



Professional Development Pathways

**Smart Classrooms Professional Development
Framework – *Digital Pedagogy Licence***

Assessment for Academic Credit

DEVELOPED
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**Associate Professor Romina
Jamieson-Proctor**
*University of Southern
Queensland*
jamieson@usq.edu.au

Dr Margaret Lloyd
*Queensland University of
Technology*
mm.lloyd@qut.edu.au

**Associate Professtor
Peter Albion**
*University of Southern
Queensland*
albion@usq.edu.au

*Professional Development Pathways is an initiative between the Higher Education Institutions and the
Department of Education and Training. For further information regarding this initiative email
PDPPathways@deta.qld.gov.au*

Background

Professional Development Pathways is an initiative, in partnership with nine Queensland Higher Education Institutions and the Department of Education and Training, that allows school leaders and teachers, undertaking key identified professional development activities, to gain academic credit towards postgraduate study.

Participants may undertake the optional assessment at the same time as the professional development course, or after the course is completed. The option to complete and submit the assessment for marking must be exercised within six months of completing the course.

The completed optional assessment is submitted to one of the participating Queensland Higher Education Institutions for marking, as per that institution's published timelines and requirements. Successful completion of the assessment will afford participants credit equivalent to one subject¹ from a Masters Degree or Graduate Certificate program at a participating Queensland Higher Education Institution. The credit may be applied to an appropriate postgraduate qualification as determined by each participating Queensland Higher Education Institution. It should be noted that possession of an academic credit voucher does not guarantee entry to any of the participating Queensland Higher Education Institutions. All of the standard requirements for admission still apply.

The participant should check with the Queensland Higher Education Institution with regards to how and when the assessment task is to be submitted for marking. The academic credit voucher will be issued if the standard of the work submitted for assessment is deemed to be satisfactory. Participants will be provided with an opportunity to resubmit the work, for a repeat marking fee, if the work is not satisfactory (resubmission fees at the participant's own cost).

To activate the academic credit voucher, participants will need to enrol in one of the participating Queensland Higher Education Institutions' nominated postgraduate programs. Refer to the *Register of Approved Courses* available on the department's website.

The agreed currency of the voucher differs depending on the discipline area. For example, the changing nature of knowledge in ICTs means that the voucher for relevant programs must be activated within 3 years. For most other programs, the voucher remains valid for 5 years from the date of undertaking the key identified departmental professional development.

Currently there are nine Queensland Higher Education Institutions participating in the *Professional Development Pathways* initiative.

- Australian Catholic University
- Central Queensland University
- Christian Heritage College
- Griffith University
- James Cook University
- Queensland University of Technology
- University of Queensland
- University of Southern Queensland
- University of the Sunshine Coast

¹ Note that in some universities, a 'subject' is referred to in various ways; for example a subject might equate to one (1) course or one (1) unit of study at a Masters level.

Further information regarding the *Professional Development Pathways* initiative is available from the department's website <http://education.qld.gov.au/staff/development/employee/teachers/pathways.html> or by contacting the Professional Development Unit, Department of Education and Training, telephone (07) 3234 1460, email PDPATHWAYS@deta.qld.gov.au.

Assessment Task

To gain the credit voucher, participants should, within 5 years of gaining the *Digital Pedagogy Licence*:

1. Present proof supplied by the Department of Education and Training that they are a current holder of the *Digital Pedagogy Licence*.
2. Submit Parts (a) and (b) of the Assessment Task as described below.
3. Meet the requirements of Part (c) of the Assessment Task, by undertaking a 30 minute interview (either face-to-face or via teleconference).

The Assessment Task comprises (a) Written Response, (b) Professional Application, and (c) an Interview. Applicants are directed to the Marking Criteria for the Assessment Task for further details.

Written Response

The Written Response will present a coherent and fluent argument linking theory and practice to explain the benefits of ICT for student learning (1000 words). This is effectively an extension or formalisation of your response to the Professional Knowledge criterion from the Smart Classrooms Professional Development Framework. Applicants are expected to draw upon examples cited in their *Digital Pedagogy Licence* Portfolio. A list of suggested theory resources can be found in Appendix 1.

Professional Applications

The Professional Application provides the Applicant with the opportunity to translate the argument presented in the Written Response into a format that conveys, to a defined audience, the underpinning message of the benefits of ICT use for student learning. The message/s conveyed in the Professional Application may be drawn from the applicant's experience in creating the portfolio, or may go beyond the portfolio to include further learning. This submission may, where appropriate, be in written form or may be recorded using various digital media.

Applicants are to create one (1) of the following Professional Applications:

- A presentation to a parent or community group;
- A presentation for an education conference;
- A publishable article for a practitioner journal;
- A briefing paper for the Minister for Education;
- A short online presentation e.g. SlideShare, Podcast, Video clip, etc;
- An application using their own choice of mode and audience.

Interview

The applicant will be required to explicate the connection between the Written Response and the Professional Application and their professional knowledge about how ICT can be used to support and enhance:

- what students learn
- how they learn, and
- when and where their learning takes place.

In doing so, applicants should draw upon the Professional Practice, Professional Values and Professional Relationships prescribed by the *Digital Pedagogy Licence* level of the *Smart Classrooms Professional Development Framework* and previously demonstrated in the applicant's Portfolio.

The interview will provide the applicant with an opportunity to expand and clarify aspects of their submission. The interview should provide applicants with the opportunity to fully satisfy the criteria wherever possible.

Submission Procedure

Candidates should contact the higher education institution of choice regarding acceptable submission formats. Some will require printed paper-based submissions, while others may require a digital submission. Applicants must supply the submission in the format required by the higher education institution they have selected.

Digital Pedagogy Licence Assessment Task - Criteria Sheet

Participant's Name	
Higher Education Institution	
Marker	
Date	
Overall Rating	Satisfactory / Unsatisfactory

	Criteria	Standard S=Satisfactory US=Unsatisfactory
	The applicant will generally not be considered for the credit voucher unless they are satisfactory in all of the criteria.	
Written Response	CONTENT Links theory and practice; Explains benefits of ICT to student learning.	
	UNDERSTANDING is Indicative of the relational or extended abstract levels of the SOLO taxonomy (see Appendix 2).	
	ARGUMENT is: Logical; Defensible; Linked to educational theory; Linked to practice; Linked to policy; Powerful and persuasive.	
	COMMUNICATION is Coherent; Fluent; Appropriate for academic purpose; Grammatically correct; Appropriately and logically structured.	
Professional Application	Accurate interpretation of content from written response	
	Conveys message clearly	
	Exploits the functionality of the chosen medium	
	Appropriate for intended audience	
	Uses effective examples where appropriate to support message	
Interview	Appropriate reference is made to the Professional Practice, Professional Values and Professional Relationships prescribed by the <i>Digital Pedagogy Licence</i> previously demonstrated in the applicant's Portfolio.	
	Applicant is able to expand and clarify aspects of their submission as required by the interviewer	

Theory Resources

In theory, there is no difference between theory and practice. But, in practice, there is.
Jan L.A. van de Saepe

The Assessment Task requires applicants to link their understandings to theory. In this section, links will be provided to (a) learning theories and (b) ICT Research. Please note that applicants may make use of other authoritative sources to support their submission.

1.1 Learning Theories

The key learning theories associated with ICT in education are (i) constructivism; (ii) constructionism; and, (iii) connectivism. These may be summarised as follows.

i. Constructivism

- Constructivism focuses on the learner and the knowledge that they build internally. Based on active engagement with ideas and materials, students add to (or sometimes change) their previous knowledge.
- Constructivism is conceptually linked to the idea that reality is internal and knowledge is constructed by the learner.
- Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge. In other words, learning involves constructing one's own knowledge from one's own experiences.
- Constructivist learning, therefore, is a very personal endeavour, whereby internalised concepts, rules, and general principles may consequently be applied in a practical real-world context.

ii. Constructionism

- Concept promoted by Seymour Papert. Simply put: Constructivism + technology = constructionism
- Technology can play an important, "enabling" part in the external side of knowledge construction.
- An approach to organising the conditions for learning, which employs technologies in paired construction is called constructionism
- While based on a constructivist framework, constructionism is specialised because technology is employed for exploring, expressing, and exchanging ideas.
- Constructionism changes a teacher's traditional role from delivering information to organising socio-technical networks that promote the construction of knowledge.

iii. Connectivism

See <http://www.elearnspace.org/Articles/connectivism.htm> for more information

- Connectivism is the integration of principles explored by chaos, network, and complexity and self-organisation theories. Learning is a process that occurs within nebulous environments of shifting core elements - not entirely under the control of the individual.
- Learning (defined as actionable knowledge) can reside outside of ourselves (within an organisation or a database), is focused on connecting specialised information sets, and the connections that enable us to learn more are more important than our current state of knowing.
- Connectivism is driven by the understanding that decisions are based on rapidly altering foundations.
- New information is continually being acquired. The ability to draw distinctions between important and unimportant information is vital. The ability to recognise when new information alters the landscape based on decisions made yesterday is also critical.

Principles of connectivism:

- Learning and knowledge rests in diversity of opinions
- Learning is a process of connecting specialised nodes or information sources
- Learning may reside in non-human appliances
- Capacity to know more is more critical than what is currently known
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision.

For further information and details of other learning theories, visit the *Explorations in Learning & Instruction: The Theory Into Practice Database* at <http://tip.psychology.org>. This site contains descriptions of over 50 theories relevant to human learning and instruction. Follow the link to *The Theories*.

1.2 ICT research

The ICT research of use to applicants in this submission will be drawn from a range of studies. There are a number of academic journals in print and some, including the British Journal of Educational Technology (BJET) make sample copies available online. Applicants may undertake their own searches, perhaps from Google Scholar or from a scholarly database such as ERIC, or may alternately locate appropriate resources from a research repository. Leading repositories are:

- **EdNA (Education Network Australia)** - <http://www.edna.edu.au>
Follow the ICT Research link or enter “ICT research” in the Search window.
- **Caret (Centre for Applied Research in Educational Technology)** - <http://caret.iste.org/>
The “Browse Questions and Answers” link is of particular use and guides your searching through leading questions.
- **FutureLab** - http://www.futurelab.org.uk/resources/publications_reports_articles
This provides links to reports, literature reviews and a range of highly relevant ICT material.

A framework of particular interest is that related to **Technology Pedagogical Content Knowledge (TPCK)**. This builds upon classical work on Pedagogical Content Knowledge (PCK) devised by Lee Shulman (c. 1986) and combines content, pedagogy and technology. Figure 1 shows a diagrammatic representation of how content, pedagogy and technology intersect to create the concept of TPCK.

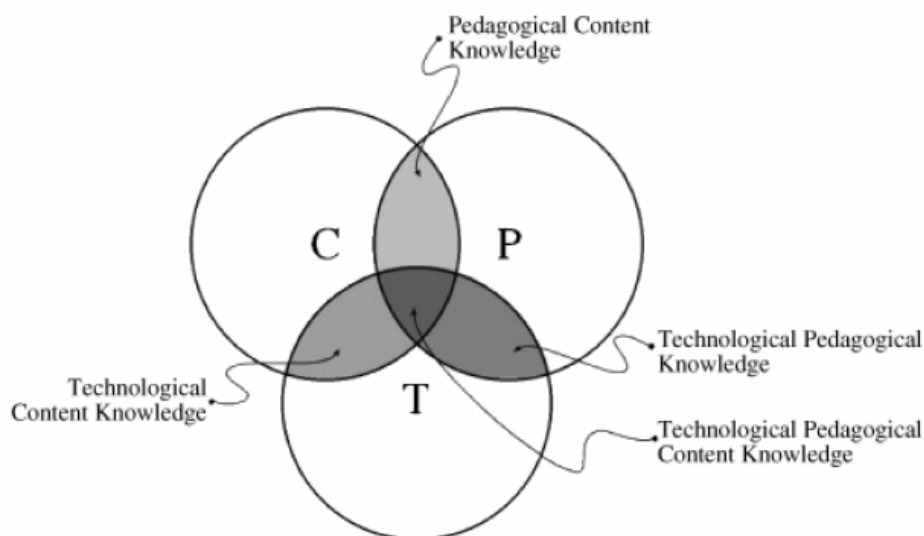


Figure 1: Technological Pedagogical Content Knowledge (Mishra & Koehler, 2006)

Mishra, P., & Koehler, M.J. (2006). Technological pedagogical content knowledge: a framework for teacher Knowledge. *Teachers College Record*. Retrieved October 25, 2007.

SOLO Taxonomy

The SOLO taxonomy (Biggs & Collis, 1982, 1989) comprises five levels which are based on the structural organisation of the knowledge under investigation, in hierarchical order from *incompetence to expert* as follows:

- (a) **prestructural** (knowledge is at an incompetent level, nothing is really known about the area);
- (b) **unistructural** (only one relevant aspect is known);
- (c) **multistructural** (some relevant, but independent, aspects are known);
- (d) **relational** (knowledge components are integrated into an integrating structure of some type); and,
- (e) **extended abstract** (the acquired knowledge is generalised to a new domain)

Using the Taxonomy to structure your thinking for the Written Response

It is expected that the Written Response will move beyond a simple recount of what the applicant uses ICT for in their classroom and a list of the learning outcomes to be derived from integrating ICT in the curriculum (e.g., a Multistructural level of understanding). The Written Response should aim to link what is happening with ICT in your classroom to the relevant theories of teaching and learning to demonstrate a Relational or Extended Abstract level of understanding. The following table contains examples of statements that are indicative of the five SOLO levels of understanding about the use of ICT with students:

SOLO Level	Indicative Response related to ICT use in learning
Prestructural	ICT is a great reward for early finishers. <i>Kids love it!</i>
Unistructural	ICT can be used to engage students in the learning task. Students are always motivated to work on the computers.
Multistructural	ICT can be used to engage students in the learning process and to extend the range of skills that students are able to acquire and use. For example, they are able to draft and publish their work in various forms. ICT can be used by students to research a topic on the Internet and then create a PowerPoint presentation or animation to display their new-found knowledge.
Relational	ICT can be used to support and enhance what students learn, how they learn, and when and where their learning takes place. For example, students can use ICT to connect with people, information and resources to solve authentic problems and to share their new understandings in a variety of modes. In this way, ICT is used to support our connectivist learning environment and cater to a variety of learners.

<p>Extended Abstract</p>	<p>ICT can be used to not only support and enhance what students learn, how they learn, and when and where their learning takes place, but also to transform teaching, learning, curriculum and assessment. For example, students can use ICT to access learning opportunities and improve outcomes in ways that are not possible without ICT when they engage in virtual worlds to simulate dangerous or impossible situations (e.g., chemical experiments or investigating the inner world of a volcano).</p> <p>The difference between using ICT and other forms of communication / learning is that with ICT students are able to synchronously communicate with others in local, national and global communities. The synchronicity of the communication when ICT is used allows students to get answers to their questions when they need them and this supports their learning more than having to wait for several days or weeks for a response. Vygotsky would describe this as scaffolding students' zone of proximal development.</p> <p>ICT allows teachers and students to realise theories of the social construction of knowledge through open discussion. George Siemens explained that we should "Forget blogs...think open dialogue. Forget wikis...think collaboration. Forget podcasts...think democracy of voice. Forget RSS/aggregation...think personal networks. Forget any of the tools...and think instead of the fundamental restructuring of how knowledge is created, disseminated, shared, and validated." Teachers need to shift their thinking from the tools to the learning that the tools make possible.</p>
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Specifically, applicants should aim to conceptualise what they and their students are doing with ICT in their classroom in relation to underpinning theory and research (see Appendix 1). It is envisaged that the theory and research chosen will strongly resonate with the applicant and probably therefore underpin their practice, with or without ICT. The Written Response (and by association, the Professional Application) should address the BIG questions: So what? Why do I want my students to use ICT? Why should they use ICT? How does it link with my philosophy of teaching and learning? How does ICT facilitate effective teaching and learning?

For further information on the SOLO Taxonomy see:

Biggs' structure of the observed learning outcome (SOLO) taxonomy - UQ

http://www.tedi.uq.edu.au/downloads/Biggs_Solo.pdf

Assessment Tools for Teaching and Learning Technical Report #43, University of Auckland

<http://www.tki.org.nz/r/asttle/pdf/technical-reports/techreport43.pdf>

Structure of Observed Learning Outcomes - Wikipedia

http://en.wikipedia.org/wiki/SOLO_Taxonomy

SOLO Taxonomy

<http://www.learningandteaching.info/learning/solo.htm>

Biggs, J. B. & Collis, K. F. (1982). Evaluating the quality of learning: The SOLO Taxonomy. New York: Academic Press.

Biggs, J. B. & Collis, K. F. (1989). Towards a model of school-based curriculum development and assessment: Using the SOLO Taxonomy. Australian Journal of Education, 33, 149-161.