

Initial reflections on the use of tablets in a SUNCEP Teacher Professional Learning Programme

Faculty of Education | Centre for Pedagogy (SUNCEP)

Programme: SUNCEP Short courses

Lecturers: Mrs Pauline W Hanekom pwh@sun.ac.za & Mr Ramesh Jeram ramesh@sun.ac.za

Blended Learning Coordinator: Mr Gavin van Niekerk gavinvn@sun.ac.za

Learning activity:
Practice based learning

Learning technology:
Windows tablets

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Context

Background

The Stellenbosch University Centre for Pedagogy (SUNCEP) was established with the purpose of adding value to the educational challenges currently experienced in the educational diaspora in South Africa. In existence since 2013, SUNCEP's main focus is and always will be to address the myriad of challenges relating to teacher professional learning and improved access for learners to institutions of higher learning. Coupled with research, focus is also on recording and sharing best practices. SUNCEP aims to make a difference by addressing these challenges in an integrated, holistic, systemic, synchronised and sustained approach.

In the Teacher Professional Learning (TPL) component, teachers and/or management teams in schools and education districts have the opportunity to enrol in two kinds of formal professional teacher qualifications: either a full qualification or a short course. Both qualifications are either content specific or management related. Since SUNCEP's inception in 2013, more than 1 000 teachers have attended short courses in Mathematics, the Natural, Life and Physical Sciences, and School Management and Leadership, while more than 350 school managers from the Western and Northern Cape have been enrolled in the two-year Advanced Certificate in Education in School Management and Leadership courses.

The modes of delivery of the short and part-time courses, as defined by the Stellenbosch University Institutional Intent and Strategy (2013–2018), are blended and virtual learning models. The Western Cape Education Department's vision for e-education, in turn, calls for the use of mobile devices in all classrooms by 2020. In light of all this, a blended practice-based TPL model, incorporating Windows PC tablets, was developed and piloted by SUNCEP. The pilot group consisted of 113 Senior Phase Mathematics teachers in the Eden Karoo District of South Africa.

Subject area

SUNCEP offered two short courses to 113 Senior Phase Mathematics teachers in the Eden Karoo education district of the Western Cape. The modules were named Teaching Space and Shape, and Teaching Patterns, Functions and Algebra. Both modules focused on improving the efficacy of teachers, thus empowering them with the skills to improve their teaching practice

in delivering these sections of the Senior Phase Mathematics curriculum. The skills are embedded and further elaborated in the intended learning outcomes stated below.

Intended learning outcomes

After completing the short courses, the teachers had:

- improved pedagogical content knowledge within this specific content area;
- improved ability to plan and implement quality learning activities and assessments to improve teaching and learning;
- improved ability to monitor and evaluate their teaching and learning to ensure quality learning;
- improved ability to reflect on and explore a variety of strategies to teach this topic more effectively and efficiently; and
- the pedagogical ability to use e-hardware models in a classroom that empowered them for a future where e-hardware will be part of their classroom resources (National Development Plan, White paper on e-Education 2004, WCED e-Vision).

Challenges and advantages associated with the integration of technology

Globally, governments and authorities are troubled by the slow adoption of mobile learning technologies by teachers. Mobile learning appears to be ideally suited to teachers to assist in addressing their particular barriers to lifelong learning, such as working environments that inhibit connectedness, unpredictable places and times for learning opportunities, and the itinerant nature of their working day.

All the teachers who participated in the SUNCEP short courses received a Windows PC tablet with preloaded course material and 100 MB of data. Due to most Western Cape teachers having received some training on Windows platform computers, the decision was made to stay with a Windows platform when choosing the tablet. The course material was



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developed utilising the authoring software [Articulate Storyline 2™](#). This software allowed for the creation of interactive material with features such as drag-and-drop interactions, quizzes and self-assessments. The course material was developed for three different purposes: for use within the face-to-face contact sessions, for use by the teachers to complete their assignments between the contact sessions and for use within the teachers' classrooms with their learners. Two face-to-face contact sessions were held: over four days during the March/April 2015 teacher holidays and over five days during the June teacher holidays.



Figure 1: Pictures of the Windows Tablet that the participants received

Student overview

All the 113 TPL students on the short courses were in-service teachers who should theoretically have had some computer and internet competencies. A survey done at the end of another course showed that 83% of teachers owned their own computer, 76% had regular access to broadband internet and 82% had access to mobile internet. At the same time, 20% described themselves as total novices when it came to computers and the internet.

Other relevant role-players

SUNCEP facilitators facilitated the courses, assisted by ad hoc mentors who supported the teachers within their schools. Even though the mentors played a supportive role only, they still needed to understand the complexities of this role. This went beyond individuals who were pedagogically sound and had high content knowledge. They not only had to pass on the required cognitive and pedagogical skills to the teachers but they also had to be able to contribute to building the affective components of the teachers, namely the teachers' dedication and commitment to their tasks.

The lecturers therefore sought out individuals who were experts in their field of teaching, preferably retired. Through networks, the lecturers were able to source possible mentors and invited them to an orientation session. This session was crucial, as many of the possible mentors were not au fait with the practice-based approach to teacher professional learning. The orientation process was both academic, highlighting the epistemological dimensions of the practice-based approach to teacher professional learning, and highly practical, facilitating how the process works in practice by drawing on the experiences and functioning of the mentoring process in the Educational Leadership and Management Programme.

After the orientation session, the filtering process took on an organic nature in that those who understood what was expected took up the challenge and those who still held onto the old-world notion of this process being a hierarchical one did not. Other reasons for some people not becoming mentors were more explicit, for example they did not have the time because they were involved in other professional or personal activities, and travelling vast distances was not an option because many of the teachers were situated in deep rural education districts.



Pauline Hanekom, the facilitator for the first session of the workshop, smiles broadly as Nosipho Mawanga (Imizamo Yethu High), Nomacebiso Jacobs (Tyholora Primary), Bongiwe Bidi (Thembaletu High) and Thabisa Saleni (Imikhaya Primary) successfully switch on their Tablets for the first time.

Figure 2: A photo as it appeared in the George Herald, 9 April 2015



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Learning and assessment activities

Educational approach

All SUNCEP courses follow a practice-based approach, which means that the facilitators do not focus only on the knowledge of the content but equally on developing and applying professional knowledge so that teachers become experts within their own context and within other contexts.

Learning activities

Some activities were paper-based, with a PDF version of the activity loaded on the tablets for reuse in the teachers' classrooms. Other activities were interactive problems that the teachers had to complete during the contact sessions as formative assessments and that they could use in their classrooms. The participants also engaged in online research activities, which lead to critically reflective essays.

Assessment activities and feedback practices

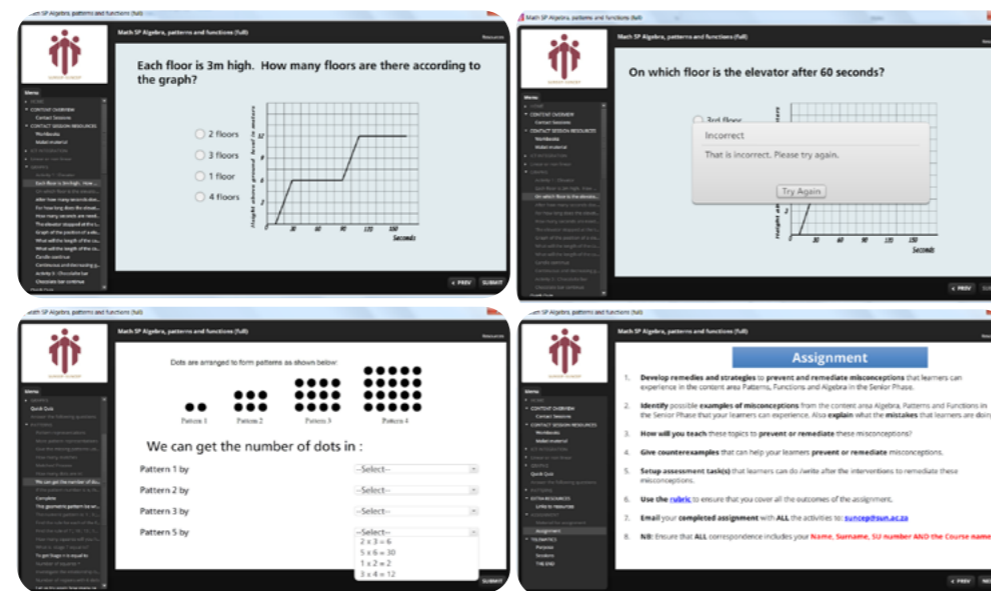


Figure 3: An example of the content

The formative assessment activities were interactive and provided the teachers with feedback as they were completed. The facilitators were at hand during the contact sessions in case of any problems arising. The

summative assessment essays were reflective essays on the teachers' current practices in their classrooms. The teachers were requested to implement the theory that they had learned during the contact sessions and reflect on their practices by providing evidence of their learners' work and answering questions relating to their practices while teaching the required content. The assignments were either handed in as hard copy at the end of the contact sessions or submitted electronically via email. Feedback was essentially given to the teachers via the mentors during the cluster sessions, where best practices were shared and new knowledge was created with regard to the teachers' practices.

Learning environment

Learning setting

The mode of delivery was a blended learning approach that combined face-to-face contact sessions, interactive telematics broadcast sessions and practice-based e-lesson content on the tablets. The teachers were supported through on-site mentoring to uptake knowledge and skills acquired during the contact sessions.

Collaborative setting

All the teachers were part of a WhatsApp group (Community of Practice) where they could share best practice ideas, ask questions related to the course structure and support one another.

Support challenges

The biggest challenge was getting the participants to create their own Microsoft ID accounts during the first face-to-face session. This was important because it enabled the participants to use their tablets. SUNCEP did not support students with issues such as broken or stolen tablets but did refer them to the relevant support structures. Some of the students accidentally deleted the supplied material from their tablets but were then supplied with a memory stick with the material to reload their tablets.

Student/participant experience

Student feedback on the learning experience

After the short course, 70% of the participants felt confident in their ability to use a tablet to learn. Furthermore, most felt that it was easy to learn to use the tablet. More than half the participants indicated that they would



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prefer their course material to be provided on a compact disk and more than 30% preferred receiving their course material in hard copy format. Despite this, 84% of the students thought that the tablet had a positive impact on their learning experience.

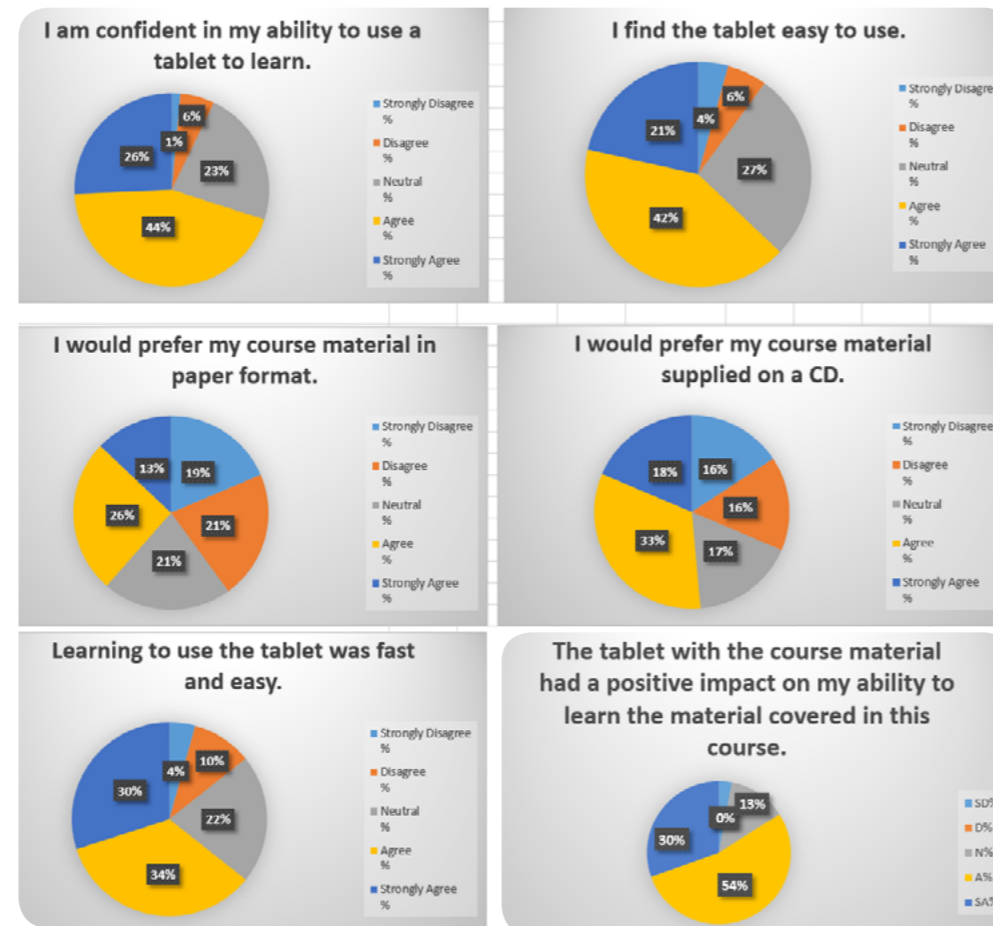


Figure 4: Student feedback

General

Opportunities

In subsequent courses, a podcast was made of how to set up the Microsoft ID so that the students could have them ready for their first face-to-face session. This saved a lot of time and effort. There were still a few students who came without their Microsoft ID but they could be assisted quickly during the first administration session. Time should be allocated in the

first contact session to orientate the students around the workings of the tablet.

Other concluding thoughts

Many teachers welcomed the use of the new learning technologies used in the training course, especially those who had already started integrating these new technologies into their teaching. Some of the teachers were, however, put off by the use of the new learning technologies due to their inability to integrate technology into their teaching.

Even though SUNCEP offered the teachers data during their first contact session, they had to purchase their own data during the next contact session because it would have been too expensive for SUNCEP to supply data to the teachers continuously. Many of the teachers did complain that this was expensive but they needed to take responsibility for their tablets and for such purchases themselves.

Some of the teachers experienced technical challenges, as they had never worked with a tablet, not realising that it was similar to using a smart phone. Despite some challenges, however, the teachers used the tablets interactively within the training sessions and were not averse to trying out the new technology.

Much still needs to be done to get the course fully interactive but, since the teachers come from a purely paper-based training mode into this interactive environment, SUNCEP realises that small steps should be taken to get teacher training fully interactive, even though this adds a whole new dimension to the mode of training.

