

Collections for reflection

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Summary

Portfolios are a popular¹ but unproven means for supporting self-regulated learning (SRL) and reflection skills during medical training.¹⁻⁴ These skills are important during the transition into a medical program when students need to adapt to the academic workload and direct the focus for their study to acquiring knowledge and skills for clinical competency.⁵ Portfolios vary in design and purpose⁶ but usually present a series of tasks: evidence collection, reflection on evidence and meetings with mentors to discuss learning plans.^{1,7} As research findings for the educational outcomes of portfolios in medical training have been inconclusive and or limited to exploration and comparison of student and mentor satisfaction,^{3,4,8-10} clarification of how portfolios and individual portfolio tasks support learning is needed. Understanding how portfolios support learning would inform improved portfolio design and delivery.

This research explored how portfolios support the SRL phases (performance, reflection, planning) during the transition into medical school using qualitative longitudinal research methodology¹¹ with a social constructionist approach.¹² The four studies, informed by socio-cultural learning theories, explored changing medical students' perceptions and approaches to self-assessment and three portfolio tasks: evidence collection, reflection on curated evidence, and meetings with mentors to discuss portfolio evidence and learning plans. Synthesis of the findings generated an explanation for how portfolio tasks, individually and together, support SRL and reflection.

The findings offer new insights into the factors influencing ISA early in medical school (**Chapter 2**), the transformative potential of several types of artefacts in portfolio collections (**Chapter 3**), evidence that photographic self-portraits in portfolios could support documentation of and reflection on professional identity development (PID) (**Chapter 4**), and the conditions for meetings with mentors to support reflection and planning (**Chapter 5**).

Evidence in portfolios represents the performance phase of the SRL cycle (**Chapter 1**). Evidence choices depend on the student's response to experience and the student's approach to self-presentation (**Chapter 2**). Diversity in students' responses reinforces the recommendation for autonomy in building portfolio collections (**Chapter 3**). Scaffolding and the capabilities of the portfolio platform also influence choices. If artefacts are to present changing performance, portfolio collections should be scaffolded to present repeated performance of the same task (**Chapter 4**). If artefacts are to present the significance of a task within the curriculum, artefacts should be drawn from across the curriculum (**Chapter 5**). Artefacts that represent challenging or novel experiences are more likely to elicit critical reflection (**Chapter 3**).

The quality and outcomes of student reflections in portfolios depend on the evidence collected and the meaning of the experience to the student. Meetings with mentors support the reflection and planning phases of SRL. The outcomes of reflective dialogue with a mentor depends on the experiences presented, the student's readiness to share and learn – which, in turn, depends on the student's outcome expectations for the interview, the mentor's skills, and the student-mentor relationship. For some students, reflective dialogue during meetings supported ISA, changed their perceptions about goal setting, and provided awareness of new strategies. As PID is important for goal setting and ISA, it should be a focus of discussion with mentors to support study planning. (**Chapter 5**)

These findings have implications for effective portfolio design and delivery in health professions education – particularly in the first years of medicine. Portfolio design should encompass support for SRL and critical reflection using principles of SRL¹³ and TL theory¹⁴ (**Chapter 6**). Students should have autonomy for their artefact choices and be encouraged to include transformative experiences to promote critical reflection. (**Chapter 3**). Scaffolding for collections should ensure the curriculum is represented and students can recognise changes in performance. Efforts should be directed to gain students' trust in the process and their mentor to improve outcome expectations and self-presentation. Meetings with mentors should encourage students to discover areas for improvement, study purpose and steps towards professional identity to support study planning (**Chapter 5**). Photographic self-portraits in portfolio collections offer a novel approach for documenting and stimulating discussion about PID and learning with peers in medicine (**Chapter 4**).

The strength of the research was the longitudinal study design¹¹ which allowed analysis of change over time and with experience. Diverse participant and data sampling provided alternative perspectives to enhance the trustworthiness of the findings. The four studies explored portfolio tasks using different methods and theoretical lenses supplying complementary and alternative interpretations. The use of sociocultural theories from the constructivist paradigm to frame analysis improved the rigour of the research.¹⁵

Our findings were drawn from a single educational context and portfolio design so they may not be transferable to other settings and portfolio designs. The data collection period was during the Covid pandemic. This influenced participant' retention, student learning experiences, and engagement with the portfolio. The participants for the interviews self-selected. This means they may have had different perspectives about portfolios to their peers before recruitment and because of their involvement in the research. The data were only related to the portfolio meetings in first year. Although some of the data were collected in second year, it cannot be assumed that students' perceptions would persist in the longer term. The written reflections analysed were mostly descriptive, limiting analysis and were likely to have had self-presentation bias. The perspectives of Advisors were not included in this study which would have revealed another perspective.

These findings provide opportunities for future intervention studies into how individual tasks can be improved to enhance each phase of the SRL cycle in other settings and with other portfolio designs. Interventions include the impact of inclusion of transformative experiences in portfolio collections, the role of photographic self-portraits in supporting reflection on PID and addressing student preconceptions about mentor meetings. A longitudinal study could investigate whether attitudes towards portfolios and SRL skills in first year are transferred to portfolio-based learning in clinical settings.