)

4. *Scholarship for continual improvement*: Our programs are continually being researched and studied by us—so that we can improve them over time. A recent college survey of master's graduates conduced by the College of Education found that over 96% agreed that the program content was valuable to them; over 96% agreed or strongly agreed with the fact that there was no significant difference between the online and face to face courses in terms of quality; and over 85% stated that the program advanced them professionally.

   Our programs are also sites for research (since we have an extremely active faculty) that we present at conferences and seek to publish in journals to advance the state of knowledge of the field. To list a few: (a) A PhD dissertation that conducted a survey of our students and graduates of our Master's program (Wolf, 2011); (b) A study of the development of TPACK of our master's students (Kereluik et. al., 2010); (c) a symposium at the SITE conference in 2012 on our Master's program (Mishra et. al., 2012a); (d) a book chapter on thematic considerations on integrating TPACK in a graduate program (Mishra et. al, 2012b); (e) a journal article on the deep-play approach to curriculum (Koehler, et. al., 2011). Our research indicates that students do develop their TPACK as they work through the master's program.

   The hybrid doctoral program though relatively new, has already led to one journal article submission (Roseth, in press) and will also be in a special issue of the journal TechTrends that is currently in progress (to be published in 2013).

Conclusion

In brief, our programs (Master's and Doctoral) show a significant level of synergy with each other, though they have different target audiences. The Masters' is aimed at practicing K12 teachers and educators with an emphasis on developing their TPACK (which our research indicates they do). The doctoral program is aimed at developing the next generation of scholars and practitioners who will further develop and extend the TPACK framework. Students in our doctoral program teach in the master's program, under close guidance of faculty and have been equal participants in almost all of the research and writing our faculty have involved with. All this happens fluidly within multiple contexts (online, hybrid, face to face, and combinations thereof). It is for these reasons that we believe that our program is worthy of the AACTE award.

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