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[Articles](#) [Abstracts](#)

[Tables of contents](#)

[New publications](#)

[What's new](#) [Calendar](#)

[Education links](#) [Back](#)

[issues](#)

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Issue: [Volume 13 Issue 7](#) > [Articles](#)

High Possibility Classrooms: a new model of technology integration for schools

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Dr Hunter is the author of [Technology Integration and High Possibility Classrooms: Building from TPACK](#), in which she details the research outlined in this article.

A recent doctoral study of exemplary teachers in Australian public schools developed a new model of technology integration known as High Possibility Classrooms (HPC). The research aimed to understand how a group of exemplary teachers conceptualized their knowledge of technology integration and to find out what was *fresh* in their approaches, including what students in the classrooms thought out being learners in such spaces.

Teachers in the study all worked in the NSW public school system. They were recruited on the basis that they were an 'excellent fit' against six criteria established for a purposive sample. In brief, these were high level technology proficiency, use of technology daily, innovative practices, initiation of professional learning with colleagues in and beyond the school context, participation in new trials of technology and high regard from colleagues for their commitment to the profession.

Research in the teachers' classrooms (with students aged 6-16) was conducted across a two year period (Hunter, 2013). It involved interviews with teachers, and focus group meetings with their students, as well as classroom observations and

analysis of documents such as lesson plans, syllabus documents, student work samples and jurisdiction technology policies.

What emerged from the data collection and analysis was that exemplary teachers conceived their knowledge of technology around [five conceptions](#): *theory*, *creativity*, *public learning*, *life preparation* and *contextual accommodations*. Within each of these five conceptions are [multiple themes of teaching practices and student learning processes](#) that align with what young people require for their education futures.

What is the HPC model?

The HPC model is a pedagogical framework for technology integration developed from exemplary teachers' knowledge (Hunter, 2014; Hunter, 2015a; Hunter, 2015b). This is knowledge *for practice*, *in practice* and *of practice*. The [TPACK framework](#) (Mishra & Koehler, 2006) was used as the study's theoretical starting point. TPACK builds on Shulman's (1987) concept of pedagogical content knowledge, and confirms that pedagogy is now intertwined not only with content, but also with the affordances and constraints of technology.

The new research (Hunter, 2013) has built on earlier theorizing by Shulman (1987) and Mishra & Koehler (2006) by establishing that exemplary teachers conceive technology integration according to specific conceptions and underpinning themes. Together, these form the HPC model. Figure 2 names each of the 22 themes in the five conceptions.

A summary of how the themes work in concert with one another is provided here.

The first conception in the model is theory: teachers in the study consciously applied their knowledge of education theories when integrating technology into their practices. This action related to the manner in which it drove construction of learning in the classroom. Technology enhanced purposeful teaching approaches whilst also allowing the teachers' planning to be more focused. Technology enriched the subject matter students were learning, and it promoted reflective learning, as well as shifting their conversations and thinking. In addition, it engaged students in authentic ways in what they were learning.

The second conception, creativity, exposed how technology gave students many more opportunities to be inventive. It built opportunities for them to produce or make things, and technology unleashed playful moments bringing into sharp focus educational values such as joy and celebration. Technology also assisted the teachers to differentiate student learning.

The third conception is public learning: this meant technology provided new ways for students to display learning to an audience beyond the teacher. Two themes were involved: technology scaffolded students' performance, making it easier for them to demonstrate or share their work; and in so doing, technology enhanced their learning outcomes.

The fourth conception is life preparation. It has four themes: technology gave students ways to understand the world beyond school; it gave them a voice; it gave them a sense of ownership over their work and possibility for the future; and it was highly effective in bridging the worlds of school and beyond.

The fifth conception and final part of the HPC model is contextual accommodations, or the adaptations required to maximise the effectiveness of the technology for teaching. Teachers had to navigate both the personal aspects of their own technology use and how that played out professionally; technology had implications for the way the school day was organized (longer blocks of learning time were put in place, so

that students could ‘get into flow’ with the new way of working); technology helped to nurture a community of learners in their classrooms; and lastly, it defined who they were as teachers.

It wasn’t always easy to teach the way the teachers believed learning should occur when current school structures focused on testing, so they ‘played the game of school’ most of the time.

Pedagogical approaches in all of the classrooms varied, as did the technology tools and pathways teachers and students used to create and explore content. What was interesting, however, was that the teachers believed that they had all ‘ended up in the same place’. The four case studies developed from the research, expressed as snapshots in this paper, give a glimpse of the classrooms.

Case 1: Gabby’s early years classroom

Gabby taught a composite class of 28 students in a relatively middle-class school in a major city. The classroom was set up with an interactive whiteboard (as a tool for the students to use, rather than as a device only for the teacher), digital cameras and scanners, projectors, microphones, laptops and an iPhone. Gabby considered herself an early years specialist and in her classroom student learning was made public through performance. This classroom was a place where active engagement, better quality outcomes and audience were important aspects of technology integration. As she stated:

Learning should flow and teachers should go with the flow. Seeing what is important to each student is better revealed without everyone producing the same thing at the same time. (Interview 1a).

Case 2: Gina in the primary years

Gina taught students in a primary classroom. She was also fulfilling the role of technology consultant for the region and was available to work with hundreds of teachers to enhance technology integration practices by ‘literally working at their elbow’. Gina was one of two teachers in the study who spoke about the importance of students learning computer coding. In Gina’s practice every lesson had a clear and well-defined purpose; comprehensive planning and connections to larger concepts were made through language and conversation. Constructivist teaching was key and Gina used a pedagogical framework reflecting that approach to support her aim of quality teaching. The framework she used is built on being clear about what she wanted the students to learn, why the learning mattered, how the students demonstrated their deep understanding and how well she expected them to do their work:

Teachers must be willing to learn and know how texts work in technology mediums, and know what makes an effective text. (Interview 2a).

Case 3: Nina’s middle year’s classroom

Nina took a class of of gifted and talented students in a middle years classroom. From the moment Nina stepped into the school, as a beginning teacher, she was recognized as a technology leader, and her classroom was one of the first, in the NSW public school system, in which students had individualised, 1:1 use of laptops. The five conceptions explain her knowledge of technology integration in this classroom. She built her practice with an emphasis on praxis with a focus on active construction of

student learning using an inquiry model she developed from her own doctoral work known as QUEST (Question, Uncover, Explain, and Share Together). For example: when students used QUEST they would research a topic that they were interested in finding out more about, while at the same time Nina would relentlessly probe and question them about what they were learning.

Case 4: Kitty teaches in a secondary school

Kitty taught in a large, ethnically diverse secondary school. She was a qualified filmmaker before embarking on her teaching career. At this site, Kitty taught Visual Arts, and was the school's leading technology advocate. Flexibility strengthened her planning and organization, and she focused on self-regulation and differentiation. Creativity to Kitty was all about aesthetic significance and enabling the students' learning to be made public using blogs, film, and digital response networks. When Kitty used technology it stemmed from her belief that she was looking to the future:

I am preparing students for life beyond school ... for life. Visual Arts may be the only subject where some students experience success in their learning, and can walk out of school with a sense of how the world is. (Interview 4c)

Conclusion

Research from this qualitative study that forms the model of HPC is significant for three reasons*. Firstly, it is a collection of case studies of exemplary teachers' knowledge of technology integration, where each serves as a motivational exemplar of what can be achieved using technology in today's classrooms. Secondly, the study is a clear response to persistent calls in education literature for more case studies of teachers' practice in technology integration in both Australian (Finger et al, 2007; Jordan & Dinh, 2012) and international contexts (Schrum, 2011). And thirdly, the study fills a noted gap in the research literatures, in what is known about knowledge of technology integration in practice from teachers' perspectives. Together this distinctive examination of data from a group of exemplary teachers' knowledge of technology integration in Australian classrooms gives critical, *fresh* insights to what is now known.

*The model is currently being validated in schools with mainstream teachers – for further information please contact the author: j.hunter@uws.edu.au

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