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From Flipped to Flopped to Flexible classrooms in Higher Education? – Critical Reflections from Australia

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There is currently much hype about the blended learning model of the 'flipped classroom' in higher education in Australia. Many courses at Universities are being transformed into fully or partially flipped classrooms where students prepare for face-to-face classes beforehand so that inclass time is used for active and collaborative learning. We provide six risks related to the flipped classroom based on our critical reflections from designing and teaching a fully flipped classroom. We argue that students' satisfaction and engagement with the flipped classroom model is increasingly eroded by the number of 'flipped' courses and the rising time demands for students and teachers. Other factors that risk the flipped classrooms becoming 'flopped classrooms' are the lack of prior training of students for self-motivated learning; and the dependence on skilled teachers to create inspiring and course content relevant pre-class activities and to run effective collaborative exercises in the class room.

Keywords: flipped classroom; active learning, flexible learning, higher education

Introduction

There is much hype about the 'flipped classroom' and 'flipped learning' in higher education around the world, including Australia, because it is seen as an 'innovative pedagogy' which in the next 2-5 years has a potential 'high impact' on student engagement and learning at Universities (Sharples et al., 2014). As stated in Faculty Focus (2015, 2), "perhaps no other word has been as popular in higher education during the past few years as the term 'flipped'." The flipped classroom, which is also called the inverted classroom, is a pedagogical model in which students prepare for the face-to-face classroom through online material and activities, such as watching recorded lectures, doing web quests or online quizzes. The flipped classroom is thus a blended learning strategy as it involves a combination of face-to-face and online components in the same course. The traditional lecture, often seen as ineffective for student engagement and learning, is replaced with online material and the face-to face classroom is used for active learning, such as problem solving, group work, discussion and analysis (EDUCAUSE, 2012; Faculty Focus 2014; 2015).

Fully or partially flipped classrooms have been increasing as the preferred model of delivery in higher education (Faculty Focus, 2015). The University of Adelaide's Vice-Chancellor, has even declared that the traditional lectures are obsolete and "are never coming back" (Dawson, 2014), and is promoting more use of blended and online learning for courses. Despite its increasing popularity as an instructional model, there is still limited evidence of its effectiveness for improving student learning outcomes (Sharples et. al., 2014, p. 15; McNally et al., 2016). This is slowly changing with more and more studies emerging about the benefits of the flipped classroom, in particular for increasing student engagement and interactive collaborative learning, but also for improved learning outcomes (Wanner & Palmer, 2015; Flores, 2016; Foldnes, 2016; Koo et al., 2016).

In this conceptual paper, we provide our critical reflections about the flipped classroom based on our experiences. Student surveys and evaluations of flipped courses and also perspectives of teachers about the flipped classroom are also utilized for our discussion. Our main argument is that there is a growing danger that flipped classrooms will turn into 'flopped classrooms' because students – and also teachers – may become increasing disillusioned and resistant to this model of delivery. We argue that the increasing number of flipped classrooms, which are implemented with varying success, could undermine the basic premises and objectives of flipped learning, such as more learner and learning-centred approaches to teaching, more flexibility in delivery and assessment, and increasing student involvement as partners in their independent learning journeys. We identify six risks about the flipped classroom which require future research.

The Flipped Classroom: blended and active learning

The current trend of more and more blended learning and online learning, for example the rise of the Massive Open Online Courses (MOOCs) around the world, is increasingly challenging and replacing the traditional forms of teaching and learning at universities. This trend is partly driven by student demands for more flexibility in course delivery and partly by universities transforming to new situations of global learning, internationalisation of education and limited public funding for universities (Allen & Seaman, 2013). Blended learning is ultimately "a fundamental redesign that transforms the structure of, and approach to, teaching and learning" (Garrison & Vaughan, 2011, p. 5). The flipped classroom is a result of these trends as it provides more flexibility for student learning. The responsibility of learning in the flipped classroom model shifts from the teacher to a more student and learning centred approach. The flipped classroom is a 'flexible pedagogy' and "offers the benefits of being a more student-focused approach to teaching and learning" (Gordon, 2014, p. 10). The teacher is, however, still central to the flipped classroom model, as she/he is the one who provides the online course content for the students to go through before class, and also generally develops the active learning activities in the face-to-face classroom. The success of flipped learning depends on how the interactive classroom element is constructed" (Sharples et al., 2014, p. 15) and is thus very much teacher-centred. This is a contradiction and limitation, in our view, of the flipped classroom model, as we discuss below. However, there can be no doubt that the flipped classroom and blended learning provides the opportunity for teachers to rethink their pedagogies and teaching practices, and put the learners more at the centre of teaching and learning (Faculty Focus, 2014; 2015).

As a study by the authors (Wanner & Palmer, 2015) showed, students in one social science class mostly enjoyed the fully flipped classroom, delivered in 2014, as it provided them with a more personalised approach to learning through more flexibility in their learning and with assessment. This study supported other studies that the flipped classroom increased student engagement with course content, the teacher and with their peers, and that students prefer a blended learning environment over solely online. Students like interactive, collaborative, and well-designed learning activities in a face-to-face classroom. This corroborates other studies, such as a 'good practice' report about blended and technology enhanced learning (Partridge et al., 2011) and a literature review that active learning works for student engagement and learning (Prince, 2005). Although there are clear benefits of blended and flipped learning, such as more flexibility for students and more student engagement, there are also many challenges, such as student expectations that these modes of learning mean less work for them, the lack of students' self-responsibility for their learning, and the increased time commitment for teachers (Partridge et al., 2011). The many institutional, pedagogical, and personal challenges to design and run successful flipped classrooms (see Wells & Holland, 2016) make the model very vulnerable to turn into a 'flop'. The success of the model depends, in our view, too much on presumed teacher and student ability to make flipped classrooms work consistently across the sector, not to forget the role of the institutions to provide all required technologies and flexible learning spaces. These issues are discussed more in the next section.

From Flipped to Flopped Classrooms? - Six risks

The fully flipped classroom of one of the authors, on which the study in 2014 was based, was run again in Semester 1 in 2016 (the course is only offered every second year). In 2014, there were 109 students enrolled in the course, with 17 international students (mainly from Brazil), and the gender distribution was 81 female and 28 male students. In 2016, the number of enrolled students was 71 with 48 female and 28 male students and 8 international students (all from Europe). The teacher observed a marked difference in the enthusiasm and engagement with the course material, both online and face-to-face, by the students. No formal study was done for the course in 2016, but the student evaluations of the course showed that the percentage of broad agreement declined for important criteria from 2014 to 2016: *Has clearly identified learning outcomes* (83.87% in 2014 to 77% in 2016); *Uses appropriate strategies to engage me in my learning* (87.10% in 2014 to 80% in 2016); *Overall, I am satisfied with the quality of this course* (80.65% in 2014 to 67% in 2016). The low student evaluations in 2016 prompted us to reflect and to rethink the flipped classroom model of teaching and learning. We suggest six risks about current developments of the flipped classrooms, and the dangers of becoming flopped classrooms based on our own reflections and observations.

Risk 1: **Many students do not have the time for flipped classrooms in all of their learning**
With increasing number of flipped classrooms students have less and less time to prepare adequately or perhaps at all for the face-to-face classrooms. The flipped classroom model bases its success on the in-class activities, which in turn rely on the pre-class student preparation, but students are likely with more and more time demands to have decreasing intrinsic motivation to do the many required preparatory tasks; they are more likely to be driven by extrinsic motivation (what is assessed) in their learning (Abeysekera & Dawson, 2015). In our study (Wanner & Palmer, 2015), students did suggest that if all of their classes followed a flipped model, it would actually be very hard to prepare for tutorials due to the clashes that they experience in their own timetables and the likelihood that they would end up with tutorials close together in time with insufficient time to prepare for each of them correctly.

The average time spent by each student on the Learning Management System where the online learning modules for preparation were provided declined in our fully flipped course (offered for the first time in 2014 and second time in 2016) from 45.42 hours per course (12 weeks) in 2014 to only 8.88 hours in 2016. This might show decreasing interest and motivation with the flipped classroom model of instruction or it might show that students have learned how to adjust to succeed in the many flipped classrooms they are participating with the minimal amount of time and effort (Risk 4). It is definitely worth noting that despite entreaties over the years from lecturers, students have rarely come prepared to tutorials and lectures. This mentality is one of the biggest hurdles towards a flipped classroom being a consistent success.

Risk 2: **Many students do not have the required skills for flipped learning**
The flipped classroom and flipped learning depends on self-regulated, highly self-motivated students who have the time management, organisational, analytical and critical thinking from the provided pre-class information and the interactive in-class activities (Partridge et al., 2011, p. 5). Students in our study (Wanner & Palmer, 2015) were concerned about self-motivation, remembering to do course tasks and technical issues as well as potential lack of direction and additional workload. In addition, the flipped learning environment through more group work and collaborative learning in the classroom "seem to favour the extrovert" who have the skills to lead group discussion or being active in role plays and so on, but "are we missing valuable contributions from students who don't speak up and thrive in these highly interactive situations?" (Faculty Focus, 2014, p. 18). There is usually no specific training for students to develop the skills needed for flipped learning; it is assumed that student can do the preparatory work but "self-regulated learning is neither easy nor automatic" and depends on already existing levels of self-efficacy (that is positive judgements about own academic capabilities) (Pintrich, 1999, p. 467). Students continue to use the same learning strategies they have used in the traditional learning environment (eg. traditional face-to-face lectures) without learning effective self-regulated learning strategies and skills required in flipped learning (Koo et al., 2016; p. 7). Student "require assistance transitioning from instructor-centred to learning-centred environments" (McLaughlin et al., 2016, p. 33). It could be that students are already disengaged with the material during pre-class preparation because they lack the required skills. This potentially further demotivates the students and may increase their resistance to the flipped classroom. The face-to-face classroom would then be less effective in achieving student learning, because of students' internal resistance and having 'de-linked' from the flipped classroom process before they even arrive in class.

Risk 3**: Students are becoming increasingly resistant to flipped classrooms and learning**
McNally et al. (2016) have shown that resistance to student-centred learning in the flipped classroom occurs not just because of the novelty of this approach, but also because the high level of demand for active learning in the class and for preparation relates to lower student acceptance and less favourable student perceptions of flipped classrooms. They distinguish between 'flip endorsers' – those who display positive attitudes towards the pre-and in class course activities and are more engaged with the content and the peers – and 'flip resisters' – those students who resist the amount and type of pre and in class activities. Interestingly, "flip endorsers were found to be older and more likely to be female" McNally et al. (2016: no page assigned yet). This links to Risk 2 that there are different learning styles and student skills which need to be more researched and taken into account for effective flipped classrooms. There is also the issue of cognitive load or overload that with too many tasks and assignments across various flipped classrooms students will become demotivated and resistant to flipped learning (Abeyesekera & Dawson, 2015). It needs further research to discover at what level and why students become resistant to flipped learning, and also whether there are gender or other culturally determined factors of student resistance. Our study has shown (Wanner & Palmer, 2015) that students want a balance of teacher guidance and of self-control in their learning and assessment but finding this balance is likely to be very complex.

Risk 4: **Students become more strategic in being successful in flipped classrooms without going through the flipped learning process**

With more and more uptake of fully or partially flipped classrooms, students are becoming increasingly more strategic in how they are using their time to do the many different tasks for pre-class preparation and for assessment. In the flipped classroom, assessment continues to play a crucial role in student learning. Extrinsic motivation by students – that their efforts lead to measurable outcomes in forms of grades – is the norm for students in higher education and also in flipped classrooms (Abeyesekera & Dawson, 2015). However, extrinsic motivation is in a way counter-productive to developing self-regulated and self-motivated (by intrinsic motivation), life-longer learners. As argued by Abeyesekera & Dawson (2015, p. 7), the flipped learning environment "entices greater levels of extrinsic motivation." It is very likely that only high achievers and highly engaged students go through all preparatory material and do the required tasks *before* the class. As stated by McLaughlin et al., (2016, p. 29), "if students are able to engage without preparing or able to attend class without engaging at all, they may choose not to complete pre-class assignments." This area needs further studies to investigate what kind of strategies students use to get through their flipped classrooms, how they are motivated and maintain their motivation and what kind of learner and learning strategies in flipped classrooms achieves high learning outcomes.

Risk **5: All four risks for students equally apply to many teachers**

Our last risk is that the previous risks also apply to many teachers who design and implement flipped classrooms. Many teachers do not have time or skills to design and work in flipped learning environments (Risks 1 and 2), and require help to develop the skills and get institutional support when doing flipped classrooms. Like the students, teachers require significant retraining to become 'flexible teachers' in flexible learning environments (Gordon, 2014). The success of flipped classroom, as mentioned earlier, depends very much on the teacher and how the flipped classroom is designed. Flexible teaching and learning in a flipped classroom requires a high level of time commitment by the teacher for initial design and implementation. As argued previously by the authors (Wanner & Palmer, 2015, p. 365), "it becomes infeasible to teach in this way if there is no institutional support in form of teaching assistants or available learning spaces, and when teachers are required to teach multiple courses in one semester." The issue of increasing de-motivation and resistance by teachers even of innovative 'flip endorsers' through increasing time and work load pressures needs more research (Risk 3). For Risk 4, teachers will become less enthusiastic and motivated to be 'flip endorsers' and become more strategic rather than innovative and creative (which takes time and effort) in providing stimulating flipped learning experiences for students. In any case, this dependence on the teacher for successful flipped classrooms undermines, in our view, the main principle of more learning/learner driven learning environments.

Risk 6: **Educational spaces and University support are inadequate for effective flipped learning.** As stated by EDUCAUSE (2012, point 6), with greater numbers of courses using the flipped classroom, "at a certain level of adoption, colleges and universities may need to take a hard look at class spaces to ensure they support the kinds of active and collaborative work common in flipped classes." In our university at least, the appropriate spaces for meaningful group work and interaction following the online component of a flipped classroom can be difficult to schedule. Whilst cabaret style spaces are particularly suitable for interaction and collaboration, many universities are likely to have significant issues in providing this infrastructure across all of their offerings.

Conclusion

There is much hype and debates about the value of the flipped classroom model of teaching and learning. "The question remains as to whether flipped classrooms will become a dominant paradigm in higher education over the coming decades" (McLaughlin et al., 2016, p. 35). We think, despite its growing popularity, that the flipped classroom, may not become the dominant paradigm anticipated in higher education because it depends too much on i) the students' ability to do critical and analytical work and on students' self-efficacy and motivation to do the required preparatory work; and (ii) on the teacher's abilities to create and implement effective flipped learning environments. Where it is teacher-centred rather than learning-centred the danger of flopped classrooms are too great. The way the course and assessment is designed might have a positive impact on the students' acceptance of the flipped classroom, in particular if it means little workload for the students. The risks outlined in this paper, in our view, still apply for any kind of flipped classroom.

We think that the flipped classroom is potentially a stepping-stone to more innovative, learning/learner-driven and personalised teaching and learning models which, unlike the flipped classroom, really have student empowerment and flexible learning and at its centre. The many institutional, pedagogical, personal, sociocultural and other challenges of the flipped classroom "require the reorientation of attitudes, beliefs and/or values-bases of educators and learners, towards valuing more learner-centric, autonomous, flexible learning experiences" (Wells & Holland, 2016, p. 10).

The best way to proceed is likely to be with caution. It wasn't long ago that MOOCs were going to change the face of higher education and whilst they provide useful and sometimes engaging approaches to learning, they are still to have the impact anticipated. The flipped classroom could go the same way, but if the risks above are acted upon it is still possible that this form of learning may have lasting impact.

The paper has shown that there needs to be more research on *how* students engage with tasks and assessment in the flipped classrooms, in particular in the context of increasing numbers of partially or fully flipped courses at Australian universities. Many important questions need answers, such as, what are the underlying motivations for their learning in flipped classrooms; what strategies do students employ to meet all the requirements; which students do best in flipped classrooms, how can the less-skilled and more introverted students be helped to succeed in flipped classrooms; what kind of learning is achieved through the pre-class activities? These and similar questions, as highlighted in our risks, require more empirical studies to get better understandings so that flipped classrooms do not become 'flopped classrooms'. More importantly, such future research is important to move forward with educational changes at Australian Universities where teaching and learning is not flipped but flexible and creative, and leads to student engagement where students are partners in teaching and learning (Healy et al., 2014).

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