Chapter 23
Blended Learning:
Using IDM for University Courses

Kevin Anthony Jones
Nanyang Technological University, Singapore

ABSTRACT

This chapter is a personal account of the educational application of eLearning-IDM (eIDM), teaching an upper level software engineering course at Nanyang Technological University. It is combined with face-to-face (F2F) sessions to become a teaching and learning (T&L) approach called blended learning. Blended learning is used in the classroom to address two problems encountered in modern higher education: (1) the digital divide and (2) knowledge glut. It turns out that lectures, the way preferred by teachers (being digital immigrants) of disseminating knowledge, is not aligned with the way students (being digital natives) acquire knowledge. I have developed a ⅓ eIDM and ⅔ F2F blended learning that appeals to the learning needs of digital natives, and satisfies the teaching aspirations of digital immigrants. Current research is on scaling and extending this model, learning resources that align with a student's learning style, and more interactive and conducive interfaces for the eIDM platform.

INTRODUCTION

For some time, IDM has been offered in the curriculum of many universities, yet few have adopted it in their mainstream T&L. Instead, there are teachers here and there who have made the leap of becoming early adopters of eIDM in their classrooms.

I expected teaching at university to be an intensely interactive affair, with the lectures generating exciting and challenging discourse that was enjoyable and fulfilling for teachers as well as for the students. To my disappointment, students were distant and disinterested, mostly apathetic to the subject material, and completely

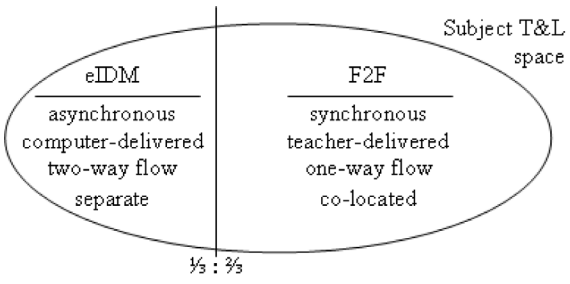
DOI: 10.4018/978-1-61350-147-4.ch023

passive in their learning. In fact, it was a general problem experienced by most of my colleagues. So, I subsequently attempted several innovations of the material, lectures, and homework review periods (a.k.a., tutorials). However, after several semesters, it was clear that these innovations were ineffective at increasing the students' interactivity with the subject material.

The breakthrough came after I completed a certificate course in higher education. In that course, we studied student interactivity in learning and how it could be increased with eLearning. So, eLearning was the "silver bullet" [1] I sought, but incorporating it effectively into the subject had a price: complete redesign of the existing T&L structure. To fit eLearning into the highly rigid semester schedule in a degree program, unquestionably there would have to be a trade-off with the existing T&L sessions. After exploring all the known factors, including institutional, faculty, and student expectations, I settled on a new T&L that was partly eIDM and partly F2F. Thus came into effect the very first core curriculum blended learning subject in my university (see Figure 1).

When it was first introduced to the students in the first semester of 2008, I was naturally apprehensive, given the glaring fact that the blended learning T&L was unlike anything the students had been exposed to in their degree program up to that point in time. To my relief, the new approach was cautiously though indubitably accepted by the majority of students. Moreover, there was a noticeable increase in the students' interactivity in the subject. Since its inception till now, the blended learning has continued to deliver the results I was looking for.

Figure 1. The blended learning structure for my subject



It may well be that in the not too distant future, those teachers who don't adopt eIDM in their classrooms will not be employable as university faculty. That said, it is not an easy undertaking to redesign an entire T&L structure from the ground up to incorporate eIDM; it took me two years to complete the process. Furthermore, my circumstances were somewhat special in that I had been assigned for many years to one subject. Had I been shifted regularly from one subject to the next, it would have been impossible to complete the migration to the blended learning in any of the subjects.

This chapter will explain why eIDM is effective in enhancing the T&L in today's universities, and provide one approach for incorporating eIDM into a university subject, ending with a short look at nascent research into aspects of eIDM.

BACKGROUND

There are several indicators of a serious misalignment of expectations between what the teachers think they are delivering to their students and what their students are actually acquiring from it: (1) significant reduction of the sitting period for end semester examinations, (2) significant moderation upwards of final marks, (3) near-zero interactivity of the students, and (4) too short retention of previous years' subjects' material. For example, in those students' final year projects that I supervise a scant two years downstream from when they had taken my subject, they have forgotten most of its important knowledge. This sentiment is echoed by my colleagues for their subjects.

At the turn of the millennium, sociologists began discussing the "digital natives, digital immigrants" condition. Digital natives go through a deep and profound shaping of their behavior to