



THE UNIVERSITY OF
MELBOURNE



Making informed decisions for planning and teaching digital literacy capability for students with MDVI:

Investigating the validity of the new digital literacy learning progression

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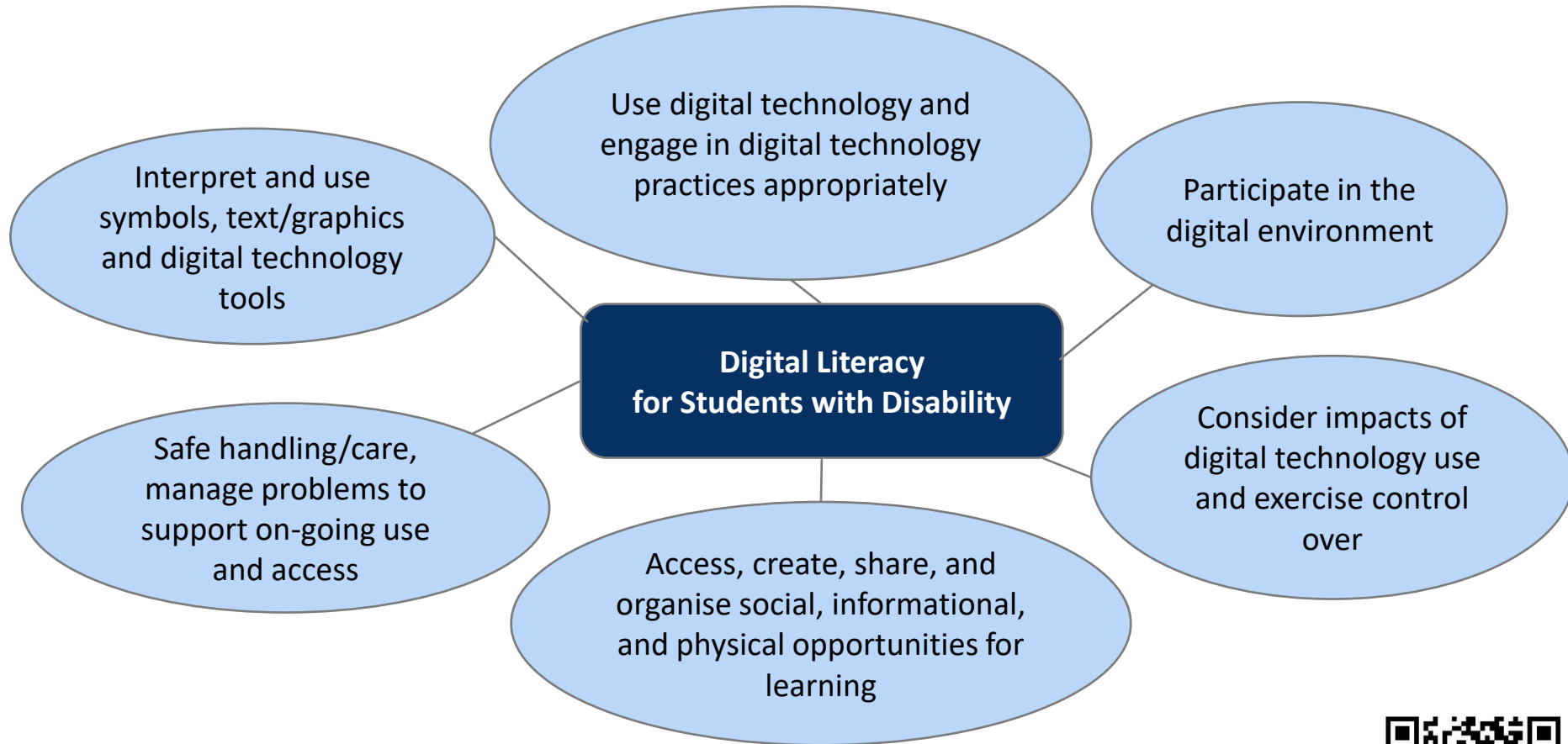


Digital literacy for students with MDVI

- MDVI: A diagnosed vision impairment in addition to one or more other disabilities, which **must** include intellectual disability*
- Use of digital technology to access learning, with or without any assistive technology required



Learn to use, use to learn



(Adapted from White, Woods, and Poed, 2017)



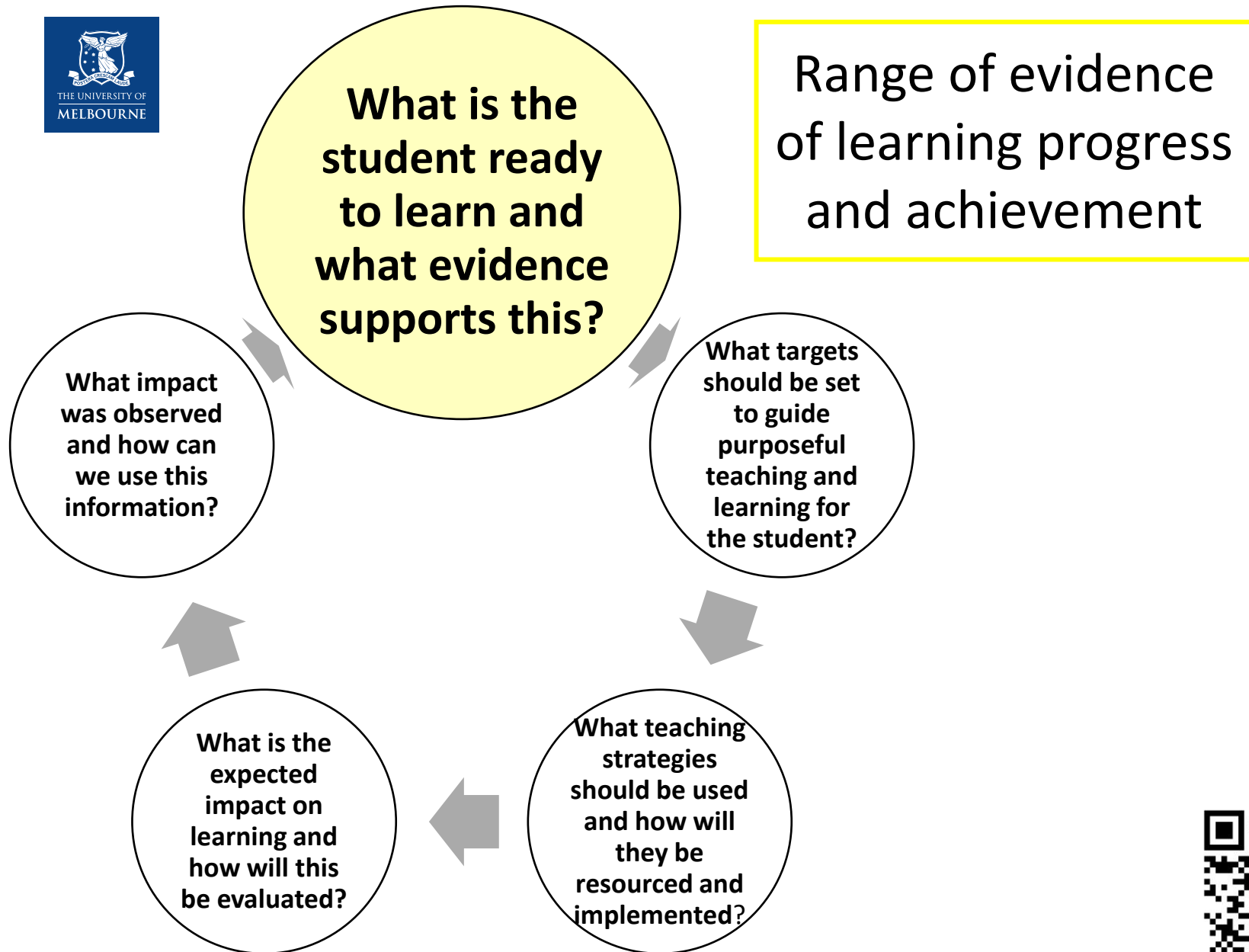


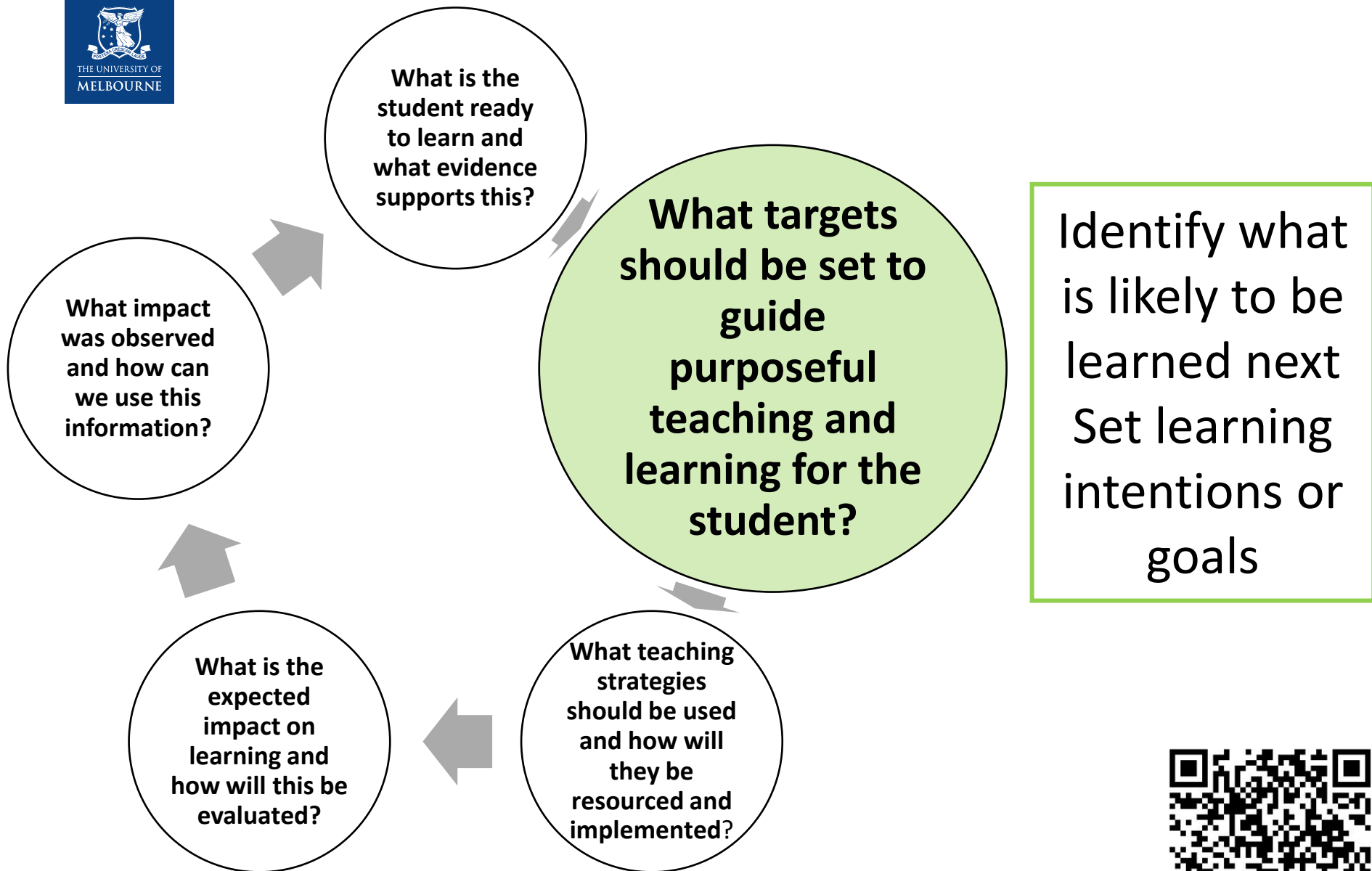
Learning progressions

Learning: a transformative process of acquiring an increasingly sophisticated skill or understanding, rather than a unit of content that must be taught (White, 2019)

Learning progression: A pathway of learning within a domain that occurs over an extended time period so to provide an understanding of how increased sophistication in thinking and skills can be expected to develop, with the support of a teacher (Heritage, 2008)









Building the learning progression

- Six phase process over three years
- Data from 1,413 students with disability (10% MDVI) in 61 schools in three Australian states
- Specialist teacher expertise and knowledge
- Multiple analyses (item response modelling) for reliability and validity for range of students:
 - Very high reliability coefficients (all >0.95)
 - Strong arguments for validity: content, construct, criterion, consequential, reliability, and interpretability



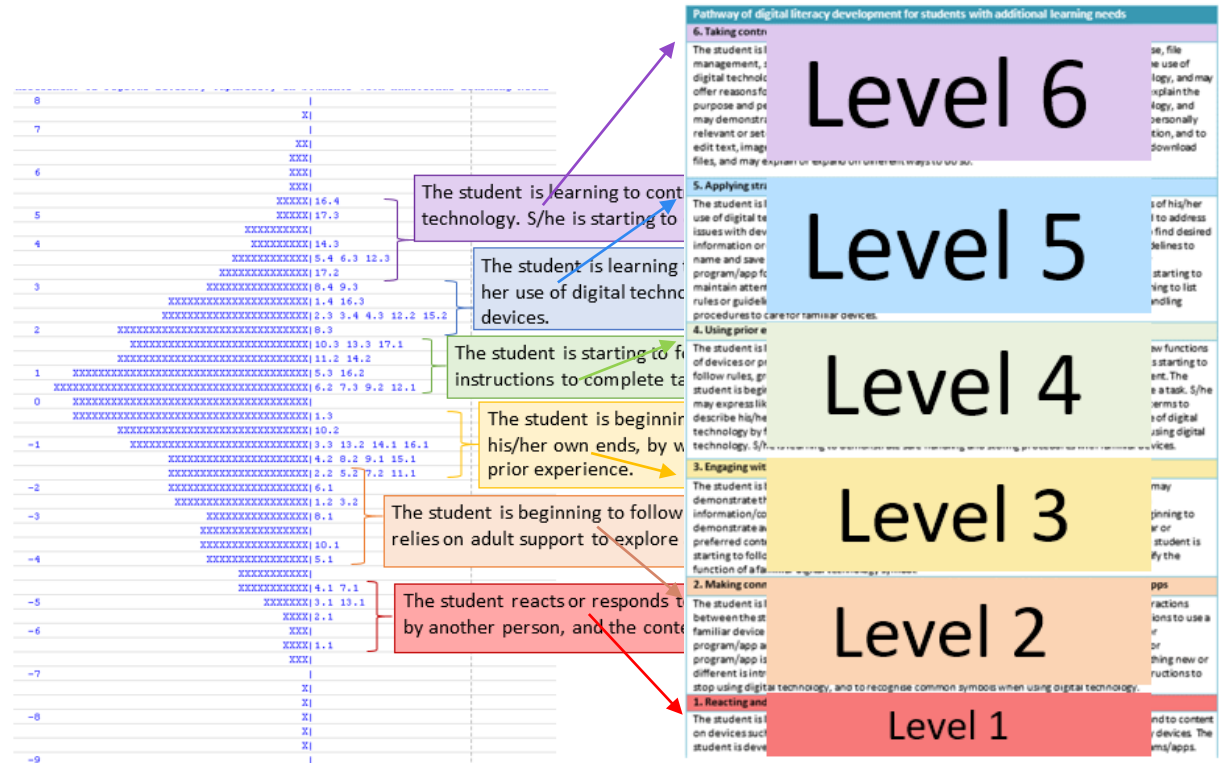
Results and arguments for validity

Data interpretation

- Cut points/scores
- Standard setting

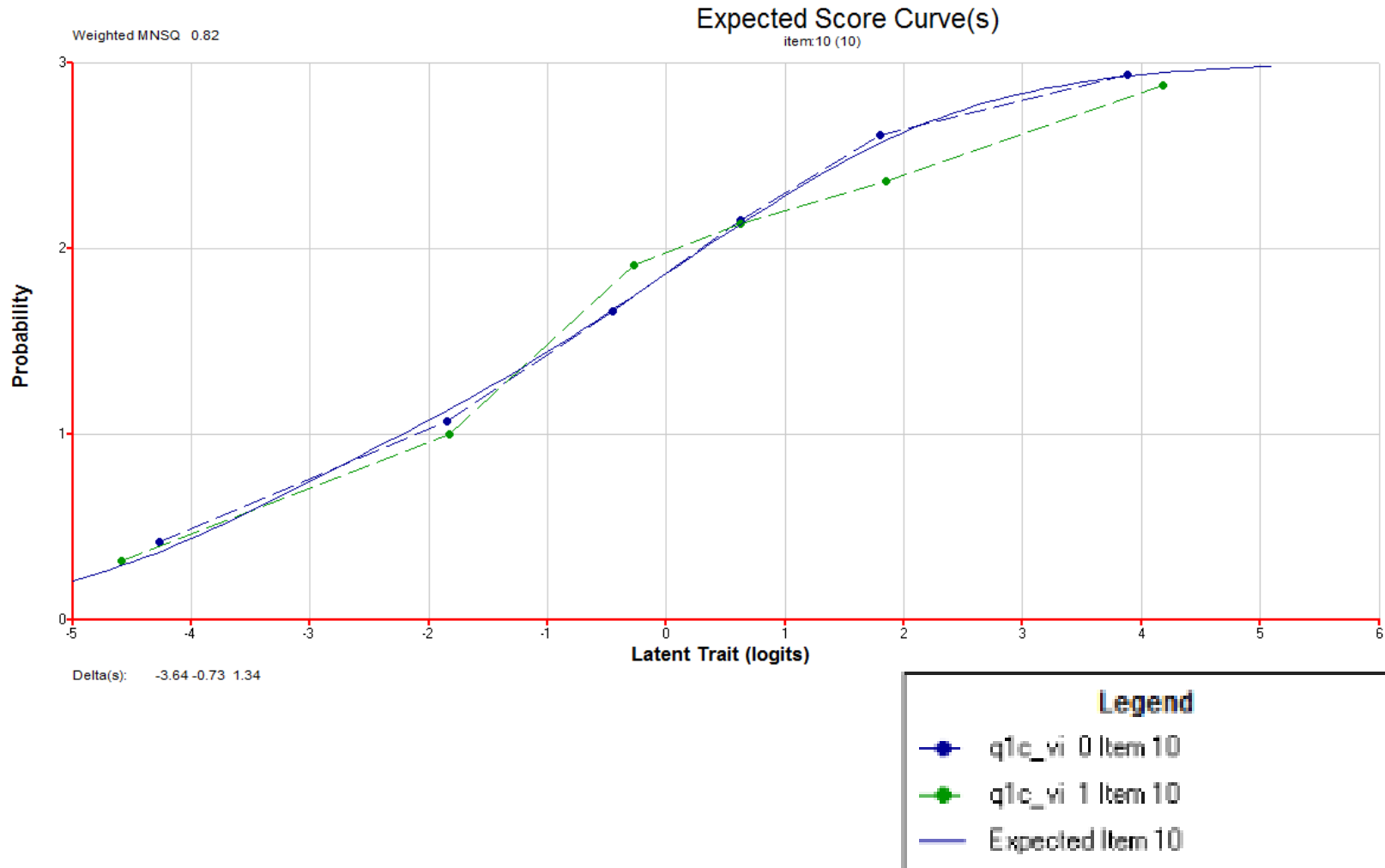
Validation activities

- Teacher workshops
- Expert panelling
- Piloting





Differential item and step functioning (DIF/DSF) for MDVI




Item 10: Using digital technology symbols





The digital literacy learning progression



- 
6. Taking control of DT through guidelines and organisation
 5. Applying strategies and guidelines to DT use
 4. Using prior experience and procedures to complete tasks with DT
 3. Engaging with DT and content to achieve own ends
 2. Making connections with DT through interaction with devices and programs/apps
 1. Reacting and responding to digital technology (DT) and content

Digital Literacy

Level 2 : The student is beginning to follow single-step directions and/or relies on adult support to explore and use digital technology.



At this level, students participate in digital technology-based activities that involve simple interactions between the student and the device or program/app, such as touching a symbol or picture on the device or pressing a switch to activate an item, with encouragement or support from another person.

They respond to encouragement and opportunities to use a familiar device or program/app, and may explore new devices or apps/programs with support.

They may notice when something new or different is introduced via digital technology, such as a new app or device.

As they work through this level, students participate in digital technology-based activities that involve following single-step instructions, recognising common symbols, and making connections between their actions on the device/program/app and the effect (e.g., when the student presses the power button, the device turns on).

Students are learning to follow single-step instructions to use a familiar device or program/app with guidance and support.

They may respond to familiar pictures or symbols, and participate in activities which use common digital technology symbols such as the play/pause button or terms such as turn it off.

Students explore a range of digital technology-based activities with support and may make a choice between two familiar digital activities.

They develop an awareness of when a device or program/app is not working, and may alert others when this occurs. Students are learning to respond to single-step instructions to stop using digital technology.

Ahmed's ILP Goals 2017



My goals for 2017 are:



Initial Skills	English	Strategies
	Mathematics	Strategies
	The Arts	Strategies
	Critical and Creative Thinking	Strategies
	Independent Living Skills	Strategies
	Personal and Social Capabilities	Strategies
<p>Ahmed responds to familiar pictures and symbols, including touching the icon for his favourite app on his iPad.</p> <p>With support, he interacts with different parts of his iPad, such as pressing the 'Home' button or turning up the volume when it is too quiet.</p> <p>He notices when his iPad stops working, and notices when a new app is chosen for him.</p>	ICT	<p>1.</p> <ul style="list-style-type: none">

<p>With encouragement, Ahmed begins playing his favourite app shortly after being seated at the desk.</p> <p>Ahmed asks to use his favourite app using a one-word statement.</p>		
	Health (Usually So Safe)	Strategies
	PE	Strategies
	Science	Strategies



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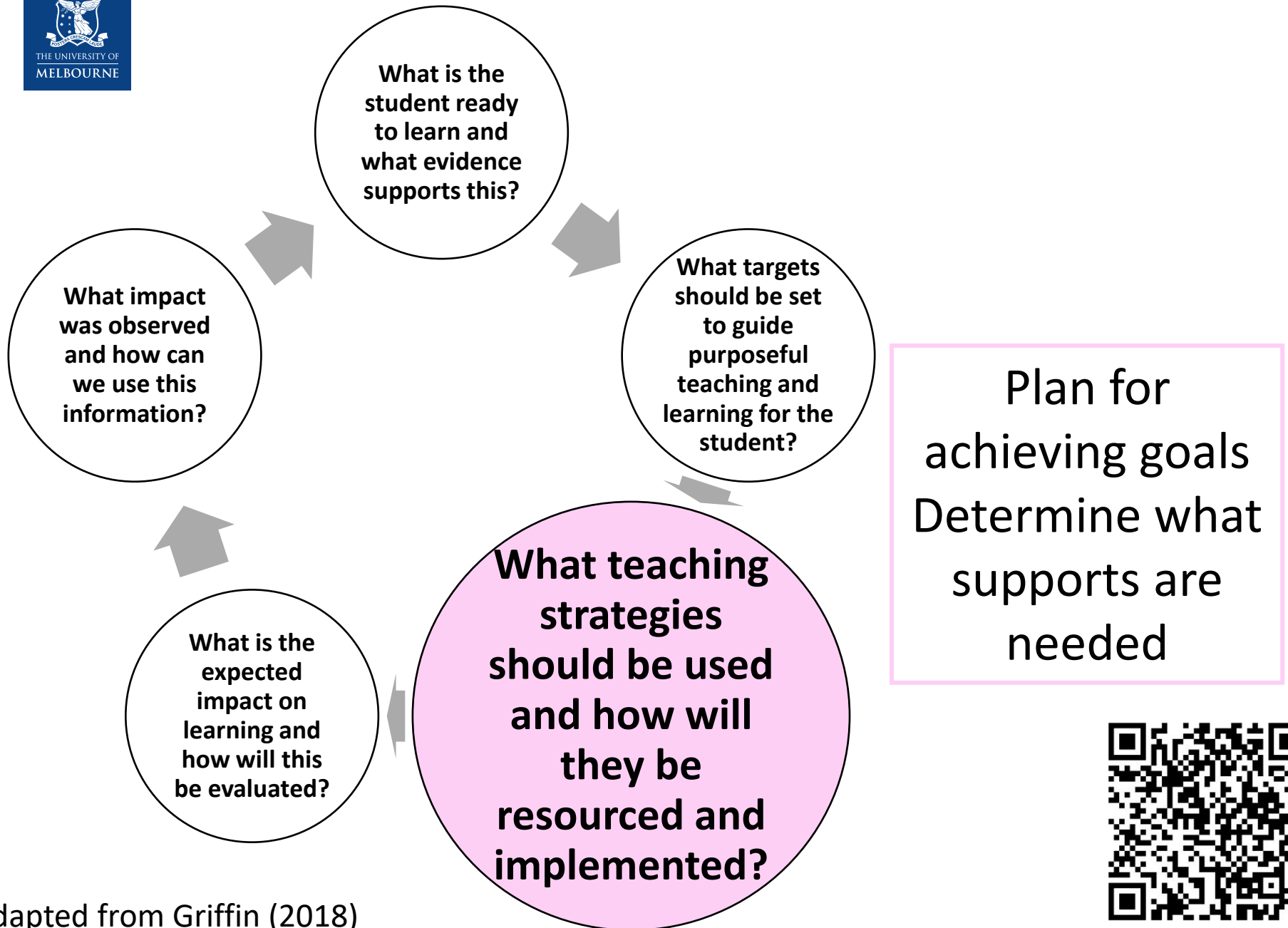
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Key messages



- Describes the likely current and next steps for digital literacy learning for students with MDVI
- Use with the linked assessment and teaching strategies for a holistic approach to teaching
- Demonstrates that students with some of the most complex disabilities have digital literacy ability, and can and do learn digital literacy
- Supports rights of students with MDVI to access a 21st century education on an equitable basis to peers, to become prepared to live in the 21st century world

SWANs general capabilities (AC)



Literacy

Digital Literacy

Numeracy

Communication

Social Processes

Emotional Understanding

Learning Skills

Thinking Skills

Movement

Main Menu





Accessing the learning progression and more

- **Full suite of online teacher resources** (assessment, full learning progression, student reporting, matched teaching strategies): Contact Hilary at the Assessment Research Centre to organise access to the SWANs program (includes all nine general capabilities): **h.slater@unimelb.edu.au**
- **Summarised learning progression and all matched teaching strategies**: Download JSPEVI article “Strategies for teaching digital literacy to students with MDVI: Combining evidence with expertise” (White, in press)





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Thank you

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Assessment Research Centre/
Learning Intervention
Melbourne Graduate School of Education

