Best Practices for Professional Development

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Abstract

The shift from the industrial-age model of learning to one driven by the global knowledge economy has placed a burden on institutions of higher education to modernize teaching methodology. Although iterations of modern technology continue to mark their presence to varying degrees in learning environments globally, linking the instructional use of modern affordances with enhanced learning outcomes remains an issue. More than ever, research in effective integration points to professional development as the linchpin for success. This essay reviews the latest research and proposes ideas for adapting some of the best practices for professional development today at the individual and institutional levels.

INTRODUCTION

The demands for accountability and quality in teaching and learning in the 21st century have progressed well beyond the traditional teacher-fronted approaches limited to the confines of brick-and-mortar settings. The demand of the global knowledge economy, the advent of instructional communication technologies (ICTs), and the widespread access to the Internet continue to have an unprecedented influence on the culture of teaching and learning on a global scale. In many institutions, however, the combination of increased tuition and reduced budgets asserts pressure on administrators and instructors to suffice with what resources are available while delivering teaching content that is dynamic and efficient (Balan, Manko, & Phillips, 2011). The challenge confronting many educational institutions is how to change the outdated industrial-age model of one-way knowledge transmission to a constructivist student-centered model that incorporates all the affordances that modern literacies allow. The following paragraphs will offer some contemporary ideas and resources that faculty, administration, and/or individual teachers may want to incorporate into their teaching methodology to meet the challenge outlined above.

BEST PRACTICES FOR PROFESSIONAL DEVELOPMENT

TPACK

As a result of the plethora of technological innovations and the constant changes to software and hardware, the need for guiding principles of technological integration has gained popularity in educational research (Balan, Manko, & Phillips, 2011; Eib & Miller, 2006;

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Požarnik, 2009). The Technological Pedagogical and Content Knowledge (TPACK) framework is a model that has gained much popularity in educational research due to its focus on assessing the integration of technology with pedagogical knowledge and content knowledge (Ay, Karadağ, & Acat, 2015; Fransson & Holmberg, 2012; Lehiste, 2015). Building on Shulman's (see Koh, Chai, & Tay, 2014) Pedagogical Content Knowledge (PCK) model, Mishra and Koehler (2006) expanded the PCK framework to include the technological aspect.

The TPACK breaks down into seven domains and four intersecting processes and is defined as (1) technological knowledge (TK) - understanding the tools used in the classroom—"digital and non-digital" ("TPACK Model," 2010), (2) technological content knowledge (TCK) - understanding how technology can be used to deliver subject content, (3) technological pedagogical knowledge (TPK) - understanding how to use tools with teaching methodology, (4) content knowledge (CK) - knowledge of subject matter including "deep learning of concepts, as well as higher order thinking and high level communication" ("TPACK Model," 2010, Para. 2), (5) pedagogical knowledge (PK) - understanding different ways to present curriculum content, (6) pedagogical content knowledge (PCK) - understanding how to teach subject content, and (7) technological pedagogical content knowledge (TPACK) - understanding how to blend the intersecting domains of TCK, TPK, and CPK to enhance the learning experience.

Since the TPACK measures the effectiveness of an instructor's use of technological integration, a common strategy for many studies is to use the model's questionnaire as a pre- and post-test assessment along with some instructional intervention program (Lehiste, 2015; Rienties, Brouwer, & Lygo-Baker, 2013). Contrary to the practice of empirical research design of guarding against the testing effect as a rival explanation (Krathwohl, 2009), the TPACK is deliberately used as a pretest to raise awareness and challenge assumptions about the technological pedagogical integration (Fransson & Holmberg, 2012). The questions contained in the TPACK questionnaire target specific domains that instructors must reflect on and provide a self-assessment based on their teaching practices. The following are two examples of questionnaire items. One (TPK) question item is: "When I design my teaching, I always consider how pedagogy will influence the use of technology"; and a non-tech survey item isolating a CPK indicator is: "When designing a teaching activity, I always consider how the content and pedagogy influence each other" (Rienties, Brouwer, & Lygo-Baker, 2013. p. 127).

While raising an instructor's TPACK awareness is an important first step for teaching effectiveness, it is the design of a professional development program that plays a significant role in increased student performance. Fransson and Holmberg (2012) illustrate an example of how TK, PK, and CK come together to enhance teaching. A teacher's knowledge of an online presentation tool such as Prezi (https://prezi.com/) is considered TK; adapting CK on a course such as home economics to the online tool is using TCK because it requires "knowledge about the manner in which technology and content are reciprocally related" (Mishra & Koehler, 2006, p. 1028). Additionally, Fransson and Holmberg identify a user's manipulation of online presentation features of an e-tool as TPK because the interactivity required on the part of the user has the potential to influence learning (2012).

However, the extent to which a teacher adequately conveys CK in the presentation will reflect the effectiveness of PCK—the domain that identifies what approaches are necessary for teaching content effectively (Mishra & Koehler, 2006). Nevertheless, the above example represents the dynamics of the TPACK process because "effective technology integration for teaching specific subject matter requires understanding the relationship between technology, pedagogy, and content" (Lehiste, 2015, p. 19).

Teacher Reflection

Teacher reflection is one of the common strategies to emerge from the literature regarding best practices for professional development. A case study of a teacher-training course at the University of Ljubljana identified teacher reflection as one of its top goals of the program (Požarnik, 2009). It indicated that "[t]o acquire a reflective and researching attitude" into their teaching practice, teachers used video recordings to search for proof of effective teaching (p. 348). For example, the teachers in Pehmer, Gröschner, and Seidel's study (2015), viewed their work objectively on video recording. Establishing the teacher-as-viewer and removing the instructors from the "complex classroom setting" (p. 110) can help teachers reflect on TPK and/or PK. Additionally, the teacher-as-student performance on a learning activity with the aid of video material can provide further opportunities to review the footage for evidence of TCK or CK—areas targeting higher thinking skills and content. Eib and Miller (2006) suggest that in addition to video presentations, "combining other forms of media resources with an online discussion forum can stimulate deeper reflections and meaningful dialog" (p. 5). As Balan, Manko, and Phillips (2011) assert "[t]hrough the process of reflection, educators can determine their strengths and identify their weaknesses…[and] ensure improvement in their skills" (p. 6).

Formative Assessment

Formative assessment is any form of feedback that is given during a learning event such as a professional development course. Unlike summative assessment, which usually summarizes the learning objectives at the end of a course, formative assessment is ongoing and can be repeated many times. For professional development, teachers may choose from any combination of formative assessments such as "a mini-lecture with reflective analysis, written reports on reading assignments, peer observation, [and a] seminar thesis" (Požarnik, 2009. p. 349). Formative assessment can also include artifacts from the students through classroom observations, focus group interviews, and collected student assignments" (Wang, Hsu, Reeves, & Coster, 2014, p. 107). Formative assessment allows a teacher and/or course designer to evaluate teaching and learning and to refine areas of improvement. In a study to promote quality online teaching, Dittmar and McCraken (2012) explain the role of formative assessment in PD:

> Mentors collaborate with instructors as they reference a curriculum…worksheet, a formative assessment instrument that includes key instructional elements identified as critical to successful teaching. Together, the mentor and instructor review the instructor's performance, and collaborate regarding instructional goals and needs, for example, responding to questions and requests for additional information and assistance. This approach not only provides needed resources, but also assists participants to further identify areas of unmet need. Moreover, it promotes strengthened collegiality among departmental faculty members as well as reinforces affiliation with the larger institution. (p. 166)

In short, the above quote reinforces the idea of community in the professional development process. Nurturing a sense of togetherness and mutual endeavor in professional development can

benefit the individual instructor as well as the institution as a whole. Moreover, using formative (and summative) assessment along with self-reflection practices, instructors can improve their TPACK by analyzing their practices, deciding areas for more research and/or improvement, and then developing strategies to implement those changes in their teaching methodology (Balan, Manko, & Phillips, 2011).

Student Formative Assessment

One overlooked area for professional development that represents a gap in the literature is the role that student formative assessment can play in teacher professional development. In a study of students' perceptions of effective blended learning practices in a higher education setting in Saudi Arabia, students' responses to open-ended questions allowed the researchers to observe ways to improve their TPK in face-to-face classes (Zumor, Refaai, Eddin, & Al-Rahman, 2013). Moreover, student suggestions helped instructors refine their TPK to include "[s]olving students' technical problems, providing them with proper training, and increasing the number of labs" (p. 104). Since learning environments are situational and the needs of the learners are context-dependent, professional development that includes student voice can improve the complexities involved in the TPACK experience. Given the ever-increasing demands to include new literacies into the curriculum, Nummedal's (1994) suggestions hold as much relevance today as it did over two decades ago:

> [A] variety of signs point to the need for change in the ways we approach higher education. To launch such a movement for change without a well-thought-out plan for the ongoing assessment of the effects of the proposed instructional innovations on student learning simply will not do. (p. 291)

Although some might argue that students' lack of professional training precludes them from formative assessment, recent calls for exploring the value of student voice throughout the learning event (and not just through an anonymous end-of-term summative assessment) have revived what Nummedal (1994) started decades ago (see Olofson, Swallow, & Neumann, 2016; Zher, Hussein, & Saat, 2016). In a qualitative study of 100 first-year Japanese students at a liberal arts college in Japan, Hale (2015) explored the use of student self-assessments of high-stakes essay tests. Although some students expressed uneasiness with the formal assessment process, Hale (2015) suggests that "the longer students are exposed to self-assessment, the stronger the 'buy-in' becomes" (p. 10). The important point established in the above study, in terms of professional development, is the idea of expanding the role of ownership and accountability of learning outcomes to the domain of the primary stakeholder—the student. As Hale (2015) aptly concludes, "[i]f… the aim of university educators is to promote student self-awareness and inclusion in a democratic community of practice, then showing students are respected and trusted enough to be a part of their learning assessment can only enhance these aims" (p. 11).

Framework-based Faculty Development Programs

Framework-driven faculty development programs offer one the best professional development practices because they present opportunities for participant instructors to explore

and synthesize researched approaches with authentic teaching needs in a structured environment. For example, Wang, Hsu, Reeves, and Coster (2014) investigated how the professional development (PD) program using a design-based model impacted teachers' use of technology in teaching and student learning outcomes. After the two-year study, they observed that "the PD's intervention successfully affected 68% the teacher's change in classroom practices by providing ample opportunities to foster the development of students' new literacy skills" (p. 113).

The common element that can be found in other models such as The Dialogic Video Cycle (Pehmer, Gröschner, & Seidel, 2015), Design-based Research Model (Wang, Hsu, Reeves, & Coster, 2014), NETTLE (Požarnik, 2009), or the TPACK (Lehiste, 2015) is the iterative process. Changing old ways of teaching is a process and one-off professional development workshops are not enough to bring about sustainable change (Balan, Manko, & Phillips, 2011; Lehiste, 2015). If instructors are to improve their TPACK they need continuously sustained opportunities to examine their teaching in light of recent research practices measured against student learning outcomes. Research by Wang et al. (2014) suggest that as many as 240 hours of training is needed before use of new methods become usable in a teacher's repertoire. The flexibility of adding the TPACK framework with other sound models into a professional development program should afford opportunities to improve on individual domains TCK, PCK, and TPK. Successful integration of those intersecting domains into an overarching TPACK will depend on personal and institutional factors.

Synopsis of Effective Learning Environments

A common theme found in the literature regarding the environment best suited for effective professional development is one that is driven by faculty/administration (Balan, Manko, & Phillips, 2011; Eib & Miller, 2006; Hinkelman & Gruba, 2012). In a European study of tertiary educators, Pozarnik (2009) identifies the "teaching environment in 90% of cases as the main obstacle" to professional development on an individual level due to factors such as too high a workload, too rigid and overloaded programs, large groups of students, and no support from colleagues (p. 351). Financial "incentives" offered by the department (Eib & Miller, 2006, p. 11), achievement certificates "signed by the Dean" of the faculty (Požarnik, 2009, p. 349) or nurturing an overall sense of "mutual ownership" (Rienties, Brouwer, & Lygo-Baker, 2013, p. 130) can contribute to community building and a climate of invested interest. The importance of faculty taking the lead in community building and professional development is encapsulated in Eib and Miller's (2006) assessment: "Carefully designed faculty development approaches can create a culture that supports thoughtful focus on teaching, while nurturing the sense of connectedness and collegiality that is vital to continuous innovation and improvement in post-secondary institutions" (p. 1). Without the proper learning environment established by the leaders of the institution, the climate will most likely devolve into a "blaming [i]nstitution" (Rienties, Brouwer, & Lygo-Baker, 2013, p. 130) where everyone accuses the other of being the source of the problem.

CONCLUSION

For the better part of a century, institutions of learning have largely depended on a reliable transmissive model of teaching that was suitable for local industrial-age economies. Since the turn of the century, the growing accessibility to modern technologies, such as the

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Internet and personal computers, has placed a pressure on educational institutions to respond to forces now driven by the global knowledge market. Of greater concern than the rapid changes to technology in education is the need for an effective integration of modern affordances that deliver on the promise of enhanced learning outcomes. In response to that challenge much research has focused on modernizing teaching methodology as the answer.

The purpose of this essay was to share some of the professional development best practices as they pertain to improved teaching methodology. The use of frameworks such as the TPACK can help an instructor raise awareness of teaching practices by zeroing in on certain teaching objectives as divided into various intersecting subdomains of knowledge—that is, technological, pedagogical, and content. Teacher reflection, formative assessment, and even student input round out some of the ideas that research suggests could help instructors become more adaptable to the ever-changing educational environment. Finally, a look at effective learning environments suggests that for real change to take root, a collaborative culture of learning and development involving all stakeholders—faculty, administration, teacher, and student—may be the best approach for the next enduring model for years to come.

REFERENCES

Ay, Y., Karadağ, E., & Acat, M. B. (2015). The Technological Pedagogical Content Knowledge-practical (TPACK-Practical) model: Examination of its validity in the Turkish culture via structural equation modeling. *Computers & Education*, *88*, 97–108.

Balan, R. M., Manko, T. P., & Phillips, K. F. (2011). Instructional improvement through professional development. *Transformative Dialogues: Teaching & Learning Journal*, *5*(2), 1–18.

Dittmar, E., & McCracken, H. (2012). Promoting continuous quality improvement in online teaching: The META Model. *Journal of Asynchronous Learning Networks, 16*(2), 163–175.

Eib, B. J., & Miller, P. (2006). Faculty development as community building: An approach to professional development that supports Communities of Practice for online teaching. *The International Review of Research in Open and Distributed Learning*, *7*(2).

Fransson, G., & Holmberg, J. (2012). Understanding the theoretical framework of technological pedagogical content knowledge: A collaborative self-study to understand teaching practice and aspects of knowledge. *Studying Teacher Education*, *8*(2), 193–204.

Hale, C. C. (2015). Self-assessment as academic community building: A study from a Japanese liberal arts university. *Language Testing in Asia, 5*(1), 1–12. http://doi.org/10.1186/s40468-014-0010-0

Hinkelman, D., & Gruba, P. (2012). Power within blended language learning programs in Japan. *Language Learning & Technology*, *16*(2), 46–64.

Koh, J. H. L., Chai, C. S., & Tay, L. Y. (2014). TPACK-in-Action: Unpacking the contextual influences of teachers' construction of technological pedagogical content knowledge (TPACK). *Computers & Education*, *78*, 20–29.

Krathwohl, D. R. (2009). Methods of educational and social science research: The logic of methods. Long Grove, IL: Waveland Press.

Lehiste, P. (2015). The impact of a professional development program on in-service teachers' TPACK: A study from Estonia. *Problems of Education in the 21st Century*, *66*, 18–28.

Mishra, P., & Koehler, M. (2006). Technological pedagogical content knowledge: A framework

Ferreira, D. (2017). Best practices for professional development. *Accents Asia, 9*(1), 1-7.

for teacher knowledge. *The Teachers College Record*, *108*(6), 1017–1054.

Nummedal, S. G. (1994). How classroom assessment can improve teaching and learning. In D. F. Halpern (Ed.), (pp. 289–305). Changing college classrooms: New teaching and learning strategies for an increasingly complex world. San Francisco : Jossey-Bass

Olofson, M. W., Swallow, M. J., & Neumann, M. D. (2016). TPACKing: A constructivist framing of TPACK to analyze teachers' construction of knowledge. *Computers & Education, 95*, 188–201.

Pehmer, A.-K., Gröschner, A., & Seidel, T. (2015). How teacher professional development regarding classroom dialogue affects students' higher-order learning. *Teaching and Teacher Education*, *47*, 108–119.

Požarnik, B. M. (2009). Improving the quality of teaching and learning in higher education through supporting professional development of teaching staff. *Napredak*, *150*(3-4), 0–0.

Rienties, B., Brouwer, N., & Lygo-Baker, S. (2013). The effects of online professional development on higher education teachers' beliefs and intentions towards learning facilitation and technology. *Teaching and Teacher Education*, *29*, 122–131.

TPACK Model: Digital Learning Futures. (2010, January 1). Retrieved July 21, 2016, from http://www.learningfutures.com.au/tpack-model

Wang, S.-K., Hsu, H.-Y., Reeves, T. C., & Coster, D. C. (2014). Professional development to enhance teachers' practices in using information and communication technologies (ICTs) as cognitive tools: Lessons learned from a design-based research study. *Computers & Education*, *79*, 101–115.

Zher, N. H., Hussein, R. M. R., & Saat, R. M. (2016). Enhancing feedback via peer learning in large classrooms. *Malaysian Online Journal of Educational Technology, 4(1)*, 1–16

Zumor, Al, A. W. Q., Refaai, Al, I. K., Eddin, E. A. B., & Al-Rahman, F. H. A. (2013). EFL students' perceptions of a blended learning environment: Advantages, limitations and suggestions for improvement. *English Language Teaching*, *6*(10), 95.