Background

- USQ-funded L&T fellowship
- Tablet PCs for lecturers in 2009
- Tablet PCs for students in 2010
  - Project assistant (ITS)
  - 30 mini tablets (VC)
Another tablet study?

- But these are actually affordable.
- Netbook tablet PCs
  - Specs
  - Cost
  - Look and feel
  - The future

1. What active and collaborative learning is possible?
2. Is the technology ready to be rolled out to students?

How to engage first year students?

- Learner-centred approaches (Prince, 2004):
  - Not the traditional lecture, one way transmission of information
  - But actively engaging students, also through collaboration
- This is beneficial to student learning (Hake, 1998; Pascarella & Terenzini, 2005)
- Can be achieved with tablets (Cromack, 2008)

Find the complete literature review in our paper!
Case study approach

1. Data Analysis
   • introductory statistics course
   • unfamiliar content
   • students reserved in nature

2. Nursing Mathematics
   • combination of mathematics and computing
   • revisit junior high school mathematics in new context
   • students very social

Recruitment of participants

• Volunteers – 12 from each course
• Placed in separate tutorials for each course
• Age: 18-58, median 28
• Student data - regular journal entries and final survey
• Teacher data – weekly reflections
• Independent classroom observations, video recording
Nursing Mathematics

- Special Classroom
- Classroom technology
  - Multiple inputs
  - Student centred
  - Promoting active learning?
  - Promoting collaborative learning?
  - What actually happened.
  - What would we do differently now?

Data Analysis

- Usual Classroom
- Classroom technology
  - Limited
  - Teacher centred
  - Promoting active learning?
  - Promoting collaboration?
  - What actually happened.
  - What would we do differently now?
Active learning

1. Stats:
   - interaction with content
   - writing answers electronically into tutorial worksheets
   - minimal sharing

2. Nursing maths:
   - interaction with content and one another
   - multiple projections, students discussing other students’ work

Collaboration

1. Stats:
   - Encouraged to discuss tutorial exercises but preferred individual work
   - Lack of collaboration observed due to individual tablet PCs

2. Nursing maths:
   - High degree of collaboration, much higher than in the past
   - Students actively discussed solutions to a problem
Story of Louise

• Initially positive – ‘I am still so glad of being able to use math input’.
• Convenient – ‘I love the way it is so easy to pack up and take with me everywhere’.
• Reliant – ‘I am sure after getting used to it I will not want to do without it’.
• Functionality – ‘All you had to do was swivel the screen and then write on it as if it was a notebook’.

Story of Louise cont.

• Frustration – ‘… go from pen to the rubber it takes ages before it goes back to the pen …’
• Touch screen – ‘Leaning on the screen is really annoying cause it keeps taking the pen away from where you are trying to write and puts the pen where you are leaning’.
• Practice – ‘It took a long time to get used to the tablet’.
Story of Tracy

- Initially – ‘absolutely amazed at what it does, and am getting more reluctant to surrender it at the end of the trial ;-)’.
- Convenient – didn’t have to lug around a big laptop – ‘I love the fact that it is so compact’.
- Functionality – ‘can make notes and highlight the information that I need’.

Story of Tracy cont.

- Frustration – ‘not being able to keep up with note taking’.
- Touch screen – ‘I had problems with my hands touching the screen when I was writing fast’.
- Practice – ‘Not to worry though, practices [sic] makes perfect’.
Discussion

• Different outcomes for the two courses
• Reasons; differences in
  • Learning spaces
  • Technological equipment
  • Teaching style
  • Subject content
  • Student attributes