

An analysis of the development of self-regulated learning skills in first year medical students: the impact of transition

C4ME SUPPLEMENT

AUTHOR INFORMATION

Suzy Allsop

Cardiff University School of Medicine

Julie Browne

Cardiff University School of Medicine

Professor Stephen Rutherford

Cardiff University School of Medicine

Address for Correspondence:

Suzy Allsop
Cardiff University School of Medicine
The Cochrane Building
Heath Park, Cardiff
CF14 4YU
United Kingdom

Email: AllsopS@cardiff.ac.uk

No conflicts of interest to declare

Accepted for publication: 22.09.19

Background

Self-Regulated Learning (SRL) is the ability to manage one's own learning and identify own learning needs. (1) Since doctors are required to be life-long learners, it is important that medical students develop SRL skills as early as possible. (2) Extensive literature has addressed the elements required of a self-regulated learner; (3,4) however, little has addressed how students can be supported to develop these skills and the impacting factors, particularly the impact of transitioning to university. Medical students are an interesting cohort as they are typically high-achievers at school, have the development of a professional identity forming when they start university, and a clear professional outcome to their studies. It is important that medical schools can support their students through this transition to university, to consequently improve student abilities to self-regulate their learning. (5)

In the medical school being studied, the teaching approach changes between the first and second semester of first year. The first semester being a strongly didactic 'Platform for Clinical Sciences' (PCS), the second semester adopting a 'Case-Based Learning' (CBL) approach. The students therefore potentially have to adapt to two different curriculum formats.

Methods

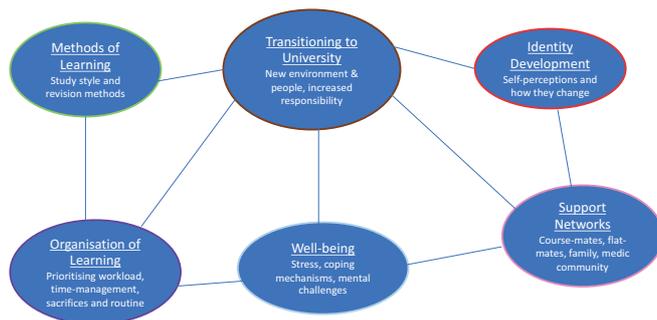
The aim of the project was to investigate participants' lived experiences, so a qualitative approach was adopted using open intensive interviews. The initial interview questions were taken from previous interviews carried out by my supervisor (6) and had been extensively piloted through this process. Participants were recruited from the first-year cohort of the medical school at the beginning of the academic year, and interviewed individually at two points; once during the first semester and again during the second semester. This enabled the development of the participants to be tracked across the year, and compared between the two different teaching approaches.

The data were analysed using a constructivist Grounded Theory approach, meaning that any theories generated were not pre-conceived, but emerged from the data. (7) Analysis of the data by coding using NVivo 11 software began whilst gathering the data (a key tenet of Grounded Theory) and continued as an iterative process of going back and forth between the data and analysis using comparative methods until data saturation was reached. Coding of the first cycle of interviews informed the development of interview questions for the second set of interviews.

Ethical approval was obtained from the local research ethics committee and preparations were made to support students who reported issue of concerns or became distressed during the interview.

Results

Figure 1: The 6 themes derived from the data. The lines between them demonstrate the linkages between themes and those that overlap.



The study followed 15 participants. Approximately 300 codes were derived from analysis of the interviews, focused into 6 main themes (see **Figure 1**).

Efficacy of SRL was not determined empirically, but based on self-report by participants. A key finding was that students were already effective at SRL, but they had to adapt their SRL to the unfamiliar learning environment of university, and then adapt again after PCS changed to CBL. Throughout PCS, there was considerable and widespread uncertainty amongst the participants. Uncertainty led participants to compare themselves to their peers regarding their studies and the social aspects of university. Comparison impacted on student self-assurance and identity, which could then lead to negative emotions driving students to self-regulate, rather than positive emotions. Competition was reported to be higher amongst the participants throughout PCS, and participants noted an unwillingness to share information with their peers.

Conversely throughout the second interviews, participant self-assurance seemed to have increased, alongside a greater ability to identify own learning needs. Most participants displayed an increased willingness to help their peers rather than compete. Collaboration seemed to be a key factor of importance in students adapting their ability to self-regulate, and overall enjoyment seemed to increase whilst stress decreased.

Discussion

Most students were already effective at SRL when starting university, however they struggled to adapt it to their new environment. Some did this successfully, some less so. Students seemed to cope with adapting their SRL in different ways; for example, this project highlighted the significance of transition and identity in student development in their first year of university. SRL effectiveness was not measured, however, the participants' perceptions of efficacy were noted. Uncertainty with regards to what was required of them during their first term led to increased stress and comparison amongst them, this competitive element of the hidden curriculum has been noted in studies previously. (8)

This study showed how medical student identities change across their first year. Lack of confidence in the first semester emphasised the students' novice status within the medical community, whereas the second semester introduced skills associated with 'being a doctor', enabling students to progress towards forming a professional identity and work with others. Developing these relationships with peers is vital if students are to succeed. (9)

Medical schools should be developing curricula that facilitate students' development of professional identity. (10) Not only to assist with SRL skills but to also help promote resilience and coping strategies. It would be beneficial to run a parallel study in a medical school that does not change its curriculum, to compare how much of the development of students was a consequence of the change in course structure.

Lessons Learnt

This study was an interview-based research project, a method new to me before starting my intercalation. I found the project challenging, but it was enjoyable and rewarding talking about student's experiences, and I was glad that participants found sharing their stories beneficial.

I learnt the benefit of using qualitative research in being able to see individual stories and investigating 'lived experiences' in more detail than possible with a quantitative approach. I learnt the skills of being able to draw out conclusions from similarities between participant data.

Constructivist Grounded Theory was an advanced method of analysis to use, however it allowed me to go down the richest route of the data, teaching me the importance of being adaptable in research. The huge amount of data collected taught me to be concise in my write-up. PCS and CBL posed different challenges to students, with PCS being particularly difficult. Consequently, the work from this project is being sought after from the medical school to inform their review of the curriculum of Year 1.

My experience throughout has encouraged me to become involved in medical education research in the future, as well as improving my communication skills for working with patients and medical students alike. Due to the success of the project we are carrying on the study with the participants into their second year of medical school. I look forward to taking our study onto the next step and continuing my involvement in medical education.

References

1. Zimmerman BJ. A Social Cognitive View of Self-Regulated Academic Learning. *Journal of Educational Psychology*. 1989;81(3):329-39.
<https://doi.org/10.1037/0022-0663.81.3.329>
2. Brydges R, Butler D. A reflective analysis of medical education research on self-regulation in learning and practice. *Med Educ*. 2012;46(1):71-9.
<https://doi.org/10.1111/j.1365-2923.2011.04100.x>
PMid:22150198
3. Van Den Hurk M. The relation between self-regulated strategies and individual study time, prepared participation and achievement in a problem-based curriculum. *Active Learning in Higher Education*. 2006;7(2):155-69.
https://doi.org/10.1177_1469787406064752
4. Bjork RA, Dunlosky J, Kornell N. Self-regulated learning: beliefs, techniques, and illusions. *Annu Rev Psychol*. 2013;64:417-44.
<https://doi.org/10.1146/annurev-psych-113011-143823>
PMid:23020639
5. Corrigan G. Self-regulated learning in medical education: the next steps. *Medical Education*. 2012;46(9):920.
<https://doi.org/10.1111/j.1365-2923.2012.04337.x>
PMid:228919136
6. Rutherford S. The Rules of the Game: Informal learning and the development of identity during the transition to Higher Education. In: Rutherford S. *Informal Learning: Perspectives, Challenges and Opportunities*. New York, USA: Nova; 2017. p. 135-74.
7. Charmaz K. *Constructing grounded theory*. 2nd ed. London: SAGE; 2014.
8. Lempp H, Seale C. The hidden curriculum in undergraduate medical education: qualitative study of medical students' perceptions of teaching. *BMJ*. 2004;329(7469):770-73.
<https://doi.org/10.1136/bmj.329.7469.770>
PMid:15459051 PMCID:PMC520997
9. Cohen MK, Abigail. Youakim, James. Balaicuis, John. Identity Transformation in Medical Students. *The American Journal of Psychoanalysis*. 2009;69(1):43-52.
<https://doi.org/10.1057/ajp.2008.38>
PMid:19295620
10. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. Reframing medical education to support professional identity formation. *Acad Med*. 2014;89(11):1446-51.
<https://doi.org/10.1097/acm.0000000000000427>
PMid:25054423



The **British Student Doctor** is an open access journal, which means that all content is available without charge to the user or his/her institution. You are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles in this journal without asking prior permission from either the publisher or the author.

bsdj.org.uk



/thebsdj



@thebsdj



@thebsdj

[Journal DOI](#)

10.18573/issn.2514-3174

[Issue DOI](#)

10.18573/bsdj.v3i3

This journal is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. The copyright of all articles belongs to **The British Student Doctor**, and a citation should be made when any article is quoted, used or referred to in another work.



[Cardiff University Press](#)

Gwasg Prifysgol Caerdydd

The **British Student Doctor** is an imprint of Cardiff University Press, an innovative open-access publisher of academic research, where 'open-access' means free for both readers and writers.

cardiffuniversitypress.org