

Chapter 5

How to Improve Teaching Using Blended Learning

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ABSTRACT

Blended learning is a buzzword these days. Millions of dollars are spent by schools, colleges, and universities to encourage their academic staff members to use blended learning for improving teaching performance and student satisfaction. There is no clear-cut definition of blended learning, and the authors feel it is just a set of tools or pedagogy that can be used in face-to-face teaching as well as online teaching. In this chapter, the authors have discussed some of the blended learning tools used and developed by the authors to improve teaching in the area of statistics and data analysis.

INTRODUCTION

With the exponential developments in technology, internet, cloud computing and computing facilities, the education delivery scenario is changing very quickly. The traditional chalkboard method has become more or less obsolete. Consistent with our daily routines that rely more and more on electronic devices, both academic staff and students are relying more on electronic learning. It is claimed that blended learning is the present and future of education, but there is no clear cut definition of blended learning. Oliver and Trigwell (2005) concluded that the term blended

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learning is ill-defined and inconsistently used, while Horn and Staker (Horn & Staker, 2011; Staker & Horn, 2012) have defined blended learning as “new model that is student-centric, highly personalised for each learner, and more productive, as it delivers dramatically better results at the same or lower cost”. According to Wikipedia (n.d.) blended learning is defined as “an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods”. In other words, blended learning is considered as a mix of online teaching and face-to-face teaching. In her book, Driscoll defined four different concepts of blended learning (Driscoll, 2002):

1. To use a combination of technology types (such as virtual classrooms, self-paced instruction, streaming video, audio and text) to accomplish an educational goal.
2. To use a combination of pedagogical approaches (such as constructivism, behaviourism and cognitivism) to enhance a learning outcome with or without instructional technology.
3. To combine any form of instructional technology with face-to-face instructor-led education.
4. To combine instructional technology with real-world job tasks to reduce the gap between learning and working.

This chapter discusses popular tools available for blended learning and the effect of blended learning, as well as tools used by the authors to improve teaching in the area of statistics and data analysis.

TOOLS FOR BLENDED LEARNING

Given so many definitions and the resulting confusion, the authors feel blended learning is just a set of tools or pedagogy that can be used in face-to-face teaching, as well as online teaching. These tools range from simple tools such as PowerPoint, Prezi, YouTube, Facebook, Excel, Google Scholar, Poll Everywhere and iMovie to more complicated ones such as Camtasia, Moodle, Socrative, Quizlet, Lightboard and Coursera.

The 12th Annual Digital Learning Tools Survey was conducted in 2018 and comprised of 2,951 learning professionals from 52 countries worldwide (Hart, 2019). This survey was used to create a list of the top 200 tools in 2018 for learning, which is available at <https://www.toptools4learning.com/home/>. However only 23% of the survey respondents were from primary, secondary or tertiary education (Hart, 2019), and so the sub-list “Top 100 Tools for Education” is more relevant here as it focuses

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