



## Designing your Flipped Classroom: an evidence-based framework to guide the flipped teacher and the flipped learner

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### Abstract

Blended learning is not a new concept (Bonk & Graham, 2012; Garrison & Vaughn, 2008). However, it has gained prominence recently with the use of the term 'Flipped Classroom' (Bergmann & Sams, 2012). This approach replaces the traditional transmissive lecture for pre-class preparation, active in-class tasks and post-class work (Abeysekera & Dawson, 2015). Considered planning and implementation of flipped classroom (FC), can lead to increased teacher-student interaction and more effective learning (Moffett, 2015). It is crucial that the teacher is present when students attempt to analyse and apply new knowledge (Johnson, 2013). It has been postulated that FC can promote student's self-direction and lead them to taking responsibility of their own learning (Bergmann & Sams, 2012). Nevertheless, there are two major limitations associated with flipped classrooms. From the academic perspective, it is a time consuming exercise to set it up and it will require constant monitoring and improvement (Della Ratta, 2015; Shimamoto 2012; Snowden 2012; Wagner et al. 2013). From the student side, it will not work if they fail to engage with pre-class work (Kachka, 2012).

The term 'Flipped Classroom' is gaining traction with academics but they are experiencing difficulties implementing effective learning designs (Chen *et al.*, 2014). There is limited evidence-based research of the effectiveness of FC (Jensen et al., 2014). The approach is under-evaluated, under-theorised and under-researched in general (Abeysekera and Dawson, 2015). A recent search of the FC literature since 2012, returns publications mainly in the form of conference proceedings supplemented by a few journal papers. Most refer to case studies and none of them rely on particularly rigorous research designs. Examples can be found from many disciplines including education, sociology, languages, nutrition, chemistry, nursing, engineering and medical education.

A planning template for FC design that considers before, during and after class activities and assessments was described by Gilboy *et al.*, (2015). This template was based on Bloom's taxonomy but does not address the student's experience. In

contrast, Moffett (2015) described 12 tips for flipping the classroom but this was not comprehensive. At the time of writing, a holistic model to guide students and academics with flipped learning and teaching has not been described. As educators, we believe there are several variables or elements that could influence the success of a FC approach. This conceptual paper proposes an 8 step framework to support educators and students to teach and learn with the FC model. Based on principles of blended and student-centred learning, organisational appearance, universal design and evaluation, the framework acts as a conduit between theory and good practice.

Elements of the framework include: (1) Communication of the benefits of the flipped model to students; (2) accessibility of the material; (3) organisation of content; (4) timing for activities; (5) learning design; (6) online, (pre or post classroom) activities; (7) classroom work; and (8) evaluation and improvement. This paper will present the evidence behind each of these elements in a practical way to guide teachers and students through a flipped model of teaching and learning.

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