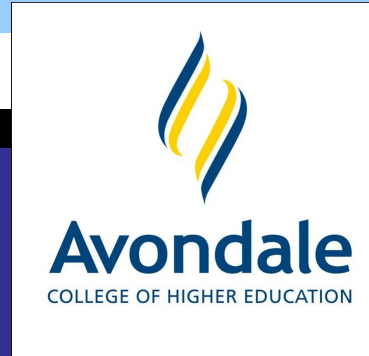


What offline and online technologies do higher education students use to complete **assessment tasks**?



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This poster outlines the findings of Stage 1 of a project that investigated how two groups of higher education students from two institutions used a range of technologies, as part of their Personal Learning Environments (PLEs), to prepare, complete and submit assessment-related tasks as part of their undergraduate studies.



What is a PLE?

A **Personal Learning Environment (PLE)** is a system, usually self-constructed, that enables learners to manage their own learning and may include tools, services, online resources and communities.

The participants and the project

Aim of the project: to determine which technologies students use when they prepare, complete and submit assessment tasks such as assignments and examinations.

The participants (n=39): 24 students from Edith Cowan University in WA and 15 students from Avondale in NSW. All students were undergraduate, on-campus students from Education and Arts courses, mainly female, most were aged between 20-24 years.

Previous research and methodology

Previous research has defined PLEs (Dabbagh & Kitsantas, (2012), especially in social constructivist contexts using learner-centred pedagogies (van Harmelen, 2008; Wild, Mdritscher, & Sigurdarson, 2008). Gosper et al. (2013; 2014) have outlined the use of technologies for learning in higher education in general.

Methodology. Mixed methods approach using a modification of Clark et al.'s (2009) methods:

- 1) online questionnaire;
- 2) focus group; and
- 3) mapping exercise (see examples, to the right).

The findings

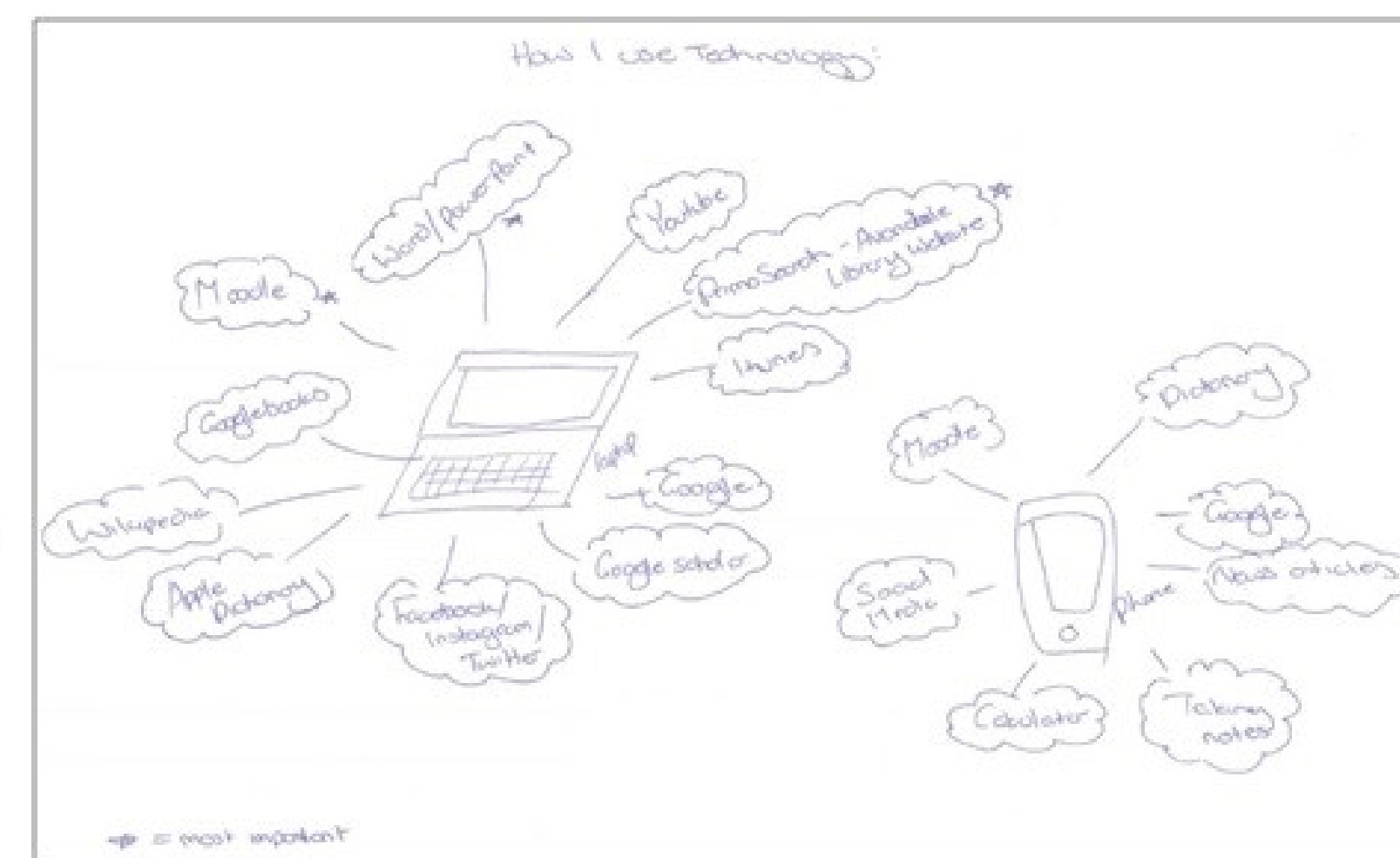
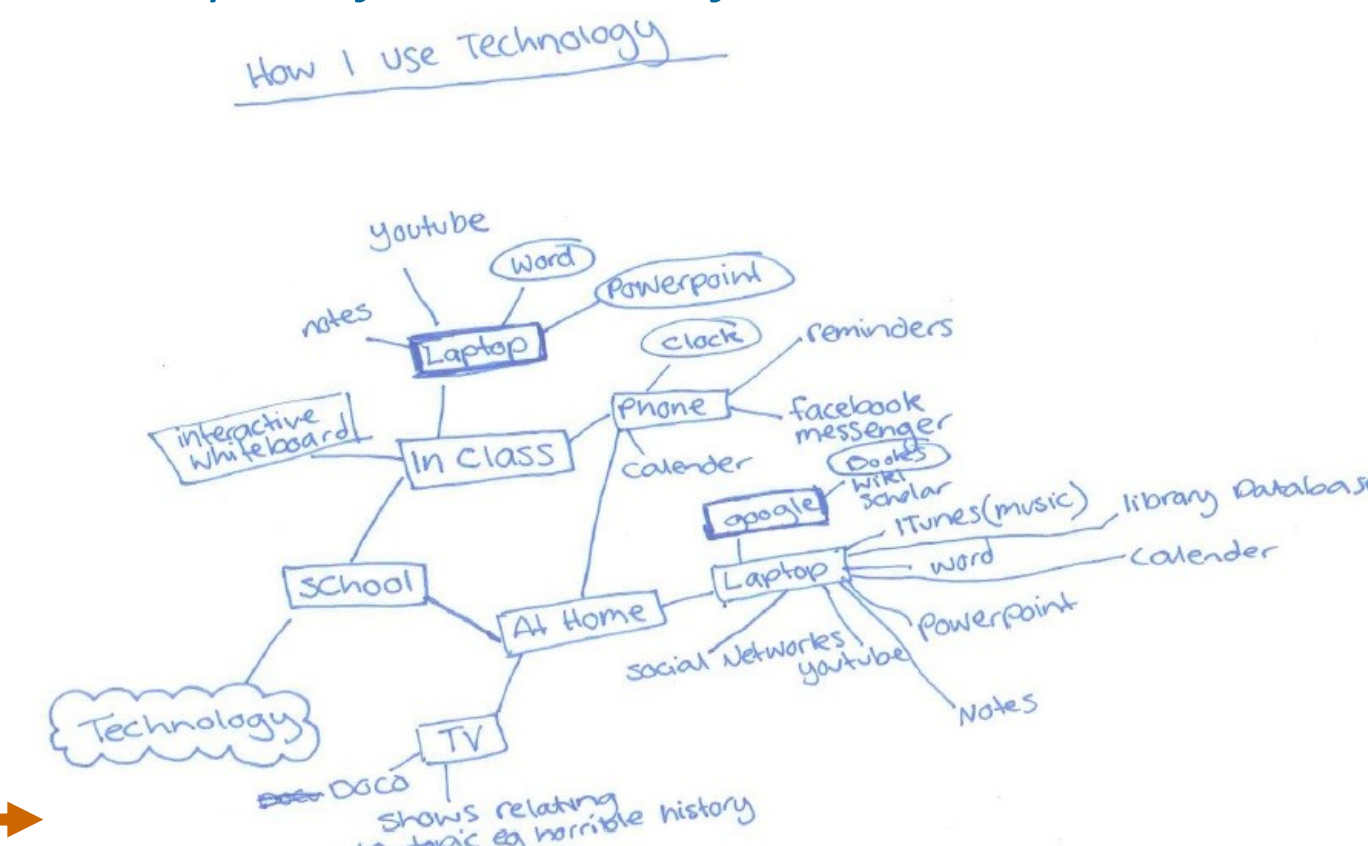
Students used a moderate range of formal (provided by the institution) and informal (student-selected) technologies that were used in social and individual contexts, but most technology use was informal. The range of locations in which technologies were used was wide, and reflected a high value placed on mobility and Wi-Fi connectivity.

The most popular physical technologies were portable devices such as laptops, tablets and smartphones, which were viewed as central to the students' PLEs. They did not show any preference for traditional desktop technologies such as printers or desktop computers but appreciated the informality of many other available technologies.

Less emphasis was placed on social media than was expected but the students did value technologies that allowed file-, idea- and resource-sharing. Of the 137 different types of technologies and online sites that students used to prepare assessment tasks, the most popular categories were:

- Library, journal databases and academic resources (e.g., e-Books, journal databases and search tools)
- Reference resources (e.g., Endnote, Google as a referencing tool, online dictionaries and encyclopaediae)
- Devices (e.g., laptops, tablets, phones), software (e.g., Word, Excel) and social media (e.g., Facebook, Youtube).

Examples of students' self-drawn PLEs:



Implications

- Students appear less reliant on the institution's hardware (e.g., printers, desktops) and software (e.g., LMS), and they are more independent, device-wise, than in the past.
- Use of technology in informal learning contexts requires further investigation, especially in relation to links *between* technologies.
- Students may be more informed about the appropriate use of technology in terms of fit-for-purpose than some lecturers.
- Institutional investment in Wi-Fi, rather than an LMS or computer hardware, may be more worthwhile to promote innovative and adaptive use of technology.

Future research

The data gathering phase of Stage 1 of the project is now complete. We are currently developing a framework to guide the integration of PLEs into course design.

Stages 2 and 3 of the project are now being planned for 2016 in the following contexts:

1. University students at West Chester University, Philadelphia.
2. Secondary school students at a high school in the Lake Macquarie area of NSW.

References

- Clark, W., Logan, K., Luckin, R., Mee, A., & Oliver, M. (2009). Beyond Web 2.0: Mapping the technology landscapes of young learners. *Journal of Computer Assisted Learning*, 25(1), 56-69.
- Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education*, 15(1), 3-8.
- Gosper, M., Malfroy, J., & McKenzie, J. (2013). Students' experiences and expectations of technologies: An Australian study designed to inform planning and development decisions. *Australasian Journal of Educational Technology*, 29(2), 268-282.
- Gosper, M., McKenzie, J., Pizzica, J., Malfroy, J., & Ashford-Rowe, K. (2014). Student use of technologies for learning: What has changed since 2010? In B. Hegarty, J. McDonald & S. K. Loke (Eds.), *Rhetoric and Reality: Critical perspectives on educational technology*. Dunedin, NZ: ASCILITE.
- van Harmelen, M. (2008). Design trajectories: Four experiments in PLE implementation. *Interactive Learning Environments*, 16(1), 35-46.
- Wild, F., Mdritscher, F., & Sigurdarson, S. (2008). *Designing for change: Mash-up personal learning environments*. eLearning Papers, 9. <http://oro.open.ac.uk/25253/1/media15972.pdf>