



## Introduction

The General Dental Council curriculum guidelines state that the dental undergraduate at graduation should be competent at designing partial dentures. This requires them to gain a sound theoretical knowledge and understanding of key principles of partial denture design within a treatment plan and apply these in the clinical environment.<sup>1</sup>

Dental undergraduates in their second year of study have a series of tutor led small group tutorials covering the basic principles of partial denture design. This study investigated the effectiveness of introducing a new syndicate learning approach. Syndicate learning involves small semi-independent (tutor-less) groups working on joint assignments and evidence has shown students develop a greater capacity for applying learned concepts in new situations.<sup>2-4</sup>

## Methods

Students (n=90) were divided into groups containing five students (n=18). The project brief required the groups to work through cast analysis and design processes for three separate scenarios. Each group undertook practical activities surveying and mounting casts on an articulator and applied previously learned principles.

All students who volunteered to participate completed a feedback questionnaire and a random sample were asked to attend a focus group (two focus groups each containing 12 students) to explore issues that emerged from the questionnaire data. The resulting qualitative data was analysed using a general inductive approach.<sup>5</sup>

Ethical approval was granted (FM02708) from the Faculty of Medicine Ethics Committee, University of Glasgow.

## Results

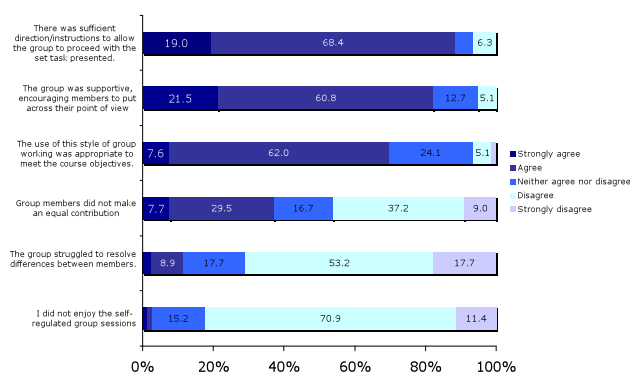


Figure 1

88% of students (n=79 of 90) completed feedback questionnaires. 87% (n=69) felt that sufficient direction/instruction was provided to allow the group to proceed with the task. 82% (n=65) enjoyed the self-regulated group session and thought the group was supportive and encouraging.

70% (n=55) stated that learning methods were appropriate to enable them to meet course objectives. 46% (n=36) felt group members made an equal contribution to the task, 37% (n=29) disagreed. (Figure 1)

Comparing this specific style of group work to tutor-directed groups, 89% (n=70) found the group work more enjoyable, 84% (n=66) more engaging, 73% (n=58) more motivating, and 80% (n=63) more interesting.

In the focus groups, students' commented on the effectiveness of syndicate group learning. The main themes that emerged from students' comments were: the added value of the group approach in terms of learning and enhanced social cohesion; the sense of responsibility to peers and higher level of autonomy that led them to work harder and have to be able to justify their decisions; and the greater peer interaction achieved through syndicate learning compared to their experiences of other learning methods.

## Conclusions

These results demonstrate that syndicate learning helped students to achieve course objectives. However, in addition to this, tutor-less groups were rated more positively by students in comparison to more traditional group work with a tutor/facilitator as well as to other teaching methods such as lectures. Outcomes such as enhanced student motivation, engagement, interaction and enjoyment are encouraging.

Students were very positive about the effects of the syndicate group approach in terms of making them work harder through a sense of group responsibility. They also reported learning more deeply by having to teach their peers and learn from their peers. These outcomes suggest syndicate learning groups can offer a valuable contribution to the undergraduate dental curriculum.

## References

- General Dental Council (2008). The First Five Years – Third Edition (Interim), page 9.
- Collier K. G. (1980). Peer-group learning in higher education: The development of higher order skills. *Studies in Higher Education*, 5:1,55-62.
- Collier, g., Clarke, R. (1986) Syndicate Methods: Two Styles Compared. *Higher Education*, 15(6),609-618.
- Lowry, M. (1998). Working in syndicate groups towards the development of clinical care protocols: a study into the professional learning of undergraduate nursing students. *Nurse Education Today*, 18,470-476.
- Thomas, D.R. (2003). A General Inductive Approach for Qualitative Data Analysis, *University of Auckland, New Zealand*. [http://www.fmhs.auckland.ac.nz/soph/centres/hrmas/\\_docs/Inductive2003.pdf](http://www.fmhs.auckland.ac.nz/soph/centres/hrmas/_docs/Inductive2003.pdf) [accessed September 2009].

## Acknowledgement

The authors would like to acknowledge the funding provided by the University of Glasgow, Learning and Teaching Development Fund (LTDF).