A flipped-classroom blended approach to teaching of pharmacology

Emilio Badoer,
Laurine Hurley, Marian Dobos
School of Medical Sciences
RMIT University, Melbourne, Australia
Introduction

Current and future cohorts of university students are demanding greater flexibility in their learning environments.

The dilemma: how to address this flexibility and maintain student engagement and satisfaction.

We describe the development of a ‘flipped-classroom’ (FC)-blended learning design implemented in Year 3 pharmacology teaching
AIM

To design, implement and evaluate a FC-blended learning approach and compare this to a traditional mode
METHODS

<table>
<thead>
<tr>
<th>Traditional</th>
<th>FC-Blended</th>
</tr>
</thead>
<tbody>
<tr>
<td>3hrs Lectures</td>
<td>1hr ‘Lectorial’ + Videos</td>
</tr>
<tr>
<td>2 hrs Wshop/tutorial</td>
<td>2 hrs Wshop/tutorial</td>
</tr>
</tbody>
</table>

Weeks 1-5 of a 12 week semester were taught in the FC-blended mode.

Lectures replaced by a series of videos complemented by face to face lectorials.

Prior to attending the lectorials, the students watched the videos and completed a Student Video Concept Form (SVCF) based on their understanding of the key concepts.

The SVCF provided feedback on difficult concepts and was used to direct the learning in the lectorials.

The remaining 7 weeks of the semester consisted of traditional, face-to-face lectures and workshop/tutorials.

Evaluation of the project included student perception questionnaires, focus groups.
As you are watching the videos, perform the following:

A. Write down short phrases (dot points) that interested you from the content.

B. Identify at least 3 key concepts you have understood from the content.

C. Identify at least 3 key concepts you are having difficulty with.

Type them into this form and upload this form to blackboard as a WORD DOCUMENT no later than the 14.00hrs Friday preceding the Monday class. Everyone must do this and it will form part of your participation mark for the workshops/tutorials.

Save the document in the following format:
Surname-student ID-week number-video concepts.
For example. Badoer-123456-week number 1-video concepts.
Week 4 Difficult Concepts
RESULTS

Overall Student Satisfaction Index (OSI) = 85.7%
Class of 40 students

In response to the questionnaire at the end of semester:

• 90% of the students found the new teaching approach interesting.

• 93% found the approach helped their learning.

• 83% of the students indicated the new approach addressed their conceptual difficulties vs 36% for the traditional mode.
RESULTS

- Student attendance in the lectorials (71%) was markedly higher than in the conventional mode (28%).

In written responses students indicated:
- That the short videos (15-20 minutes) helped them focus on key concepts,
- The FC-model increased flexibility, particularly their ability to view and review videos using mobile devices of their choice;
- Most importantly, students reported increased retention of pharmacology concepts as a result of the changed teaching approaches.
CONCLUSION

FC-blended learning model

1. increased student engagement,

2. assisted student learning

3. increased student satisfaction with the course.
CONCLUSION

Most importantly,

- The students were able to revisit the learning material and consider their difficulties before the lectorials and reinforce their understanding during the lectorials.

- The SVCF was a valuable tool for both students and staff and critical to the success of this initiative.

- Course content was not reduced, but direct contact time for the lecturer was reduced.