

Pre-reading for the workshop “Getting Student Buy-in and Engagement with TBL or Flipped Classes” at the University of Florida.

This is a “fun session”! You will be walked through the first class in a TBL course. You will see why the preparatory class session demonstrated in this workshop engages students, and gets them to “buy-in” to TBL – and to understand WHY they are buying in.

Why is this workshop important? Because the students we have in our classes enter with no experience of TBL. They expect us to “teach them” by giving lectures – and the idea that they should pre-learn course materials BY THEMSELVES in their OWN TIME, and then be TESTED (!), is quite foreign to them. Getting student engagement and “buy-in” is therefore most important for TBL to work effectively right from the start of the course. We will present the results of the exercises that we carry out in this preparatory session, and show how this session can be used to generate research data for publication.

By the way, why “flipped”? Because the currently-fashionable “Flipped Learning” approach is actually derived from TBL, and the underlying idea is the same; students are required to pre-learn course materials (when they don’t expect to have to do that!)

After the workshop, we will give you access to an “implementation kit” that includes a PowerPoint presentation, so that you can try out this approach in your next class.

We ran this workshop at several TBLC Annual Conferences with very good participant feedback. We have also conducted this workshop at several international conferences in the UK, US, Malaysia, Australia and at a number of universities in those countries. As a result, more than 100 “implementation kits” have been sent to educators in a range of teaching disciplines around the world. We have had very enthusiastic feedback from these people, and have set up a number of research collaborations.

This pre-reading is the first part of our paper that is published in the journal *Education + Training*: You might like to ask your library to get you the full copy.

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I look forward to seeing you at this workshop!

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Introduction

In a university setting, students traditionally receive instructional input during a lecture and then discuss or apply this information to activities, problems and tasks in subsequent sessions. Pre-learning methods such as Flipped Learning and Team-Based Learning (TBL) reverse this traditional teaching model, and require students to learn course materials before a class session.

In Flipped Learning students learn the content of instruction, primarily using online resources. They then apply the learning in classroom-based collaborative activities, which include solving problems and relevant learning tasks mainly carried out as group activities (Bishop & Verleger 2013). TBL similarly requires students to pre-learn course material that, at the start of class sessions, is tested individually and in teams. This pre-learned material is then used for structured activities designed to help students fully understand course materials and their application. In addition, TBL is designed for students to benefit from collaborative learning in permanent teams (Michaelsen & Sweet 2008).

Pre-learning teaching methods are becoming increasingly popular, as they prepare for active learning strategies in class, where students “do meaningful learning activities and think about what they are doing”, and the core elements are “student activity and engagement in the learning process” (Prince 2004, p.223). Several benefits have been identified for the different approaches to active learning (Mason, Shuman & Cook 2013). For example, collaborative learning (that underpins TBL), has demonstrated improvements in academic achievement as well as in interpersonal relationships and student self-esteem (Prince 2004). In particular, active student-centred learning approaches have been found to lead to a deeper approach to learning by students (Marton & Säljö 1997).

The novelty of these teaching methods, and the learning obligations that they impose on students (to pre-learn course materials) can lead to a certain level of student discomfort, unease, or even hostility. Educators face challenges in dealing with student resistance to these new approaches, but the literature provides only limited guidance in how to most effectively prepare students for these “non-traditional” teaching methods. It is important for educators to prepare students for pre-learning courses and the different classroom learning culture that they require, otherwise their effectiveness will be limited, and it will be more difficult to achieve the desired learning objectives.

This paper describes a session comprising seven in-class activities that prepare students taking an undergraduate entrepreneurship course. The purpose of this session is for students to understand their obligations (the learning contract) and to create a learning culture that supports the pre-learning teaching method. These activities include (1) forming groups, (2) arriving at a team name, (3) identifying learning motivations and expectations, (4) introducing students to the whole class, (5) exploring aspects of learning, (6) identifying critical success factors, and (7) reflecting on the learning purpose of each of these activities. For each step, there is individual, group and class interaction, and explanation by the educator of the learning purpose of the activity.

This paper presents results of this session in the form of qualitative student evaluation of each of these activities, using a minute paper evaluation (Stead 2005), and these are discussed in relation to the literature. Results show that students understand the purpose of these activities individually and as a group, and demonstrate that they address documented problems and challenges faced by students participating in this learning style. Evaluation also shows that students are prepared for active engagement in the class sessions that follow. The evaluation results can give educators valuable information for understanding the motivations, expectations, and perceptions of students in their class. This information can also allow course content and delivery to be fine-tuned to the needs of that class. This preparatory session has been implemented in different disciplines, and gives educators a practical approach for preparing or orienting students in fields of study other than entrepreneurship.

The purpose of this paper is (1) to provide a structured framework for starting a class that is anchored in good educational practice and theory, and (2) to address the student problems relating to pre-learning that are identified in the literature. In this paper, the role of pre-learning in each of Flipped Learning and Team-Based Learning is

introduced, and the challenges faced by educators and students reported in the literature are summarised. The seven-step preparatory session is described, and then discussed with the inclusion of student evaluations. The paper concludes with a discussion and exploration of further research.

Flipped Learning and Team-Based Learning (TBL)

Although Flipped Learning and TBL are not synonymous, both can be regarded as being aligned (Wallace et al. 2014). Flipped Learning is a subset or component of TBL in so far as it is predicated on a pre-learning approach, and focuses on student-centred learning activities in the classroom (Flipped Learning Network (FLN) 2014). TBL goes beyond Flipped Learning as it includes structured approaches for in-class learning activities (Michaelsen & Sweet 2008; Wallace et al. 2014). TBL also incorporates team building as a necessary activity for collaborative learning (Michaelsen 1992), by establishing fixed teams. Students learn teamwork skills that are seen as critical in solving a variety of complex problems seen not only in entrepreneurial activities but in other areas such as medicine (Stokols et al. 2008). TBL also includes a process for students to provide constructive feedback on team contribution to other team members (Michaelsen & Sweet 2008).

The role of pre-learning in Flipped Learning and in TBL

Flipped Learning was proposed in the late 1990s as a model where “teachers shift direct learning out of the large group learning space and move it into the individual learning space, with the help of one of several technologies” (Hamdan et al. 2013, p.4). Therefore, the lecture moves outside the class and practical application work moves into the classroom (Arnold-Garza 2014). The group learning done in the classroom becomes a dynamic active learning experience where students in the whole class or learning group space apply the concepts they learned in their individual learning space.

In practice, educators prepare materials for their students in the form of recordings or documents, or use selected public content on internet websites such as TED-Ed or Khan Academy. Educators then use class time as “opportunities for integrating and applying their knowledge”, “to check on each student’s understanding”, and where they “can provide individualized support as students work through the activities designed to help ... master the material” (Hamdan et al. 2013, p.4). In particular, “due to the emphasis on students becoming the agents of their own learning rather than the object of instruction, the Flipped Learning model can enable educators to make the shift from teacher-driven instruction to student-centred learning” (Hamdan et al. 2013, p.4).

TBL was developed in the early 1970s, and is similarly a method where students pre-learn material in advance of a teaching session (Michaelsen 2004). At the start of a TBL class, students take an individual multiple-choice test on prescribed content (individual readiness assurance test or IRAT), followed by completing the same test (Team readiness assurance test or TRAT) as a team, using “scratch and win” cards to provide immediate feedback. Students discover quickly that doing tests as a team produces better marks than individual tests. These tests are assessed, and provide a real incentive for students to prepare their work and to attend classes. This testing approach also creates a motivational framework that encourages team interactions and productive teamwork. These two tests are followed by application exercises where the permanent student teams all work on the same significant problem that requires making a specific choice, and where they simultaneously report their choices. Each team needs to arrive at a consensus on the most appropriate answer or solution, and then have a dialogue with the whole class on their solution (Michaelsen 2004).

Pre-learning challenges for students

The pre-learning phase of Flipped Learning challenges some students, primarily due to resistance to change from traditional teaching methods, and the different requirement of completing readings and other assignments before class. Moreover, “students may respond with confusion or discomfort when they are required to adjust to the model” (Arnold-Garza 2014, p.11). For example, it has been found that some students did not like Flipped Learning because

they were required to complete too great a number of time-consuming tasks before the class, and some preferred traditional lectures because they found it difficult to concentrate or were too easily distracted (Du & Taylor 2013). Similarly, it has been found that “some students expressed a sense of disappointment and surprise at the lack of traditional, face-to-face didactic teaching” (Jump 2013, p.8), and considered that “the physical presence of the teachers seem to be essential for the notion of authentic teaching and learning” (Jump 2013, p.10), so that when students are required to do pre-learning without the instructor, they feel lost and unable to progress with their learning. In addition, it has been suggested that this approach may be less useful for some students on account of the increased responsibility for their own learning (Strayer 2012).

In TBL classes, it has also been found that there is a perception that, without an educator delivering lectures or participating in the pre-learning stage, “students are teaching themselves” and that “this is especially annoying to students who have developed unfortunate habits of passive reception” of the materials presented in class (Lane 2008, p.57). It has been reported that, although students were introduced to TBL before the start of a class, some were still confused in the first teaching session (Hunt et al. 2003, p.136).

Pre-learning challenges for educators

Flipped Learning also presents challenges for some educators. In particular, there are no clear guidelines on how students are best introduced to this method, especially when they have not already experienced a pre-learning teaching method. It is said to be important for educators to integrate pre-learning materials such as instructional videos into the overall teaching approach (Tucker 2012), but it has been identified that educators need training in developing appropriate teaching materials, as well as “how to properly structure a flipped classroom ...(so that students) ...overcome their reliance on traditional classroom teaching and (are) willing to accept responsibility for self-learning that comes with a flipped class” (Findlay-Thompson & Mombourquette 2014, p.66).

It has, however, not been delineated how to prepare students for these new learning responsibilities so they can be active participants in a flipped classroom. Such preparation is critical, because for the flipped classroom to be effective, “student understanding of the purpose of the flipped classroom must be properly communicated and students given the opportunity to express concerns about their responsibilities to this new style of learning ...(and) student buy-in must be gained so they will be committed to the learning process” (Findlay-Thompson & Mombourquette 2014, p.69). At a more general level, Prince (2004, p.226) emphasises that “simply introducing activity into the classroom fails to capture an important component of active learning”, and Arnold-Garza (2014, p.10) proposes that “due to the increased responsibility for students, a lot of support and clear expectations should be communicated.”

TBL educators also recognise that it is necessary to prepare students for this teaching method. “Activities that occur during the first few hours of an introductory class are critical to the success of team-based learning” (Michaelsen 2004, p.38). In particular, it is suggested that “team-based learning must be explained to the students to ensure their understanding of why the teacher is using team-based learning, and how the class will be conducted” (Michaelsen 2004, p.39). It is also suggested that this be done by a short presentation comparing this approach with traditional lecture teaching. After this presentation, students can be formed into teams and carry out the Readiness Assurance Process (IRAT and TRAT) that is a key part of this teaching method (Clark 2008; Mahler 2012). A further approach for acquainting students with TBL is to introduce Bloom’s six levels of cognition “to make students aware of the learning expectations for the course ... (and) to give them tools to generate their own study questions on learning levels beyond remembering, and ... to facilitate communication between students and the instructor about learning goals” (Stanger-Hall, Lang & Maas 2010, p.490). This approach implemented in optional workshops before the start of a lecture series was found to improve student academic achievement (Stanger-Hall, Shockley & Wilson 2011).

A further challenge faced by TBL educators is to prepare students for effective teamwork. Because TBL as a pre-learning method relies explicitly on fixed teams to support collaborative learning, it has been recognised that it is

important to counter some previous negative experiences students might have had learning in groups. Some TBL educators recommend that students be given a written learning contract as a “set of principles for how to work in teams” (Mahler 2012, p.118) as an approach for clarifying and codifying individual and team learning and working commitments. Other negative aspects that some students report in relation to small-group learning are problems such as free riders, team members not motivated to achieve a better grade, member conflict and member reluctance to meet outside of class (Fink 2004; Michaelsen & Richards 2005), and educators need to deal with these aspects at the start of a course.

In summary, both the Flipped Learning and TBL literatures identify challenges that students and educators face when presented with an approach that is very different to the traditional lecture-style teaching method, and where the literature provides only limited guidelines for educators on the effective preparation of students for these forms of pre-learning instruction.

The need to prepare students for pre-learning

The change in teaching approaches and the different requirements of both students and educators means that it is necessary for educators to prepare students appropriately. In particular, it is important to implement methods for developing self-direction in students, as well as the capacity for metacognitive awareness, and a disposition toward lifelong learning so that they may fully benefit from the particular course of studies (Dunlap & Grabinger 2003; Black et al. 2006). In addition, it is necessary to consider conceptions that have been identified as important in supporting students’ learning, such as learning through dialogue, and developing a community of learners (Carnell 2007), as well as to incorporate other criteria that have been found to characterise effective teaching such as helping to develop students’ critical thinking skills, communicating clear objectives and learning expectations, and to provide a good social experience in the classroom (Devlin & Samarawickrema 2010).

This paper investigates whether undergraduate university students who attend an introductory class session designed to prepare them for mandatory pre-learning activities can identify their learning responsibilities, the critical factors relating to their success in the course, and whether they are able to articulate the learning purposes of the preparatory session.

Method: Seven steps to prepare students for pre-learning instruction

This section describes a preparatory class session to prepare or orient students for a pre-learning method. The purpose is to address the documented problems and challenges faced by students and educators using these methods. It includes a sequence of activities designed to develop a high level of interaction between students, as this is important for achieving their engagement in the learning process (Vygotsky 1980). Students discover the key learning principles underpinning a pre-teaching approach through experiential activities rather than by online resources or by listening to lecture-style explanations that students might find hard to relate to classroom practice.

The preparatory session is discussed below using results from an undergraduate entrepreneurship foundation course in Australia in 2014. This elective course implements TBL in a traditional lecture theatre setting. It is delivered in intensive mode, with six classroom sessions on alternate days over two weeks; this schedule allows time for students to pre-learn materials before each session. The class that provided the data in this case study comprised 60 students from 17 different study programs from business, engineering, health science and arts disciplines. In addition, 34% of the class consisted of international students. Importantly, no students had experienced either Flipped Learning or TBL, but were accustomed only to course delivery based on large-number lecture sessions combined with small-number tutorial sessions.