



A Cultural Mapping of the Design for Transformative Mobile Learning Framework to Facilitate Learner Agency

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The Design for Transformative Mobile Learning Framework utilises eight dimensions drawing upon the key affordances of mobile learning that enable learner agency. In this poster we briefly explore the potential alignment of a ninth dimension to the DTML framework to illustrate a cultural mapping of the DTML. We map the DTML framework to the Whakapiri (Engagement), Whakamārama (Enlightenment), Whakamana (Empowerment) model for indigenous Māori knowledge introduced by Durie who argues for “the interface between indigenous knowledge and other knowledge systems” (2005, p301). Shortened to WWW by Hurst (2017) the model has been utilised as a framework for reflection and practice in education.

Transformative mobile learning designs implement strategies to facilitate a move from a focus upon teacher-directed content (Pedagogy) towards student-determined learning or Heutagogy (Moore, 2020; Blaschke & Hase, 2019; Hase & Kenyon, 2007). This involves applying the Pedagogy-Andragogy-Heutagogy (PAH) continuum to mobile learning design (Cochrane et al., 2022) to facilitate learner agency. When put into a matrix, with DTML, PAH and WWW provides a mapping of how learners may transition into increasing self-regulation and learner-agency across the eight mobile learning relevant areas or dimensions. The elements of the DTML framework mapped to Whakapiri-Whakamārama-Whakamana and the PAH Matrix are summarised and illustrated in Table 1.

“Engagement, enlightenment and empowerment neatly describe the immediate, intermediate and ultimate concerns of education and are important markers for how effective education is practised. The concepts of transformation over information and learning as an all- of-person experience can be discerned across these three key terms” (Nichols, 2020, p28).

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Figure 1: Mapping the DTML - PAH - WWW Frameworks Spider Graph.

Design Element Dimensions	Whakapiri (Engagement) Pedagogy	Whakamārama (Enlightenment) Andragogy	Whakamana (Empowerment) Heutagogy
Engagement Types	Content delivery, digital assessment, teacher delivered content and teacher defined projects	Teacher as guide, digital identity, student-generated content and student negotiated teams	Teacher as co-learner, digital presence, student-generated contexts and student negotiated projects
Locus of Control	Teacher	Student	Student
Cognition	Cognitive	Meta-cognitive	Epistemic
SAMR	Substitution & Augmentation, for example, moving from a portfolio to an e-portfolio or using PowerPoint on iPad Focus on productivity Mobile device as personal digital assistant and consumption tool	Modification, for example, reflections as VODCast and using Google Slides on an iPad New forms of collaboration Mobile device as content creation and curation tool	Redefinition, for example, reflections in situ and presentations as dialogue with source material Community building Mobile device as collaborative tool
Creativity	Reproduction	Incrementation	Re-initiation
Knowledge Production	Subject understanding: lecturers introduce and model the use of a range of mobile learning tools appropriate to the learning context	Process negotiation: students negotiate a choice of mobile learning tools to establish an e-portfolio based upon user-generated content	Context shaping: students create project teams that investigate and critique user-generated content within the context of their discipline. These are then shared, curated, and peer-reviewed in an authentic COP
Ontological Shift	Reconceptualising mobile learning: from a social to an educational domain	Reconceptualising the role of the teacher	Reconceptualising the role of the learner
Self Perception	Learning about	Learning to become	Active participation within a professional community

Table 1 – The DTML-Whakapiri-Whakamārama-Whakamana Mapping: A framework for designing transformative mobile learning adapted from Cochrane et al., (2017, p. 27).