

Changing mindsets: The attitude of pre-service teachers on technology for teaching

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RESEARCH QUESTIONS

1. How do pre-service teachers picture the role of ICT in their future teaching practice?
2. How do these scenarios relate to their cognitive and affective attitudes toward ICT?

CONTEXT

This note explores attitudes towards the use of ICTs in South African pre-service teacher education. In particular, it looks at how cognitive and affective attitudes towards technology determine visions and scenarios of technology integration into teaching and learning practice. The note presents the results of an in-depth qualitative study involving highly motivated pre-service teachers from two higher education institutions.

RESEARCH DESIGN

MELISSA-X is a design-based research project involving pre-service teachers in two Western Cape universities.

The project was structured around **technology training**:

- Interactive whiteboard training was offered to 245 1st year students;
- Digital storytelling training was offered to 11 students, selected based on motivation to partake.

The second part of the study, focused on the **digital storytelling training**, employed an ethnographic approach to data generation, using as **data generation tools**: questionnaires with open-ended questions, semi-structured interviews, observations, focus groups, and the digital stories produced by participants.

Data analysis was based on the principles of Grounded Theory. Attitudes towards technology and education were patterned on an attitude model from social psychology (the ABC model), that distinguishes between:

- What one thinks about something (Cognitive response);
- How one relates emotionally to something (Affective response);
- How one intends to act towards something (Behavioural or conative response).



TECHNOLOGY INTEGRATION: INTENT AND SCENARIOS

Pre-service teachers demonstrated high intentions to integrate technology in their future teaching practice. Technology is thought to mark transition from the teacher-centred education of the past to the student-centred education models of the future. **Technology integration scenarios** emphasize:

- Effective teaching through creative use of available technology (interactive whiteboard, overhead projector) and free multimedia resources (YouTube videos, slideshows, Internet content).
- Engaged and effective students' learning through multiple sources of information and hands-on engagement with digital media for content creation.

RESULTS

COGNITIVE ATTITUDES

Technology as...

1. ... a tool (instrumental value)

The use of technology can determine whether it is beneficial (creative teaching and learning, engaging learners) or bears negative effects (distraction, lack of attention).

2. ... an empowering tool

"We have the power with the use of technology. But still, the question remains: Are we prepared to take hands with the tool of technology to contribute to a better future generation?" (digital story script).



3. ... indicator of socio-economic development

Technology marks societal and educational divides, but it can also bridge them: "While the technology is growing there's jobs, and many opportunities going with the change of technology."



Images: Frames from digital stories

AFFECTIVE ATTITUDES

Passion for technology: Almost religious sense of relating to technology, characterised by passion for its technicality aspects and trust in what it can do for the human being.

"I am devoted towards the use of technology and get fascinated on a daily basis by what we as human kind can learn by only a click of a button."

Fear of being left behind: Fear of being left behind by constant advances in technology, as well as the change technology motions on society and education.

"(W)e need to stay on track. (...) I feel that I need to stay in the game and stay with the technology, cause I'm not there yet, and I'm staying behind, and that's why I need to get in there and be on top of technology."

Rationalised enthusiasm: Enthusiasm triggered by rational acknowledgement of the benefits that it can bring and its growing importance in society and education.

"Kids in the high school find technology (...) so interesting, that I think they want to see the change in their education also. So that is why I think this is really important and I feel very excited for using this in my classroom."

IMPLICATIONS

Changing mindsets:

1. Beliefs about technology converge in the internalisation of an imperative to use technology and keep up with its evolution.
2. Visions of technology integration indicate an orientation towards novel teaching and learning models framed by student- centred education tenets.