

High Possibility Classrooms: Creating *iHistorians* and *iGeographers*



New opportunities for student engagement

The newly released [NSW syllabus for the Australian curriculum: Geography K-10](#), based on the Australian Curriculum for [Geography F-10](#), sits alongside the syllabus developed by the NSW Board of Studies Teaching and Educational Standards (BOSTES) for [History K-10](#).

Both documents open up captivating possibilities for re-imagining how History and Geography are taught in NSW schools.

The notion of *iHistorians* and *iGeographers*

The new Australian Curriculum, and the NSW syllabuses for the Australian curriculum in History and Geography, provide opportunities for rich technology-enhanced learning.



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The terms *iHistorians* and *iGeographers* in the title of the article are used to capture the necessary hook of technology in learning these subjects in school classrooms. The *iHistorian* notion can be attributed to a [blog post](#)



published by Amy Kingsley in January 2015. It is predicted that fascinating content in both existing and developing curriculum, combined with engaging pedagogy using inquiry methods, will encourage more teachers to experiment with History and Geography in ways not previously considered. A sense of re-imagining in the [NSW History K-10](#) syllabus was inspired by the blog post referred to above. Although it is written in the single context of a Kindergarten class in a school in Manchester England, some important points are made about technology-enhanced learning in History. For example, iPads are used with different groups of students to embed

historical content by creating everything from [movie trailers in iMovie on Roman emperors](#)



A Roman romantic: an iMovie to inspire alternative lonely hearts adverts for Emperor Nero

to making [simple books](#) on the animals used in The First World War, using [Book Creator](#).



Darcey and Alyssa animals in WW1 book

What Amy enacts in her British classroom holds pedagogical relevance for teaching primary History in Australia and re-affirms the critical necessity of engaging students' inventiveness and creativity.

This article explores how Amy Kingsley's notion can be used for proposing technology-enhanced learning in History and Geography in primary schools using the model of [High Possibility Classrooms](#). This model was developed from research in exemplary teachers' classrooms in NSW public schools (Hunter, 2013; Hunter, 2014; Hunter, 2015a).

Before looking at some case study examples, it is necessary to understand more about the *High Possibility Classrooms* model.

What are High Possibility Classrooms?

The *High Possibility Classrooms* model is also known as HPC. It is a model of design based learning for technology integration in schools drawn from research conducted in the classrooms of a group of exemplary teachers (Hunter, 2013). This study aimed to understand how four particular teachers conceptualised their knowledge of technology integration and discover what was *fresh* in their approaches. It also included finding out what students thought about being learners in such spaces.

Teachers in the study all taught 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, the criteria 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
- high regard from colleagues for their commitment to the profession.

Research methods

Research in the teachers' classrooms (with students aged 6-16) was conducted across a two-year period. Data collection involved:

- interviews with teachers
- focus groups with students
- classroom observations
- analysis of documents, including lesson plans, syllabus documents, student work samples and technology policies.

Research findings

HPC conceptions

From the data collection and analysis it emerged that exemplary teachers conceived their knowledge of technology integration around five conceptions as shown in Figure 1:

- Theory
- Creativity
- Public Learning
- Life Preparation
- Contextual Accommodations.

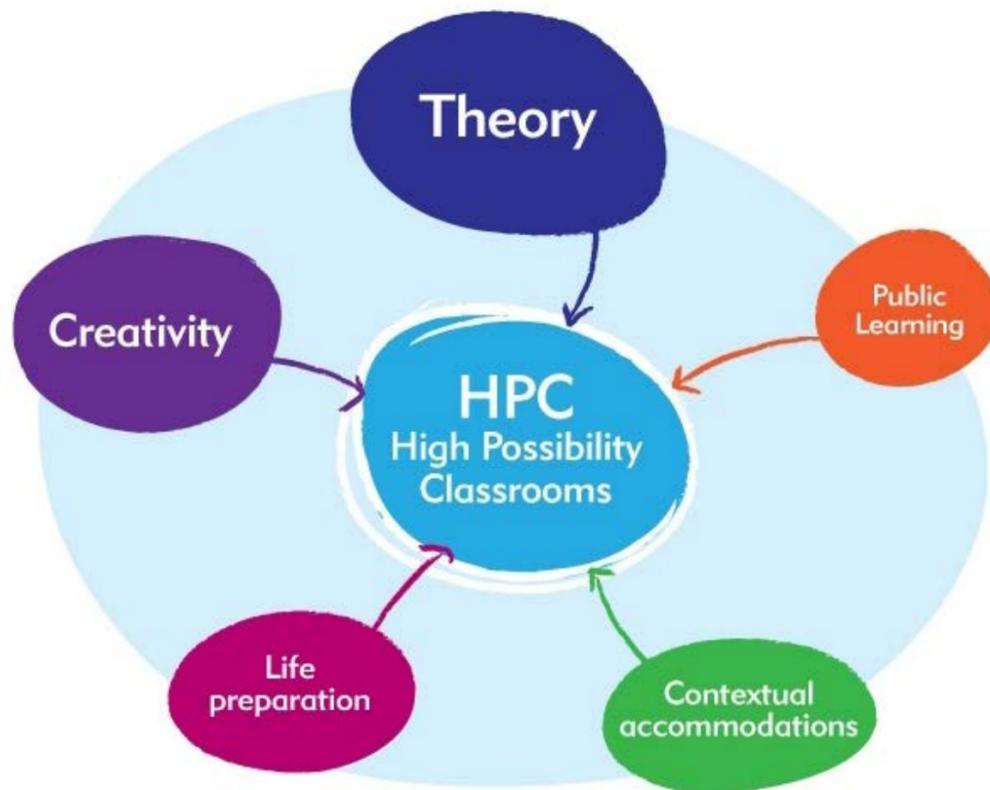


Figure 1 The five conceptions in the *High Possibility Classrooms* model

Teaching and learning themes

Within each of these five conceptions are multiple themes of teaching practices and student learning processes (see Figure 2) that align with what young people require, for their education futures.

Theory-driven technology practice	Creativity for learning through technology	Public learning through technology	Life preparation using technology	Contextual accommodations using technology
Technology drives construction of learning	Technology boosts creativity	Technology scaffolds performance	Technology operationalises the real world	Technology remains personal and professional
Technology enhances purposeful teaching	Technology creates opportunities for production	Technology enhances outcomes	Technology gives voice	Technology changes time
Technology focuses planning	Technology unleashes playful moments		Technology means ownership and possibility	Technology nurtures community
Technology enriches subject matter	Technology supports values		Technology reveals effectiveness	Technology defines the game
Technology promotes reflective learning	Technology differentiates learning			
Technology shifts conversation and thinking				
Technology engages students in authentic ways				

Figure 2 Themes that underpin the five conceptions in the *High Possibility Classrooms* model

An outline of how these themes worked together within the five HPC conceptions is provided here.

Theory

Within the first conception, *Theory*, teachers in the study consciously applied their knowledge of education theories when integrating technology into their practices. This action related to how

theories drove the construction of learning processes in the classroom. It was found that technology enhanced purposeful teaching approaches while also allowing the teachers' planning to be more focused. Technology enriched the subject matter students were learning, promoted reflective learning, and shifted their conversations and thinking. In addition, it connected students to what they were learning in authentic ways.

Creativity

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 unleashed playful moments, bringing into sharp focus educational values such as joy and celebration. Technology also assisted the teachers to differentiate student learning.

Public Learning

The third conception, *Public Learning*, showed how 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
- through this sharing, technology enhanced student learning outcomes.

Life Preparation

In the fourth conception, *Life Preparation*, four themes developed:

- technology gave students ways to understand the

world beyond school

- technology gave students a voice
- technology gave students a sense of ownership over their work and possibility for the future
- technology was highly effective in bridging the gap between the worlds of school and beyond.

Contextual Accommodations

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 organised:

- 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
- technology defined who they were as teachers.

It wasn't always easy to teach the way these teachers believed learning should occur when current school structures focused on testing, so they *played*

the game of school most of the time. They found ways to work with existing arrangements to teach the way they believed was a better way to learn. Pedagogical approaches in all of the classrooms varied, as did the technology tools and pathways the 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*.

Case studies

Four case studies were developed from the research findings. They are expressed here as snapshots and give a glimpse of the classrooms involved in the study. The third case study of Nina will be used as a specific example later in the article, in the context of teaching primary school History. More information about each case study can be found in a series of articles on the [Education HQ](#) website. Links to each article can be found embedded in the title of each case study below and in [References and further reading](#). Full research findings are included in [Technology integration and High Possibility Classrooms](#) (Hunter, 2015).

Case study one: 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 study two: 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*.

One of two teachers in the study, Gina spoke about the importance of students learning to write computer code. 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 a key factor in learning design and Gina used a pedagogical framework reflecting that approach to support her aim of quality teaching. The framework she used was built on:

- stating explicit goals for students learning
- explaining to students why the learning mattered
- ensuring students had the opportunity to demonstrate their deep understanding
- providing explicit guidelines about the quality of finished 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 study three: Nina in the middle years

Nina taught a class of gifted and talented students in a middle years classroom. From the moment Nina stepped into the school, as a beginning teacher, she was recognised 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 HPC conceptions explain her knowledge of technology integration. 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. She says:

Computers enable powerful work with ideas. They mediate relationships, and the QUEST approach puts [the students] in the most precarious learning situations where they have to find solutions and solve problems.

(Interview 3b)

Case study four: Kitty in a secondary school classroom

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 organisation, 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)

Each of the case studies is a powerful example of how particular teachers and their students used technology to enhance learning. The study (Hunter, 2013) filled a gap in the literatures about what is known about teachers'

knowledge of technology integration from teachers' perspectives (Schrum, 2011). The third case study of Nina is useful to explore, in greater depth, the specific conceptions that underpinned her knowledge of technology integration and how the approach might be used in teaching History in primary schools.

QUEST as a driver for inquiry in History learning

The potential of QUEST used by Nina and her students can be integrated with an example from the excellent selection of new resources produced by the State Library of NSW. In this selection is a learning sequence for the Stage 3 History topic: *Australia as a Nation* in the *NSW syllabus for the Australian curriculum History K-10*, (HT3-3, HT3-4, HT3-5, ACHHK114). It has four key inquiry questions:

1. Why and how did Australia become a nation?
2. How did Australian society change throughout the twentieth century?
3. Who were the people who came to Australia? Why did they come?
4. What contribution have significant individuals and groups made to the development of Australian society?

The learning sequence, *Actions for Aboriginal Rights*, helps students to

explore the part of the overall topic that deals with events that affected changing rights and freedoms for Aboriginal people and Torres Strait Islanders. It uses a number of online historical artifacts with a series of inquiry questions. This [example](#) shows a series of images of the Aboriginal tent embassy, one of which is used in the sequence.

Students are given the topic: *Actions for Aboriginal Rights* and the key inquiry questions, or they could choose another topic and an artefact set from Stage 3. A technology hook for inspiring students to be *iHistorians* is created through using laptops connected to the internet for individual research or work in pairs. Students use the QUEST process and create a digital product to demonstrate their learning. This product might be an iMovie, a [PicCollage](#) or an *AudioBoom* made with a free application. The product would be used for the ST or Share Together part of the QUEST process. Project-based learning (PBL) gives students longer blocks of learning time to research and find answers to questions they are curious about and with technology tools this can be done efficiently and effectively. Students use various presentation tools to collaborate and create digital History products that can be shared with peers, parents and the wider school community.

The case study details how a mainstream teacher, Peter, in a primary school in a large metropolitan city in NSW approached technology integration with his students using the HPC conceptions and themes in a unit of work focused on Japan. The classroom was observed over several weeks, planning and policy documents were analysed and interviews and focus groups were conducted with Peter and a small group of students from his class.

The classroom

The class of 28 was a heterogeneous grouping of Stage 3 students, with many stating, that they had good access to a range of technology devices at home. They were used to working in small groups, and on individual projects when required. Students sat in table groups close to the interactive whiteboard.

The classroom had four desktop computers, iPads and a set of digital cameras, which were loaned from the school library. Access to wifi in the classroom was often intermittent, which made working with technology quite frustrating at times.

Students in this classroom also used a project-based approach for the Japan study guided by a focus question with a set of contributing questions. The process Peter used involved big ideas and GOASA (Gather, Organise, Analyse,

Synthesis and Apply). To read more about this planning organiser follow the link to this blog post on [Medium](#).

Studying Japan

Japan was the country of choice for the study as the teacher's content knowledge of the topic was significant. Peter expressed the choice this way:

I lived there for many years. I can pass on what I know to what the students are learning, it is all part of my belief that it's important to know your subject, this topic is a key part of what middle year's students need to know in-depth in the social science syllabus.

Students directed their research on the topic of Japan towards investigations of cultural, linguistic and geographical features. They worked in groups and used various software applications to present their final product to the whole class, just like Nina's students.

Peter had active interest in his project-based approach to teaching from his principal and a highly visible parent community who also engaged with the class's technology program through weekly online news reports and enthusiastic endorsement of a site visit to an innovative technology lab at a local university.

The field trip

The event was a field trip organised by the researcher and was designed to follow up Peter's interest in exposing his students to inspirational and cutting-edge work in the technology field with a Geography focus. It featured innovative work conducted by academics in augmented reality and other technologies. Its purpose was to show middle year's students how experimental technologies can push what is known in subjects like Geography as well as computer science and engineering.

In the lab students played with *Minecraft* using photorealistic computer graphics and immersive sounds, they experienced Google Earth on a 6x3 metre screen, as well as Google Street View on the Liquid Galaxy System 7 x LCD rig where they *visited* significant sites and street cafes in Tokyo.

This field trip demonstrated not only the power of site visits for middle years students but also how this kind of activity fosters creative ideas and curiosity thinking in young people. There were opportunities to *play with technology* alongside experts including being able to use personal devices for trials of new software on the day. Geography suddenly became a lived experience where technology gave it a *real edge* and these Stage 3 students

could travel virtually to the country they were studying.

Other geospatial technologies including the current fad of geocaching amongst keen geographers also presents all kinds of exciting learning opportunities.

Conclusion

Research in Nina's and Peter's classrooms revealed how their deep knowledge of integrating technology for learning supported student learning in History and Geography. For Nina's praxis, it was her QUEST construction together with a focus on metacognition, creativity, creating communities of learners and how she defined the *game of teaching* (Hunter, 2015a). All of these themes are found within the five conceptions of the HPC model.

Peter concentrated on all five conceptions in HPC too but more so on *Creativity, Life Preparation, Public Learning and Contextual Accommodations*. The *theory* conception was evident in his practice but less so in this context.

Technology integration was an authoritative force used to prepare students for their lives beyond school through the way both teachers encouraged experimentation and risk-taking with software applications and the mobile devices they used.

Technology integration in content and the learning of history and geography skills *operationalised the real world* for students and gave them a *voice* to express their ideas whilst at the same time developing their sense of ownership and responsibility (Hunter, 2015b). More importantly, it revealed how well technology enhanced learning could drive their sense of creativity and determine what content mattered to them (Craft, 2011; John & Wheeler, 2008; McWilliam & Taylor, 2012).

Preparing *iHistorians* and *iGeographers* for the future is something many primary school teachers are, and will continue to embrace, in their classrooms using all of the exciting *technology hooks* available. The conceptions and themes within the *High Possibility Classrooms* model provide the framework through which to design and thread the hooks.

References and further reading

Craft, A 2011, *Creativity and education futures: Learning in a digital age*. Stoke on Trent England: Trentham Books.

Hunter, J 2015, '[Adding 'A' to STEM makes STEAM: a high school teacher who puts the aesthetic and creativity first in technology integration](#)', *Education HQ*, accessed July 20 2015.

Hunter, J 2013, *Exploring technology integration in teachers' classrooms in NSW public schools*, Unpublished PhD dissertation. University of Western Sydney, Sydney, Australia.

Hunter, J 2015, '[Geography is a distinct discipline: teaching the subject creatively to primary school students](#)', *Medium*, accessed 29 June 2015.

Hunter, J 2015b, forthcoming. 'High possibility classrooms in the middle years: a model for reform', Groundwater-Smith, S and Mockler, N (Eds.), *Big fish little fish: teaching and learning in the middle years*. Cambridge: Cambridge University Press.

Hunter, J 2014, '[Is learning how to](#)

[write computer code the answer to teaching primary school students how to think?](#)', *Education HQ*, accessed July 20 2015.

Hunter, J 2014, *High possibility classrooms: technology integration in action*, Refereed paper presented to the *Society for Information Technology and Teacher Education International (SITE) conference*, Jacksonville, Florida.

Hunter, J 2014, '[Meddler, sage or guide: a middle years teacher's knowledge of technology integration and the role of inquiry](#)', *Education HQ*, accessed July 20 2015.

Hunter, J 2015, '[Planning hard to teach easy: using inquiry in History and Geography in primary schools](#)', *Medium*, accessed 29 June 2015.

Hunter, J 2015a, *Technology integration and high possibility classrooms: building from TPACK*. New York: Routledge

Hunter, J 2014, '[Technology integration in the early years: thick play, making and time to write narratives](#)', *Education HQ*, accessed July 20 2015.

John, P D and Wheeler, S 2008, *The digital classroom: harnessing*

technology for the future of learning and teaching, London, England: Routledge.

McWilliam, E and Taylor, P 2012, '[Schooling for personally significant learning: is it possible?](#)', accessed 29 June 2015.

Maude, A 2014, *Understanding and teaching the Australian Curriculum: Geography for primary schools*, Adelaide: Hawker Brownlow Education.

Schrum, L 2011, 'Revisiting a proactive approach to an education technology research agenda', in L. Schrum (Ed.), *Considerations on educational technology integration: the best of JRTE*, Eugene, Oregon: International Society for Technology in Education.