

# More than an eportfolio: Horizontal and vertical implementation of PebblePad in the curriculum

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## The Context

Prior to 2014, a paper-based logbook mapped the clinical performance of oral health therapy students on placement in community clinics. Academics would only have access to a student's logbook when presented with a folder containing completed entries. This format proved less than optimum in respect of promoting transparent monitoring of student performance. Identification of specific student needs was difficult to monitor in multiple settings and dispersed locations across the State of Victoria and overseas.

Although La Trobe University had an existing PebblePad license, both users and observers portrayed the platform in a negative light. Not deterred by this apparent negative perception we decided to explore the potential for developing a digital clinical logbook in PebblePad to track a student's progress whilst on placement in the different community dental clinic locations.

We anticipated that the implementation of a digital clinical logbook would strengthen the academic support afforded our students, formalise their reflective practice abilities, and optimise the clinical educator feedback process. Further, the digital logbook would connect the academic setting with the clinical environment thereby improving the relationship between our clinical educators and the university.

Our initial aims were:

- To allow monitoring of student performance in real time by our educators, independent of geographical location.
- To improve the interface between the academic and clinical environments.
- To promote 'real time' student interaction, student initiated reflection and educator feedback.
- To enable moderation of teaching across different sites.

ePortfolios make learning visible and encourage learners to engage in deeper, integrated learning (Eynon, Gambino, & Török, 2014; Thibodeaux, Cummings, & Harapnuik, 2017). When used for reflection, assessment and documenting professional standards the eportfolio can contribute to the students' development of skills that support them to transition into their future career (Rowley & Munday, 2018). The eportfolio has the potential to transform pedagogy in higher education (Clark & Eynon, 2009). Proactive and student-centered learning is encouraged; moving away from the traditional didactic approaches more often encountered in curriculum design. Further, reference to the literature identifies that eportfolios promote inter-connection of concepts through knowledge acquisition, greater student accountability for their learning, as well as a holistic approach to the delivery of healthcare (Boesch, Reynolds, & Patton, 2016; Parkes, Dredger, & Hicks, 2013; Rowley & Munday, 2018).

During the process of implementing a digital clinical logbook within PebblePad, our familiarity with the functionality of the platform increased and we became aware of the additional benefits of using eportfolios. It transpired that the development of a digital clinical logbook in PebblePad was just the first step on a journey that transformed many aspects of curriculum content delivery. It has enabled us to explore the platform and to develop more tools that enhance learning, create accountability for both students and academics, and drive authentic assessment.

This case study shows that over a relatively short period and with limited resources, our idea to introduce a digital clinical logbook in PebblePad evolved into an eportfolio tool that engages staff and students with the process of active learning, increases student accountability, and enhances student satisfaction through initiating change in curriculum design. Students are now encouraged to collate evidence that demonstrates attainment of competence against all professional accreditation domains (from the Australian Dental Council) with the enhanced benefit of preparation for life-long learning.

## The Problem

Gaining insight into the feedback provided by our clinical educators in the different dental community clinics was only possible during face-to-face meetings with the student and the submission of their paper logbook containing feedback sheets. Ad hoc emails, between the clinical educator and the academic year coordinator, provided any additional information required. This led to disjointed information and resulted in a very subjective overview of the student's progress. Effective remediation and the allocation of the appropriate type of patients to meet the student's needs to optimise clinical skill development were challenging.

Even though students were required to reflect on their clinical performance, a comprehensive feedback loop was non-existent. The clinical educators primarily drove student feedback. Gaining insight into the student's ability, including strengths and weaknesses, was limited to regular meetings between the academic coordinator and student (Down, 2018; Knevel, Down, Trahar,

& Dines, 2016). A more comprehensive evaluation method by which to identify students' clinical ability, and areas for improvement over time within the Programme, required development.

We also wanted to change the emphasis so that feedback became student centered and student driven - not only occurring in the clinical environment but also in all areas of their education. Further, the requirement to improve the calibration of our clinical educators in their ability to assess for clinical competency, in different dental settings, became apparent.

## The Approach

Implemented in stages, a multi-source feedback, or 360° approach, was developed to resolve our problem. Specific criteria templates, designed to assess clinical treatment modalities, were introduced to enhance the calibration of our clinical educators in standardising their approach to undertaking the required (clinical) competency assessments.

Adopting a co-design approach, students, clinical educators and an educational designer were involved in the development of the digital clinical logbook. Considered critical to the successful transformation of the digital clinical logbook into a comprehensive eportfolio provided the rationale for a co-design model. The actual process was characterised by first introducing any new functionality in a pilot setting. All stakeholders reviewed and discussed the proposed changes pre- and post-implementation and prior to scaling up.

Initially a small pilot involving five students and three clinical educators tested the functionality of the digital logbook within PebblePad in the clinical setting. No suitable Wi-Fi infrastructure existed in the pilot clinical setting so, in order to progress this initial phase, a mobile 3G-network modem enabled connectivity to the platform.

Evaluated through an online anonymous survey and face-to-face interviews with students and educators, the pilot ran for 6 months.

Comprehensive review of all stakeholder feedback enabled exploration of ways to satisfy both individual and collective requirements in relation to the implementation of the digital clinical logbook. Preparation and submission of a business case to the University and Health Agency addressed the lack of digital infrastructure in the clinics. Through discussion with an educational designer, clinical educator workflow practice changed to increase efficiency. Communicated via face-to-face meetings, emails or instructional videos, further acknowledgement of stakeholder feedback resulted in changes to template design. Thus, adopting an inclusive and transparent approach has proved fundamental to allowing all stakeholders to have more ownership of the final design.

Selecting early adopters afforded advocacy for the platform through highlighting its benefits. Throughout the process, as new ideas emerged stakeholders were encouraged to feedback their ideas to the design team. The success of this approach led to the introduction of additional workbooks. For example, workbooks designed to track a students' progress in Residential care, on overseas elective placements, or interdisciplinary health promotion (see Figure 1).

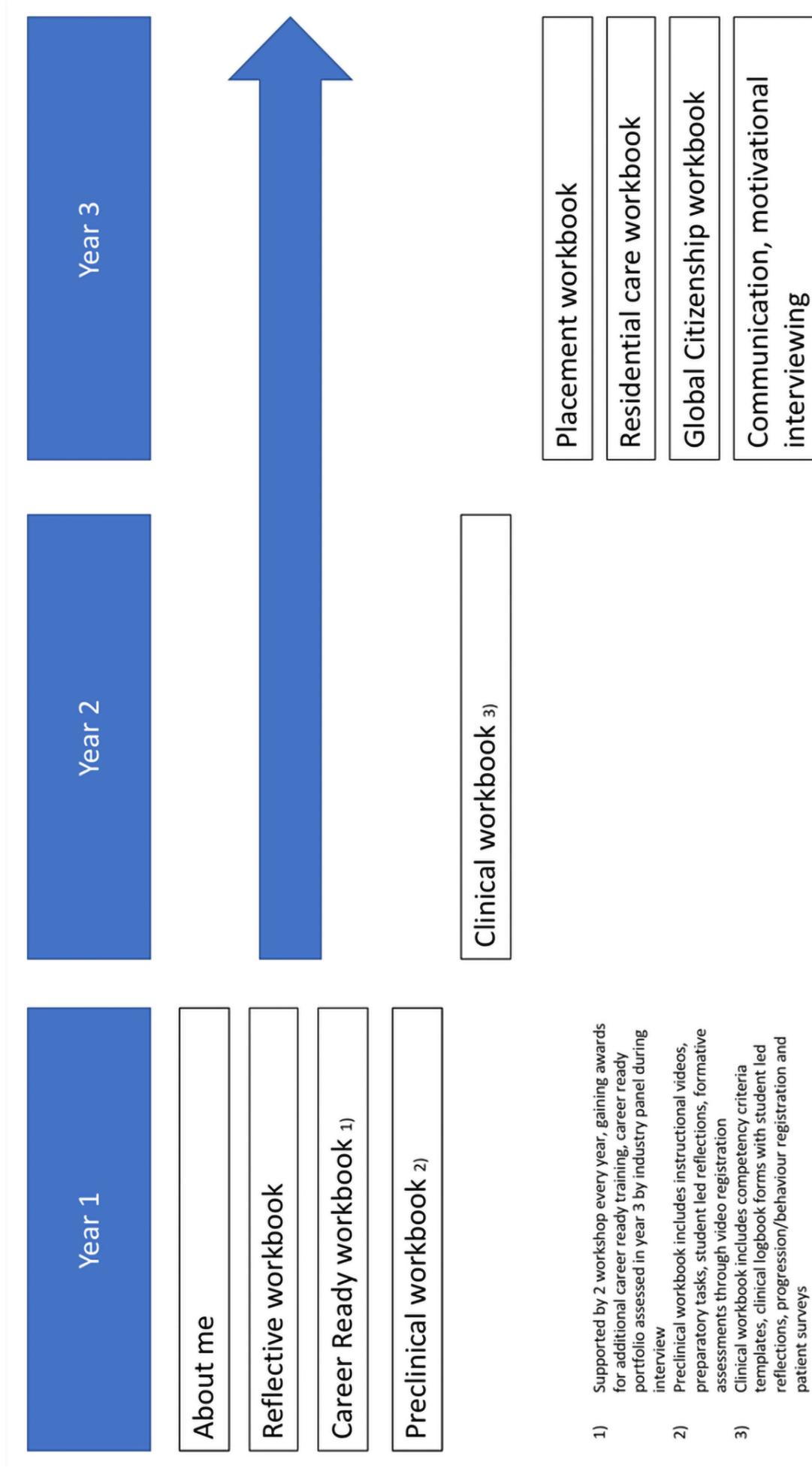


Figure 1: Diagrammatic representation of workbook implementation across Oral Health Therapy Programme

However, in the simulation laboratory environment the use of paper logbooks prevailed. It soon became apparent that students who had experienced PebblePad in the clinical environment wanted to record their progress in the simulation/preclinical setting in the same way. The success of PebblePad in the clinical environment enabled a re-evaluation of its use and an extension of its application in this context. A further transformation in design therefore occurred to support this student request.

## The Results

*“At the moment, it’s tied to one unit each semester, but I’m always thinking, how do I get them to make those links with other units as well? Are there ways to make them see it’s bigger than one unit? It’s the whole course.”*

(Rowley & Munday, 2018)

ePortfolio’s value is rooted in its connective power, including its inherent ability to help students to link a range of experiences (Eynon et al., 2014). In acknowledgement, and incorporating the premise that embedded feedback mechanisms throughout a curriculum are preferential to management in isolation or context, horizontal and vertical integration of the eportfolio as a whole occurred in the Oral Health Therapy Programme.

Clinical educators felt supported in their evaluative decision-making. The transparency of the workbook allows them to link feedback to previous feedback provided by their colleagues in clinic or other academic settings. The formal feedback templates (for competency assessments) with specific criteria lists eliminated biases or previous performance concerns.

Recording of assessments allowed our educators to confer with each other and review the recording if needed. Additional staff calibration with the use of the video recordings of assessments enhanced educator training.

One of the developed templates in the clinical workbook outlines a Patient Survey. This is completed by the patient at the end of a student treatment session and login remains anonymous if preferred. The responses provided inform the educator (and student) on the patient experience as well as providing customer satisfaction data for the Agency, on whom the Department is dependent for clinical chair access.

Facilitating learning and providing feedback to students is paramount to their success as they prepare for the role of an advanced health care provider. Learning content is scaffolded by a systematic progression in complexity. Here, the established evaluation process also progresses as the student advances towards the role of a provider. Assessing readiness and competence is crucial as these students prepare to enter a complex health system and provide comprehensive

care in the communities where they live. The goal of the 360 degree evaluation was to design a sustainable process that allows a comprehensive and objective assessment of students' progress while individualising feedback (Cormack, Jensen, Durham, Smith, & Dumas, 2018).

An example of one of the interesting comments from students refers to some of the strengths arising from the change.

*"Being able to reflect on the sessions task and be able to discuss areas of improvement and areas of success really reaffirms a platform for further progression. I have responded well to this new introduction and believe that receiving instant feedback from my educators provides me with the guidance needed for improvement."*

Student participant pilot study (Down, 2018)

It also serves to highlight that timely feedback is important to the student. A culture of change was needed for this to occur.

Students are encouraged to collate information about their experiences and achievements through several specific (newly created) workbooks. The new workbooks and the use of customised templates in PebblePad allowed a transformation of the course content delivery and the organisation of practical laboratory sessions.

The latest addition to the eportfolio is the "Career Ready" workbook. This offers the capacity for a student to build a competency profile - before graduating - thereby being able to demonstrate, with evidence from their portfolio, readiness to graduate.

From the commencement of their studies, students are encouraged to consider the skills they bring to their studies. With reference to the Professional Competencies of the Graduated Oral Health Professional (Australian Dental Council), students attend workshops to guide the development of their professional profile to strengthen their employability attributes. Guided to collect evidence, students select the best evidence to highlight this, be that through interviews or other promotional activities. Prior to Programme completion, students present their career ready portfolio to an industry panel for assessment.

The digital clinical logbook has transformed into an eportfolio used across multiple clinical and non-clinical subjects. Recently evaluated by the accreditation body, it is recognised as being at the forefront of Dentistry and Oral Health Programmes in Australia.

Students' enthusiasm about the changes, together with positive reviews from some of the clinical educators, supported further implementation of the eportfolio across the curriculum, allowing students to make connections between subjects/areas.

## Lessons Learnt

- For scaling up from a digital clinical logbook to a comprehensive eportfolio, it is important to remain mindful that the initiative necessitated, in some instances, re-education of staff. Not always an easy task, but one considered important to our ongoing educator professional development.
- Sustainability thinking and administrative support are a critical part of the design process.
- Creating a culture of student and other stakeholder involvement nurtures a sense of ownership which is critical for success (Eynon et al., 2014).
- Both students and educators need to see the benefit of maintaining the eportfolio.
- The value of an eportfolio depends on how it is implemented, the pedagogy and practices of faculty and staff, as well as broader support structures (Eynon et al., 2014).
- Feedback from clinical educators, placement supervisors, patients and other (health care) professionals, together with self-reflection, are an invaluable method of student evaluation, active learning and preparation to perform as excellent health care providers in complex healthcare systems (Cormack et al., 2018).

In summary, our focus on student learning promoted connection and cooperation across different subjects and placement locations. This case study confirms that eportfolio initiatives can result in cultural and structural change (Eynon et al., 2014) which allowed us to explore ways to incorporate the eportfolio across a curriculum and see its inclusion in authentic assessment (Down, 2018; Knevel et al., 2016).

## Take home messages about 'Scaling up'

- Blue print development and 'think big' at the implementation stage.
- Include identification of a sustainable level of administrative and or technical support.
- Clear mapping and process description as you go will clarify the desired direction and promote acceptance during the scaling up process.
- To ensure successful scaling up establish self-sustaining frameworks.
- Co-design with all stakeholders to build context and take advantage of passionate early adopters as advocates for what is to be achieved.
- Develop a self-belief and steadfast confidence in it being the right direction in which to go forward. Passion led us to where we are - one reason why we have been able to come so far. There have been obstacles to overcome, doubting colleagues to convince, and time constraints to manage.
- Monitor progress and manage issues that relate to implementation.
- Increase impact and effectiveness by horizontal/vertical integration throughout the curriculum. Using fragmented parts of an eportfolio lessens any beneficial impact.

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