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C4ME Supplement

Qualitative analysis of the development of self-regulated learning skills in year 1 medical students

C4ME SUPPLEMENT

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Link to YouTube Video:
https://www.youtube.com/watch?v=nwtqxqVHaSY

Background

Educational activities in higher education revolve around effective self-regulated learning (SRL). SRL is a common theme in educational research because of its link to self-efficacy and independent learning in students. (1, 2) These students are also better at acclimatising to university life as they transition from school to higher education and thus, have a decreased chance of dropping out of university. (3, 4)

Studies of transition and self-regulation predominantly investigate students on non-vocational courses. However, students who are studying vocational courses (e. g. medicine) may also demonstrate the need for self-regulation. Medical students are typically high achievers and so it is probable that they already possess high levels of self-regulation. The importance of SRL lies in the fact that doctors are required to possess lifelong learning behaviours, such as in the long-term acquisition of knowledge and skills. (5, 6)

Cardiff University (CU) medical students are an interesting cohort because they initially spend semester one in a didactic curriculum, Platform for Clinical Sciences (PCS), and then progress to an inquiry-based curriculum of Case-Based Learning (CBL) in the second semester. These students experience two educational paradigms in Year 1 alone.

SRL in medical students and factors affecting their transition to medical schools are usually researched as unrelated topics. Therefore, this study aimed to explore SRL in medical students as they transition into the first year of university.

Methods

A qualitative research paradigm was employed to investigate students' perceptions of the development of their SRL skills. Year 1 medical students were recruited in a core lecture at the start of the academic year. Two cycles of semi-structured interviews were held in the first and second semesters.

The approach to data analysis was informed by Charmaz's constructivist grounded theory (CGTh). (7) The interviews were initially analysed using line-by-line coding techniques and then more detailed codes were produced using the NVivo 12 software. This process was carried out iteratively and constant comparative methods were used to identify similar themes between transcripts. Coding for interview cycle 1 was initiated and continued during data collection for cycle 2.

The project supervisor had already sought ethical approval through the School of Medicine Research Ethics Committee prior to the commencement of this study. Ethical considerations surrounding confidentiality and participant safety were also addressed.

Results

Seven participants volunteered to partake in this study and were in the age range of 18 to 20 years. Coding produced 217 and 272 codes for interview cycles 1 and 2 respectively and five common themes were identified. The main overarching theme was the change in the environment during transition (Figure 1).

Students displayed some levels of self-regulation prior to university, which helped them to adapt to the change in environment from school to PCS and then from PCS to CBL. This included adapting to the educational, emotional and social environments of university. In terms of the educational environment, participants reported that the self-directed learning (SDL) in PCS and CBL was difficult as they were unaccustomed to SDL at school. However, the overall perceived benefits of SDL increased in the second semester as students understood that it would be beneficial for the long-term learning required when they are doctors.

Throughout PCS and CBL, participants felt uncertain in the parameters of their learning due to the large amounts of SDL. However, participants enjoyed having CBL facilitators who directed students' learning in the right direction. Participants were also uncertain about the method of learning that they should adopt at university. Prior to attending university, six of the participants predominantly handwrote their notes. There was an overall trend of transitioning to digital forms of notetaking as participants progressed through Year 1. As a result of the widespread uncertainty, participants compared themselves and the work they had carried out to their peers, which created a competitive atmosphere in both semesters.

Discussion

Year 1 CU medical students adapted to two transition points, including the transition from school to PCS and then from PCS to CBL. They were required to use self-regulation to adapt to the change in the educational, social and emotional environments. Participants' self-regulation was augmented in the second semester as they took responsibility for their own learning.

Uncertainty demonstrated by the students has been also shown in doctors in previous studies. For example, doctors may be uncertain in making a diagnosis or selecting the appropriate tests for patients. (8) The uncertainty in students' parameters of learning led to comparison, including comparing their notes to others. Whilst research has shown that physically handwriting notes provided an extra layer of memory, (9) participants preferred typewriting as it was more convenient for group learning in CBL. Overall, uncertainty contributed to a competitive atmosphere, which has been shown to allow certain students to succeed quicker than others. (10)

Students already possessed some self-regulation prior to starting university. Thus, universities should support first year medical students in refining these skills, which would help them to effectively transition between the different environments.

Lessons Learnt

My previous research experience has predominantly been in the clinical or laboratory setting. Therefore, I initially found the qualitative approach to research quite challenging, particularly understanding how to conduct effective interviews using the principles of CGTh. My interviewing techniques improved significantly in the second cycle as I asked more probing questions which allowed participants to provide more detailed answers. I also understood the benefits of undertaking qualitative research aligned to the CGTh as I was able to obtain results that were grounded in the data.

The qualitative approach to this study proved challenging but undertaking an intercalated degree in medical education and subsequently carrying out this research project has allowed me to develop skills that will be invaluable towards my development as a future clinician and as an educator. I look forward to undertaking further work with this project including carrying out comparison studies in other medical schools that only have one teaching style throughout their first year. Overall, results produced from this study will be important in shaping the undergraduate medical curricula for future medical students.

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Figures

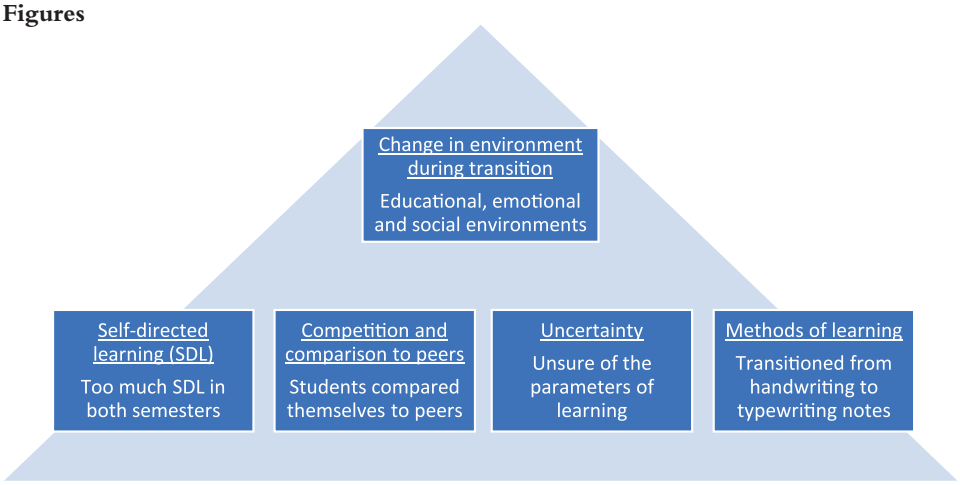

Figure 1 *– Hierarchical structure of the common themes in both interview cycles.*

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