Chapter 89
Flipping the Classroom:
Challenges of Implementation

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ABSTRACT

Adoption of new practice only occurs if the proposed change is perceived as being beneficial and if the challenges associated with implementing the new practice are not overwhelming. The teaching method of flipping the classroom is a newer practice that has received a lot of attention in current literature, where the potential benefits are thoroughly discussed. The challenges associated with flipping the classroom are more obscure in the literature. The purpose of this chapter is to outline challenges associated with flipping the classroom and propose solutions to overcome each of the challenges described. Challenges of implementing a flipped classroom can occur at the institutional or individual level and can be categorized as technological or non-technological. Specific challenges to be discussed include technology delivery challenges at the organizational and individual level, lack of technical support, IT infrastructure challenges, inadequate technical and non-technical training resources for instructors, instructor and student resistance to using non-traditional teaching methods, the inability to assess student comprehension using traditional strategies, increased course preparation time, and lack of student preparation or buy-in.

INTRODUCTION

Although current literature has widely heralded the benefits of using the flipped classroom method, the challenges associated with implementation are less prevalent. Even the best teaching strategy will not be adopted if the barriers to implementation are perceived to be insurmountable. Challenges noted in the literature associated with implementing flipped instruction include the fact that it is labor intensive and time consuming to make prerecorded lectures and class activities; the inadequacy of available technology and needed technical support; inadequate student, teacher, and community buy-in; and also the challenge associated with properly motivating students to ensure they engage with course materials in the home environment so that they come to class prepared for higher-level learning activities (Bates & Galloway, 2012; Bergmann & Sams, 2014; Ivala, Thiart, & Gachago, 2013; Twomey, 2013). These challenges, if

not mitigated, can lead to instructor and student frustration. The likely result of this dissatisfaction is abandonment of the teaching strategy, despite the evidenced benefits. Therefore, the objectives of the following chapter are to discuss the more commonly experienced challenges to implementing a flipped classroom and to propose solutions to help overcome the described challenges.

BACKGROUND

The basic premise of flipped instruction is that the knowledge that was previously given inside the classroom is now considered an assignment to be completed prior to class and that the activities that were previously assigned as homework to help apply the concepts are now conducted in the classroom. Prior to the time when the internet became a household commodity, the options for providing knowledge to students outside the classroom were limited. The majority of educators who utilized the flipped classroom as a teaching method prior to this time assigned textbook readings. However, current literature shows that only 18-33.9% of students complete the assigned readings prior to attending class (Berry, Cook, Hill, & Stevens, 2011; Burchfield & Sappington, 2000; Connor-Greene, 2000; Stelzer, Gladding, Mestre, & Brookes, 2009). Based on this literature and the availability of novel ways of disseminating information using technology, many instructors who teach using flipped instruction are moving away from using textbook readings as the primary way of preparing students for class. While the advances in technology provide a variety of options for the instructor to choose from when deciding how to disseminate course content, there are complexities and challenges that come with having such diverse methods available to both instructors and students. When discussing obstacles to using the flipped classroom, technology concerns were cited as a main barrier in a multitude of studies (Enfield, 2013; Invala et al., 2013, November & Mull, 2012). While implementing a flipped classroom for undergraduate multimedia students, Enfield (2013) found that technology delivery issues plagued many students, and because of these issues 32.4% of students reported that technical issues negatively impacted their learning and 45.9% of students reported that the technical issues were annoying at times but did not impact learning. Bergmann and Sams (2013a) also describe possible delivery issues that could arise due to inequitable access to technology at home.

The NMC Horizon Report: 2014 Higher Education Edition delineates significant challenges impeding higher education technology adoption (Johnson, Adams Becker, Estrada, & Freeman, 2014). One of the concerns discussed is low digital fluency of faculty (Johnson et al., 2014). The report found that despite the importance of digital literacy, training in the supportive skills and techniques is rare in teacher education and non-existent in the preparation of faculty (Johnson et al., 2014).

In order to understand how technology concerns could potentially impact adoption of flipped instruction specifically, it is helpful to use the Technology Acceptance Model developed by Davis (1986). The Technology Acceptance Model (TAM) postulates that adoption of computer technologies is dependent on external variables, perceived ease of use, perceived usefulness, and behavioral intentions (Davis, Bagozzi, & Warshaw, 1989) (see figure 1).

While technology has changed significantly in the past couple of decades, the concepts surrounding whether or not people are willing to use novel technologies are fairly consistent and still apply today. Thus, the TAM provides us with an excellent framework to examine the challenges associated with using technology to provide flipped instruction.

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