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A Practical Guide for Designing and Implementing the Flipped Classroom Teaching in Management Education

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Preface

Dr. Nathan Eva and Associate Professor Herman Tse were awarded a research fund from the Promoting Excellence in Learning and Teaching Committee of the Australian and New Zealand Academy of Management in December 2016.

As part of this funded project, they have developed this practical teaching guide based on literature review, practical experiences and interview data of how university students and teachers perceive the effectiveness of the flipped classroom teaching for management courses. This practical guide outlines essential steps and issues involved for users in designing and implementing the flipped classroom teaching.

We acknowledge that different universities have been using different online learning platforms such as "Moodle", "WebCT" or "Blackboard". These platforms are updated constantly and require users to undergo regular training in order to maintain their operational knowledge. This guide is not an instructional manual about these platforms rather it presents practical knowhow and operational information on how to implement the flipped classroom teaching for management courses. This guide also provides a foundation upon which users can build their knowledge and knowhow of the flipped classroom teaching in more complex online learning platforms in the future.

This practical guide is designed for sessional teaching staff, RHD students and academic staff who are new to university teaching, and those who are unfamiliar with the pedagogical foundation of the flipped classroom teaching, so that they will find it easier to begin with their own flipped classroom teaching.

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1. Introduction

Although the flipped classroom teaching has been regarded as an innovative approach for university teaching, knowledge and experience regarding the practical significance of this approach for students' learning experiences and outcomes remains controversial in management education. Some reports suggested that students enjoy such approach and find it effective for their learning, while other evidence reported that students often disengage in the flipped classroom environment losing interest to learn.

The flipped classroom teaching has become popular due to an increasing innovative education agenda of universities, rising student numbers putting pressures on physical space usage, and decreases in student engagement both pre- and in-class experience. However, in our experience speaking to academic staff from universities across Australia, there is often little support offered in how to implement an effective flipped classroom teaching, and more importantly, is it the right pedagogical choice for the course in question?

This practical guide, therefore, seeks to be an introduction for teaching staff who are interested in the flipped classroom teaching and also those are planning to implement such teaching approach for the first time. However, we want to start with a word of warning. In order to plan and implement the flipped classroom teaching, you need to have a sound understanding of educational pedagogy and technology well. We would suggest that it is better to have a stronger understanding of the former, rather than the latter, as many educational institutions have educational designers who can provide technical support such as video and online production. It is not easy to implement the flipped classroom teaching, it is time consuming and it is more demanding than the traditional lecture and tutorial formats. Finally, it is not set and forget. You need to design and update your material every semester just like you do with

a normal classroom teaching. It is a change in the way you teach, it is not a substitution for teaching.

This practical guide is organised into five main sections. The first section outlines what is and what is not a flipped classroom teaching? The second section discusses the course content, looking at the pedagogical reasons to do flipped classroom teaching, the in-class activities that suit the teaching, and a discussion of the pre-and post-class activities that can be utilised. The third section is the physical set-up of the flipped classroom teaching, including the classroom setting and your teaching staff training. The fourth section discusses the creation of online content which is the most common question regarding the flipped classroom teaching. Finally, we discuss findings from our own interview studies, observations and experiences, and also discuss what to expect when you are undertaking the flipped classroom teaching.

2. What is and what isn't flipped classroom teaching approach?

In reviewing the literature on the flipped classroom teaching, Abeysekera and Dawson (2015, p. 3) created a catch-all definition, which encompassed all previous definitions in a three-step approach. They stated that the flipped classroom teaching is a state of pedagogical practices that:

1) Move most of the information-transition teaching out of a classroom setting;
2) Use class time for learning activities that are active, social and interactive; and
3) Require students to complete pre-and/or post-class activities to fully benefit from in-class activities.

In moving most of the information-teaching out of class, the traditional lecture is replaced with a set of learning tools crafted by the course coordinator in order for the students to learn the relevant material. This is based on the assumption that students are active and independent participants in their own learning. Students work through the material and allows them to spend more time on areas they do not fully understand, rather than moving onto the next part as happens in traditional lectures (Toqeer, 2013).

The in-class time is then transformed as there is no longer an information-transition. It is assumed that the students have the knowledge to be able to complete the tasks at hand. The in-class moves from a stage-on-the-stage approach, to an active learning approach where students are agents of their own learning. The in-class work are more focused on problem-solving, critical reasoning, active learning, and peer learning (Beatty & Albert, 2016).

In order to benefit from the in-class work well, students are expected to complete pre-and post-class activities. Pre-class activities are how the students learn the requisite material for

that week's in-class activities. This may include short videos, readings, quizzes, case studies, podcasts, or students creating content. Post-class activities solidify the information learnt and lead into the following week. This could include reflections, quizzes, or a specific implantation of that week's material (i.e. active learning in the community).

One of the common misconceptions about the flipped classroom teaching is that it replaces the physical lecture with an online lecture, i.e. a 60-90-minute recording of the lecturer reading out the power-point slides, which is similar to what a student would expect if they have missed the lecture and they are listening to it online. Whilst it fulfils the first criteria that it is moving the information-transition teaching out of class, albeit poorly, this would need to be accompanied with a redesign of the in-, pre-, and post-class activities. Secondly, blended learning is often wrongly conceptualised as a flipped classroom teaching as technology has become a hallmark of such teaching. Blended learning is where students learn part of the content through online platforms (e.g. videos, readings, activities) in their own time, and often this does not replace the traditional lecture and the tutorials remain the same, hence using the term 'blended' in this regard.

3. **Course content**

3.1 Pedagogical reason

In mentoring teaching staff through the flipped classroom process, the first question we ask them is what is the pedagogical reason they want to use a flipped classroom approach? In deciding if it is the right decision to start thinking of the flipped classroom teaching, ask yourselves these questions:

 ➢ Can my course content be able to be remembered, understood, and applied outside of a full traditional classroom teaching?

 ➢ Can changing to a flipped classroom teaching enhance the educational experiences and learning outcomes? How? And in what aspects?

 ➢ Do I have relevant support from my department, faculty, and university to invest in the flipped classroom teaching?

 ➢ How long and much do I need to learn in order to develop an effective flipped classroom teaching approach for a course?

We would hope you have answered "yes" to each of these questions. If you don't have the support around you, it is going to be hard to be able to deliver the changes needed for the flipped classroom. If flipping the classroom is going to diminish the educational experience for your students and yourself, the investment may not be worth it. Most importantly, the decision needs to be driven by the educational outcomes you are trying to deliver. We refer to Bloom's taxonomy to create a basis of knowledge (i.e., remember, understand, analyse or apply), so when the students enter the classroom for their in-class activities, they are able to analyse, evaluate and create with their acquired knowledge. For example, with strategic management, the pre-class material might focus on students being able to understand Porter's Five Forces and be able to apply them to a situation during a quiz, and then within the classroom, the

students are able to evaluate the merit of entering a particular industry in a peer-led case study.

3.2 In-class activities

In planning in-class activities for the flipped classroom teaching, the process is similar to a standard classroom. What are the learning objectives for this class (i.e. what do the students need to know and be able to do by the time they walk about of this 90-180 minute session?)? In a flipped classroom course, you achieve those learning objectives through learning activities that are active, interactive and social (Abeysekera & Dawson, 2015). In order to achieve design active learning activities, the majority of the flipped classroom literature has focused on active learning.

Active learning is a method of learning in which students are actively or experientially involved in the learning process and where there are different levels of active learning, depending on student involvement (Bonwell & Eison, 1991). The literature suggests that active learning increases students' ability of being able to read, to write, to discuss and to solve problems. Active learning engages students in such higher-order thinking tasks as analysis, synthesis and evaluation. Therefore, the in-class activities should focus on the students' analysing, evaluating and creating knowledge.

There are a number of active learning strategies that you are able to find in the literature and online. In the table below, we outline a few that can be undertaken with teams, pairs, or online (drawn from Angelo & Cross, 1993; Morrison-Shetlar & Marwitz, 2001; Silberman, 1996; VanGundy, 2005).

Type	Name	Description
Team	Experts	Each team is given an area to learn. The teams are then mixed up and each team member needs to teach their new team.
	Gallery walks	Students work on a problem on a whiteboard / flipchart and then students walk around the room adding to the answers.
	Simulation	Teams work on a long-term problem (like a business) to enable problem based learning.
	Pass the problem	Teams work on a problem and then they 'pass the problem' to another team for them to continue working on.
	Real world	Students are given the theory and then need to find a real-life case which relates to the theory.
	Advice letter	Students write a letter to future students about how to be successful in this course.
	One sentence summary	Students synthesise the material from that week (who/what/where) into one sentence.
Pairs	Think-Pair-Share	Students are presented with a problem, they work through the problem with a partner before addressing the larger class.
	Pair-Share-Repeat	As above, but students find a new partner to share their wisdom with.
	Forced debate	Each pair is given two sides of an argument which they must debate.
	Peer review	Students peer review their classmates work with detailed feedback: 1st paragraph what they did well; 2nd paragraph problems with the essay; 3rd paragraph what the student would do in the revision if it was their essay.
Individual	Get one, give one	Students fold a piece of paper in half. On the left they have four insights from the material, and on the right, they need to get insights from 10 other people in class.
	Infographic	Students use online tools (e.g. infogram.com) to create infographics on the topic.
	Pictures	Ask students to bring in/take pictures of something that symbolises the topic.
	Spotify	Get students to add songs to a playlist that symbolise the topic.
	Twitter	Use hashtags to amalgamate all of your answers to questions in one spot.

Examples of active learning strategies

3.3 Pre- and post-class activities

The third tenant of the flipped classroom teaching is requiring students to complete pre- and/or post-class activities to fully benefit from in-class work (Abeysekera & Dawson, 2015). Pre-class activities are replacing the traditional lecture format, so they have to ensure they are covering the material in the same level of detail, but in an engaging way.

Pre-class activities can come in any form, but generally they have been utilized as videos (a series of short, to the point videos, rather than a 60-minute lecture recording), screen-casts, podcasts, readings, quizzes, and short assignments. The time spent on the pre-class activities should be equivalent to the time students would have spent with preparation (i.e. pre-readings) and the traditional face-to-face lecture. A good tool to determine if you are setting too much, or too little work is a workload calculator designed by Elizabeth Barre and Justin Esarey which can be found at http://cte.rice.edu/workload.
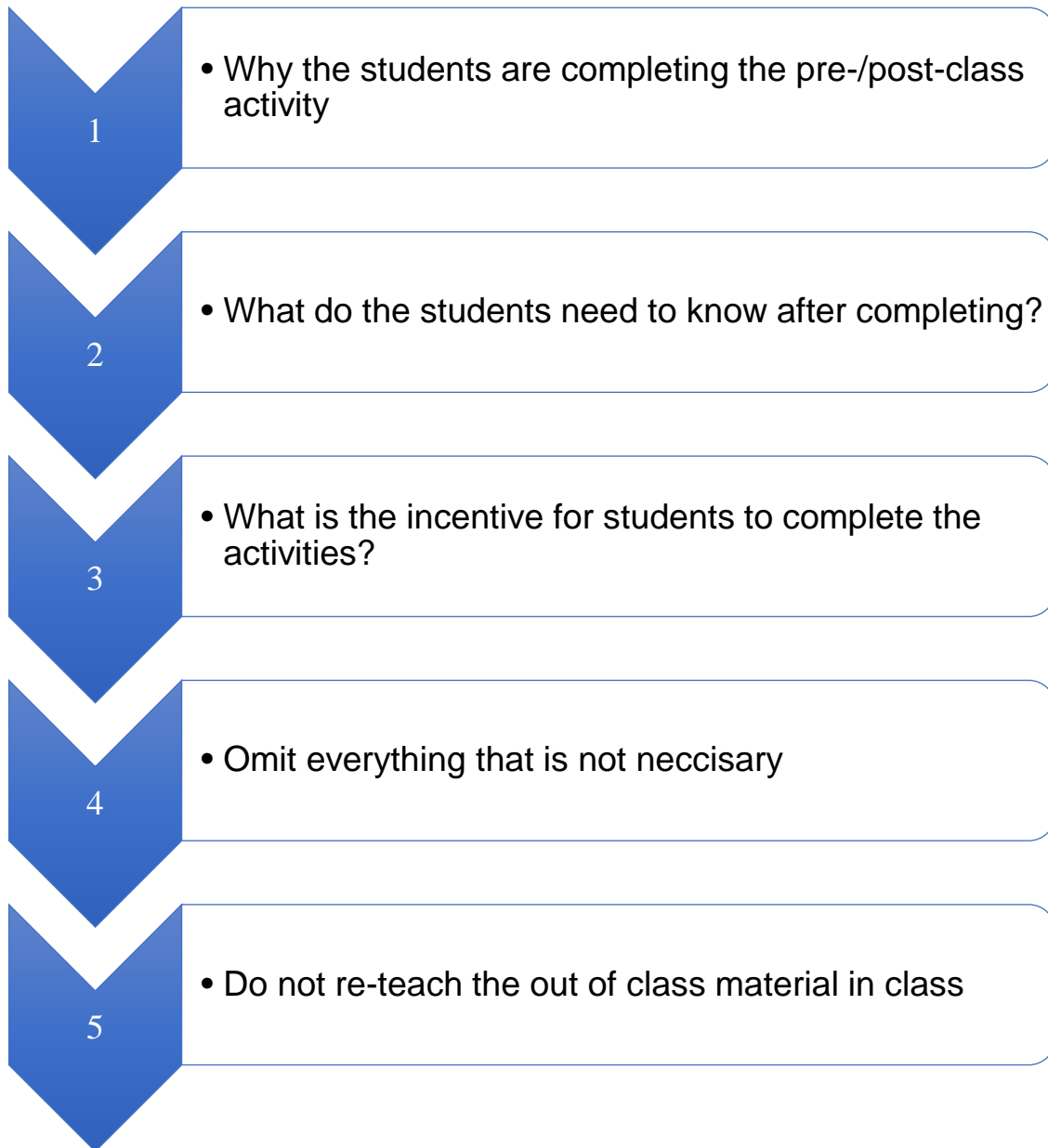

Example of the course workload estimator

Good pedagogy should be followed when designing the activities to ensure students' learning is maximised. First, you need to make it clear why the students are doing each of the activities

and how they are going to link it with the overarching topic (e.g. how does the first pre-class activity lead to the second, to the third, and then the in-class activity). Second, you need to be clear about what the students need to draw from it (e.g. have question(s) relating to the reading/video for the student to answer before class and spend the first 15 minutes discussing those questions in-class). Third, there needs to be an incentive for students to complete the work. This could be an intrinsic incentive, i.e. not wanting to let their team down, or an extrinsic incentive of marks towards their final grade (e.g. quizzes worth 1% per week). Fourth, you need to omit everything that is not necessary as the shorter the material, the more likely students are to complete it. Additional materials that are not needed to complete the in-class content can be added into an extra materials folder where students can go to learn more about the topic if they want to (Heiner & Rieger, 2016). Finally, once you are in-class, refer to the pre-class work, discuss it, analyse it, but do not re-teach it. During our interviews with course coordinators, this was a clear issue that emerged that their tutors/teaching assistants would re-teach the material, so the students wouldn't complete the pre-class work, and then the in-class sessions would not be used for active learning.

In all of our interviews and discussions with flipped classroom practitioners, they agree that the post-class activities are the most challenging. Post-class activities solidify the information that has been learnt, extend their learning from the in-class activity, and create a bridge to the next week's topic. For example, for a class on leadership in organisational behaviour, the post-class activity could require students to evaluate their manger using one of the leadership frameworks covered in class, and analyse how their leadership approach influences their own interactions with other team members. Which then creates a bridge for the next week's topic on team dynamics. A common, more straight-forward post-class activity is to get the students to write a reflection on the material they learnt, how it is relevant to them, and how they are going to apply it in their current job / management career. Whilst quizzes are often used as post-class activities, we recommend trying to expand past this as it only offers minimal

additional learning of the topic, and does not have a clear link to the following week's teaching material.

1	• Why the students are completing the pre-/post-class activity
2	• What do the students need to know after completing?
3	• What is the incentive for students to complete the activities?
4	• Omit everything that is not neccisary
5	• Do not re-teach the out of class material in class

A flowchart of how to think about pre- and post- class activities

4. Physical set-up

A notable omission in the flipped classroom literature has been the best practices of how to set up physical space in order to make the flipped classroom teaching effective. As the in-class activities are often active and social, they require a physical classroom's setting that motivate students to be interactive and engaged in different aspects. For example, students are often put into small-group discussion of timely and hot topics of case study analyses. Students may also be asked to participate in real-time stimulation exercises in which they can interact with their team members to analyse and make solutions for problems.

4.1 The classroom

For most teachers, we are at the behest of our university, so we work what types of room available for teaching. However, our interview with a group of flipped the classroom teachers revealed that many of them are able to make their in-class experiences effective by deciding how to set up their teaching venue differently, but there were some common principles behind their thinking process:

1. The classroom setting was a flat space format (i.e. not a tiered or staircase based lecture theatre);
2. There were tables for small-group discussion and each group consists of (5 - 7 students). Some teachers had round-tables and other square/rectangle setting, and did not report that the shape of the table affects the productivity or ease of team work.
3. The students could move around to talk to other students in other tables.
4. The teachers had more space to move around and interacted with the student groups in each table.

Of note, the technology of the room was not a concern to many of the teachers. Whilst they stated it was important that the students could to see a screen for instructions, the level of technology did not hinder their ability to maximise the flipped classroom experience.

Example of Monash University's Learning and Teaching rooms designed for active learning

4.2 The tutors/teaching assistants

Without the physical lecture in place, the course tutor or teaching assistant becomes the contact point of face-to-face students' experience. The course coordinators we interviewed all suggested the importance of getting the right tutors/teaching assistants for the course and that they understand how to use the flipped classroom approach. Primarily, the tutors/teaching assistants need to be confident in using active learning approach. Whilst you might write the guide of the in-class activities that they are to run during class, due to the dynamic nature of active learning and thinking on your feet, your tutor/teaching assistant needs to be comfortable enough to make the activity harder for some groups of students who need the challenge and easier for groups of students who are struggling to learn. Importantly, the tutor/teaching assistant also needs to be comfortable being a coach off to the side, rather than being centre

of attention in the classroom. The students are required to be engaged in the material, rather than listening to the tutor's/teaching assistant's talk. So, the tutor/teaching assistant needs to spend the majority of their time assisting students' learning, rather than delivering the material content. Finally, you need to have confidence in your tutor/teaching assistant that they will not re-teach the pre-class material when students inevitably do not complete the pre-class material. The tutor/teaching assistant needs to be focused on the active learning activities that are to be run, and whilst they can assist students along the way, and fill-in the gaps where needed, they must give students the opportunity to fail first, so they can learn from not completing the work.

4.3 Size of the class

To an extent, the number of students in each class is going to be dictated by the university's teaching administration rather than by the flipped classroom pedagogy. According to the literature and our own discussion with the flipped classroom teachers, the number of students is very hard to set and predict. From a smaller perspective (10-15 students and 1 teacher ratio is very ideal), teachers have reported that as long as they have had teams (4 students in each team), they have been successful in making their flipped classroom teaching effective. Conversely, there have been flipped classrooms with 200 students in one room which has worked (with 7 teachers), but the teaching and learning experiences are not as rich as the smaller class size. Regardless of class size, the principles of team-based, active learning remain the same, with teams ranging from 4-8 students. As the tutor/teaching assistant is required to actively and frequently interact with each group of students to engage them in the learning, those we interviewed tended to agree that 1 teacher per 20 students was recommended, and that 2 teachers to a class of 40 was an optimal size. Hence, class size plays a critical role in determining the teaching effectiveness and learning outcomes of the flipped classroom experience.

5. The online content

When people think of the flipped classroom teaching, their minds generally go straight to the online content, which is why we wanted to discuss this section last. As you have read this guide, there is much more to putting together a flipped classroom than just a simple online lecture with a few online teaching videos.

5.1 Your university's learning management system

Before thinking of the online teaching content of your course, we suggest that you should consult the educational team within your faculty or university to understand how the existing learning management system in your university can assist with the online content that you wanted to do. The learning management system, is an online platform that your university uses to store the online content and allows students to learn virtually. For example, Blackboard, Canvas, Moodle, Schoology, and Brightspace are often use to facilitate online learning in many universities. The use of the right platform can help save a significant amount of time in design your course and the educational team often can provide with important resources such as high-quality cameras and microphones to develop online continue such as professional video clips.

5.2 Types of online content

The type of online content for a flipped classroom teaching can be split via two axes: The type of activity the students complete and who develops the material. Here is a table which can help you understand what online content is appropriate for different teaching purposes and learning outcomes

		Activities for the students to complete		
		Things to watch/listen	**Things to read**	**Things to do**
Who develops the material?	You (Internal)	Video of yourself and Powerpoint slides	Lecture slides / discussion notes	Answer questions on the readings/videos
	External	TED talk style	Journal articles / Book chapters	Link to a specific exercise such as completing an online personality test

Things to watch/listen

The most common online content for the flipped classroom teaching is a few short 5-10 mins videos of key messages that are created by the lecturer to replace the traditional an-hour long lecture. In general, the short video can be developed and presented in one of four forms below:

1. Talking over the lecture slides without your face visible (speaking behind the slides – like lecture capture);

2. Person-in-picture, where the student can see both your face/body movement and the lecture slides together;

3. Interviewing a prominent thinker on the topic (e.g. an academic or an industry leader with a set of questions or on a particular)

4. Podcast with no video

We will cover the best practices of these four forms of online content in the next section. However, our interview findings suggest that there were three main advantages of creating your own videos over those of others, and they are

1. There is more control of the content you teach as you are developing the content scope;

2. You have the full ability to generate greater analytical insight into what students are watching and understanding;

3. There is a greater level of appreciation and ultimately satisfaction of students when they see that you have put the work in, rather than curate a series of videos for them to watch.

Example of the start of an online lesson.

To supplement your own videos, there are an abundance of material currently available online that are suitable for management education. This includes TED Talks, industry podcasts, and keynote presentations by key management thinkers (e.g. Michael Porter, Amy Edmondson, and Adam Grant), which can be used to lend credence to the ideas you are trying to teach. For example, in a human resource management course covering managing diversity, on top of the key concepts you cover in your videos, rather than you discussing diversity and innovation, you could use Ricio Lorenzo's TED Talk on diversity and innovation, and then use an industry podcast about how diversity practices have been implemented to provide your students with how the key concepts have been applied into workplaces that can increase the content relevance.

Readings for students

As teachers, we are generally well-versed in setting readings for students and we also understand that the readings are least likely activity they like to do. Things to consider within the flipped classroom setting is that you need to make it clear about how the students are going to apply the concepts in the reading into the pre-and in-class activities. For example, you can set up a pre-class quiz question or a discussion question on a particular area so students are compelled to understand the important part of the readings. One of the most interactive methods we have seen to help engage students in readings is Perusall, an online PDF annotator which encourages students to asynchronously post questions and comment on the document they are reading. The teacher is able to generate reports each week and address the main questions posted by the students in class.

Readings and Resources

De Janasz, S., Dowd, K., & Schneider, B. (2015). *Interpersonal skills in organizations* (5th ed.). New York: McGrath Hill. Chapter 1, Page 5-15. This chapter looks at self-awareness and why it is so important for organizations today.

Higgs, M. (2001). Is there a relationship between the Myers-Briggs type indicator and emotional intelligence? *Journal of Managerial Psychology, 16*(7), 509 - 533. This article will cover the MBTI and EI in depth. It will help with your assignment as well.

De Janasz, S., Dowd, K., & Schneider, B. (2015). *Interpersonal skills in organizations* (5th ed.). New York: McGrath Hill. Chapter 4, Page 85-88. Only a couple of pages but explores what is and the importance of emotional intelligence.

MBTI Interpretation 18.4KB PDF document ☐

Social Styles Interpretation 31.2KB PDF document ☐

Interpretation for Big 5 and EI are in the readings ☐

Quiz

Week 2 Quiz ☐

Not available unless: The activity **Lesson 2 - Self-Awareness and Communication** is marked complete

Extra Material

This week we have a TED talk on introverts, a Conversation piece, and some journal articles to get you started on Assignment 1.

Week 2 - Extra Information ☐

Example of readings and extra material for students using the Moodle platform

Things to do

Most learning management systems allow you to create quizzes to test students' understanding of key concepts in your course easily. Through preparatory discussion

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questions, students can apply and analyse the concepts they have learnt from the reading and the short videos to particular situations or case studies. You can leverage existing material on the web which allows students to apply their knowledge. For example, an organizational behaviour course might choose to use online personality quizzes to establish where a student sits on the Five-factor model of personality before responding to other in-depth discussion questions in class. The full learning experiencing ranging from understanding and remembering some key concepts to analysing and applying them into specific situations can be well-designed using the pre-class readings, videos and quizzes as well as the in-class discussion questions and case studies.

5.3 Creating video content

There are many different ways that teachers can choose to create their videos. For the purposes of this guide, we have focused on the most common one we have found in our experiences attending educational conferences, online readings and blogs, and speaking to other flipped educators: Narrated PowerPoint.
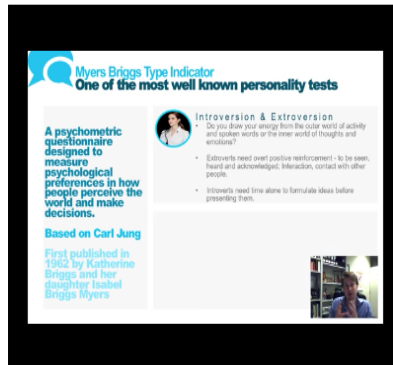
Example of narrated PowerPoint, with person-in-picture design

Video capture platform

There are now a number of platforms available for recording video and screen capture, such as Camtasia, Filmora, ScreenFlow, SmartPixel and PowerPoint also offers recording features. The aforementioned editing software do cost money, so we advise that you speak to the educational team within your Faculty and university to find out if you have an existing licence of the popular software. There are free versions available online such as FFsplit and CamStudio which offer basic services but are well and truly good enough to create engaging videos for teaching purposes.

Webcams and Microphones

All recently built computers and laptops will come with adequate built-in webcams and microphones. In saying this, if you want a higher quality product, you can purchase HD

webcams and microphones which can help reducing the background noise during recording. These are not needed to create a great flipped experience for your students but they can help you create higher quality videos that may increase the view rate.

Crafting the content

Rather than speaking for 60 minutes like you often do in a traditional lecture, students engage with the material more when they are short, sharp bite-sized pieces. Based on our discussions with other flipped classroom teachers and our own analysis of our flipped classroom teaching, we have found that a "5 and 5 rule" is the best. In analysing our own courses, we have noticed a significant drop-off in students' watching the videos past the 5-minute mark, so it may not been a good idea to prepare each video well over 5 minutes. Further, any video after the

LESSON MENU

Introduction
2.1 Self-analysis
2.2 Myers Briggs Type Indicator
2.3 Big 5 Personality Traits
2.4 Social Styles
2.5 Emotional Intelligence
End of Lessson

5th video tend to be watched by less students that the first 5. Hence, a 5 and 5 rule – total 25 minutes should be ideal to maximise the watching. Thus, instead of having 60 minutes to cover the lecture content, you only have 25 minutes to cover the key concepts, and use the other pre-class activities such as reading and quizzes to fill in the other important content.

Student feedback showed that they prefer to see the lecturers head and shoulders within the video of the slides (i.e. a picture in picture or a video overlay). Hence, it is important to ensure there is space for you in the video when you are designing the slides. We understand that many teachers may feel uncomfortable with a video of themselves being up for the students to see each week. In these cases, our interview findings showed that students feel alright if there is an introductory video with the teacher's face on it to begin the course. Alternatively, they like to see the teacher in the classroom at some point early in the semester so they could put a face to the voice. Other things to note are that the production value of the videos is not

a concern for the students, they are more concerned that the teacher puts in the effort to create the video themselves instead of linking to a YouTube clip, rather than the quality of the production.

Before you start doing the video recording, make sure that your email is turned off, that your phone is on silent, and you have a "do not disturb" sign on your door. Try and be in a quiet room and if you are recording from your desk at work, think about what is behind you in the video (i.e., professional and non-distracting). The camera should be placed slightly above eye level and it is best to frame your head and upper body. If you are someone who speaks with their hands, practice and see if they come in and out of the shot, and if you have to make adjustments one way or another. In terms of clothing, try to avoid stripes and patterned clothing as the resolution of the video often does not pick up the detailing and the colours can blend. Also ensure there is enough lighting on your face so the students are able to see you. It is best if you are not in front of a window or have a bright light directly behind you as it will create shadows. Finally, if you are working off notes, have them slightly above/below the camera so you are looking as close to directly into the camera as possible. Our suggestion is that it is good to run a few practices before doing the actual recording. This helps save up your time to do video editing later on.

Bonus tip, if you are planning on using the videos for more than one semester (i.e. a particular

theory that doesn't change), think about the references that you are making. If you reference ethical leadership and a minor event that happened last Friday, students in subsequent semesters will react negatively to this. If you refer to a major event from a few years ago (e.g. the global financial crisis) this video will be relevant for more than one semester. Hence, it may be good to use examples that are relevant and do not fade easily.
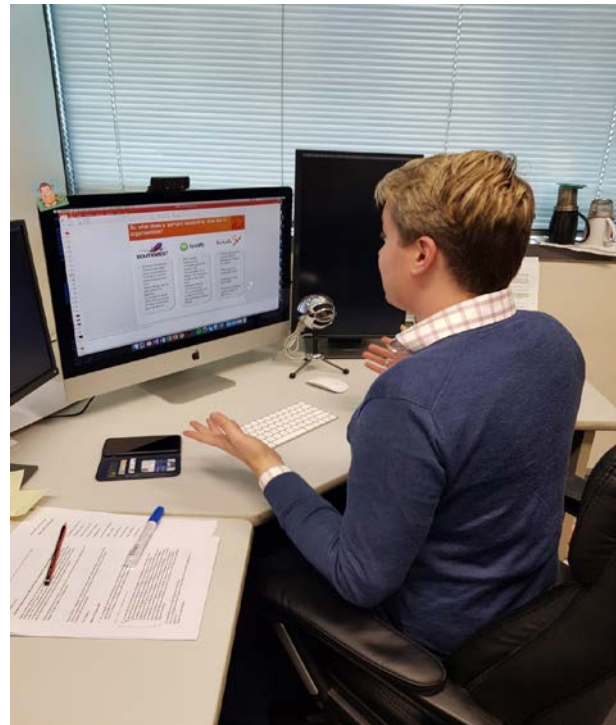
Example of recording with Logitech camera above eye level, Blue microphone, phone on silent, email off, and the blinds closed to reduce glare.

Recording your video

The same presentation skills in giving a lecture are relevant for recording a video. However, video recording requires changes in pace of your speech, pitches need to be good, don't speak to fast, don't mumble, and ensure that you are close enough to the microphone so you are audible. It is fine if you stumble and students are not expecting a "talk show" or performance. Remember, just like in a lecture, you are going to make mistakes constantly. Unlike a lecture, you can have multiple takes to make perfect videos. You just need to be yourself.

When we are recording, we will generally have the camera constantly rolling and will attempt to record each video multiple times to ensure we get the right take. It is not uncommon to deliver the same material 10-15 times before getting it right, because we trip over our tongues, say the wrong thing, someone knocks on the door, or sneeze! We found that by having it

running, it allowed us to edit later and saved time ending the recording and restarting it again. The other thing is to allow a couple of seconds of the camera rolling on you before you start speaking – this way when you are editing your video, your mouth won't be open in the preview!

In the video recording, it is important to engage students by showing more eye-contact - just like you would in a lecture. Tricks such as having the camera just above eye level, turn off the preview of yourself so you cannot watch yourself whilst recording, and pretend like you are talking directly to your students is a good way to go.

Editing the video

Each of the different editing platforms has its own editing software and manuals to assist with video editing. One major thing to think about with editing is making sure that you are leaving enough time between slide transitions. For example, in a lecture hall we would take a breath between slide 1 and slide 2 allowing students the time to write the next heading, summarise their thoughts in their head and also take a breath. With video editing software, we often get rid of that 2 second pause and the next slide jumps in right as slide 1 finishes. It is best to allow a second of silence at the end of each slide and the start of the next slide to help this transition process. A good way of doing this is using fade out and fade in effects in Power point to ensure there is enough space in between the slides. You will get better with the editing over time and especially early on, less is more. The real hero should be your lecture content, not the animations you can add to create the slides. Our suggestion is that try to let your personality and the content be what makes the video interesting to watch.
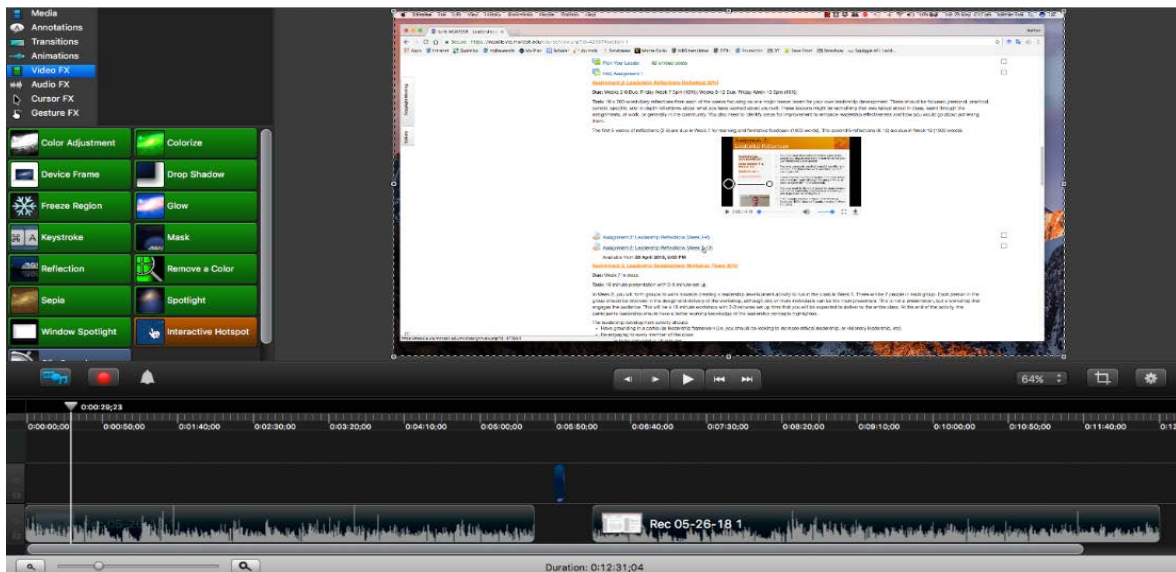
Example of editing a video with Camtasia software

Uploading the video

If you are using a learning management system like Moodle and Blackboard that needs you to store the videos on a separate platform, the best two we can recommend are YouTube and Google Drive. YouTube has good analytical tools to understand how students are engaging with your material, second by second, however the videos are open access so anyone could find and watch the videos online. Google Drive is private, but it does not allow for the analytics. Companies like Panopto provide their own platforms that allows you to drill down at the student level, but unless there is a licence for your university, most of these integrated platforms are expensive for one course. It may be worth to share the cost with a few colleagues who have been using the flipped classroom teaching.

In your learning management system, there are a number of ways to set out the student journey each week. The two most common are a story board format, where students need to complete watching one video (and subsequent question(s)) before moving onto the next video. This is a clean view for the students but more time consuming for you to set it up in this way. The second is posting the videos underneath each other and the students click on them one

by one to watch. Whilst this is easier for you, the students have seemed to be less receptive as they feel that you have not put in an adequate level of effort to enhance their learning experience.

How often should you update your videos?

Considering the investment in setting up the course website and recording videos, many teachers we have spoken to have planned to leave the same videos up for a number of years. We do agree that there is some content that does not need a regular update, for example, Maslow's Hierarchy of Needs and other traditional theories that are taught for foundation knowledge. However, as most teachers are researching in their field, they will naturally want to include new information and timely research each semester as it has come to light. Rather than replacing an entire week's worth of content, by keeping the raw footage, you can add in a 30 second block or a new 5-minute video to a particular week to keep it relevant and up-to-date. As a rule of thumb, we would expect that like your regular lecturers, there would be 5-6 changes per semester, so this might mean re-recording 5-6 new videos. The effort to put is far less from preparing 60 videos (5 short videos x 12 weeks) that you might have recorded when you first implement the flipped classroom teaching.

Secondly, once you have the viewing analytics from your first semester, you can see which videos are keeping students attending more and which one aren't. For example, one of our course coordinators we interviewed discussed how he saw significant drop-off mind-way through a 7-minute video on an OB topic - personality. For the second semester, he re-recorded the content and prepared two 4 minute videos to increase the viewing rate.

Third, the video you should be re-recording every week is the introduction video to each week. As you have a new cohort of students and there are new announcements to make, this is a way to show students that you are delivering on their particular needs and you are not rolling

out an existing course without updating any new material. These videos could like the topic with current events, talk about feedback from the assignments or tutors/teaching assistant, or talk about relevant events that are coming up in your faculty and university.

How do I make students accountable?

The first thing that you must do is set expectations. In your introductory video, you must stress the importance of the flipped classroom learning environment and how the tutorials are different from the traditional tutorials – they are expected to understand the knowledge and apply it the minute they walk in. This also means that your tutors/teaching assistants need to be making students draw from the pre-class material, and also do not re-teach the material, even if students have not done the pre-class preparation. If the pre-class material is redundant, why should students complete it?

The second thing that many flipped classroom teachers have used is an online quiz for marks (e.g. 1% per week) which covers the most important material. A good way to ensure students have completed the material before doing the quiz, is using your learning management system's restriction functions to only make the quiz appear once the students have completed the pre-class readings, videos and activities.

Third, one course coordinator was using the learning management system to track student completions of the pre-class activities and would use a mail merge email at the end of each week to send a reminder to students about the importance of completing the pre-class preparation. Whilst time consuming, helped increase the number of students completing the pre-class preparation. In the subsequent semesters he implemented this, he only used this in the first couple of weeks to get students into a habit of completing the pre-class preparation. After week 5, they were then expected to remember and complete it on their own.

MGF1100 Managerial Communication: Semester 2 2017
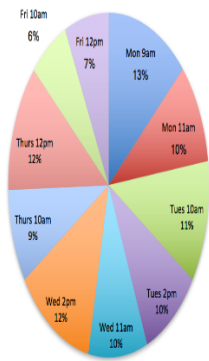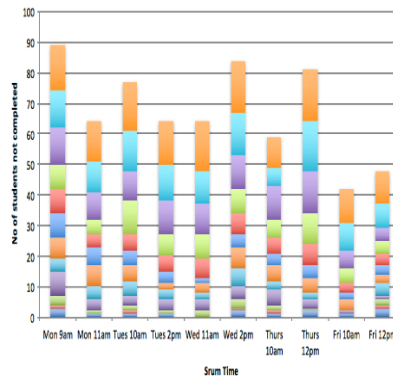
Still Outstanding Non-completes
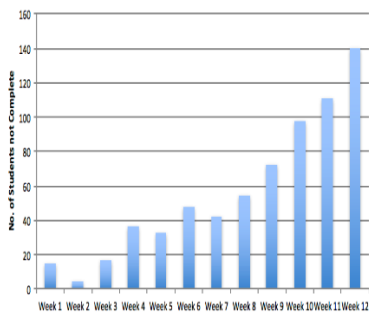
Non-completes by Week
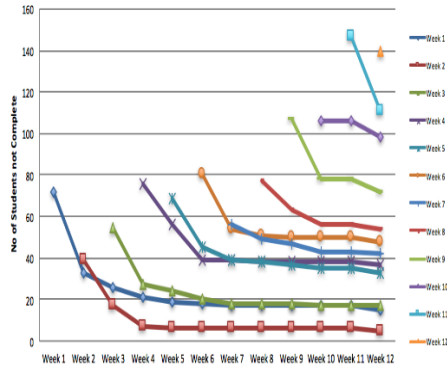
% of Students Non-Competes		
Week 1	6%	15
Week 2	2%	5
Week 3	7%	17
Week 4	16%	37
Week 5	14%	33
Week 6	20%	48
Week 7	18%	42
Week 8	23%	54
Week 9	30%	72
Week 10	41%	98
Week 11	47%	111
Week 12	59%	140

No of students not completed by Scrum (Total)

Fri 10am 6%
Fri 12pm 7%
Mon 9am 13%
Mon 11am 10%
Tues 10am 11%
Tues 2pm 10%
Wed 11am 10%
Wed 2pm 12%
Thurs 10am 9%
Thurs 12pm 12%

No of students not completed by Scrum and Week

Av. Non completes per scrum		
Mon 9am	31%	7.4
Mon 11am	22%	5.3
Tues 10am	28%	6.4
Tues 2pm	21%	5.3
Wed 11am	22%	5.3
Wed 2pm	29%	7.0
Thurs 10am	21%	4.9
Thurs 12pm	27%	6.8
Fri 10am	15%	3.5
Fri 12pm	18%	4.0

Example of a tracking sheet to understand student completion of online activities

6. Evaluation of the flipped classroom teaching

6.1. Evaluating your unit

From our interviews, it was clear that you cannot evaluate the flipped classroom in the same was as a normal classroom. There are different pieces of information that you need that are not applicable for ordinary classrooms. Therefore, we suggest that you run your own evaluation towards the end of semester to understand:

1. If the students like the flipped classroom approach

2. What materials they found useful

3. What materials they used (if you are not already tracking this)

4. A comparison of lecture/tutorial attendance verses their online completion and tutorial attendance for your unit.

The first point there, if students liked the flipped classroom approach, is important to ask as this will have an impact on your overall unit evaluation scores. A number of course coordinators we interviewed recalled stories of their units facing significant drops (10-20%) in their unit evaluation the semester after they introduced the flipped classroom approach. In delving into this data further, they found that the students who rated the unit poorly did so on the back of the flipped classroom format as a whole, rather than the course content, the lecturer, or the in-class activities. For example, one responded with "I shouldn't be paying money to press play," and another "I don't learn anything in flipped units!". The course coordinators said that it took a few semesters for the unit evaluations to go back up close to the previous levels. Therefore, in changing to a flipped classroom approach, you need to be mindful that is not going to be a fix for bad unit results. However, as more students are exposed to a flipped classroom approach, we expect that this resistance will reduce.

6.2. Our findings

To analyse the impact of the flipped classroom approach on students and their engagement, we analysed a subject that was flipping for the first time. Our evaluation measures were based on recommendations by Kavanagh, Reidsema, McCredden and Smith (2017) and (Arbaugh, 2014). The unit in question was a first year management unit with 200 students.

Online interaction

1. The Learning Management System logins by students increased significantly from the non-flipped semester to the flipped semester

2. 70% of students completed the online lesson before they came to class each week without an incentive

3. 95% of students completed it on a computer (as opposed to a tablet or a phone)

Feedback seeking

1. Students feedback seeking behaviours from peer and tutors in-class (measured with a Likert scale) increased from Week 1 to Week 12

2. Students feedback seeking behaviours from tutors and lecturers outside of class hours decreased from Week 1 to Week 12

3. The control group (non-flipped) showed no significant difference.

Who prefers flipped the classroom?

1. Students with proactive personalities preferred the individual learning ($b = .40$, $p < .05$) and the collaborative ($b = .53$, $p < .05$) learning approach offered in a flipped classroom setting

2. Students who preferred the collaborative learning approach felt they 'fit' in a flipped classroom ($b = .50$, $p < .05$) and felt more satisfied with the flipped classroom ($b = .31$, $p < .05$)

3. Students who had high levels of psychological entitlement disliked the collaborative environment ($b = -11$, $p < .05$) and preferred the lecturer dependent learning approach ($b = .10$, $p < .05$) of a traditional classroom setting.

These results offer some insight into the student psyche of how the flipped classroom operates. By requiring students to use your learning management system to access the flipped materials, it does allow additional benefits of distributing information, tracking progress, and identifying areas of improvement in the course. From our results, we can see that students are engaging in the learning management system more in a flipped approach. In a subsequent semester, we used incentives for the students to complete the online lessons (1% quiz) and this increased the completing to 85%.

The active learning and team based strategies that were used with the flipped classroom approach seemed to make students more independent learners, asking more questions in class and of their peers than what they would have in previous units. Of interest was that the feedback seeking from the lecturer/tutor out of class time went down, however, interviews with course coordinators have indicated that especially in the first semester there are more emails from students to deal with teething problems of the flipped classroom. However, they said that these slowed down as semesters progressed.

It was of no surprise that students who enjoyed the flipped classroom approach preferred a collaborative and an independent style of learning. Of interest was that those who has high level of psychological entitlement preferred the lecture dependent setting. This was consistent in the unit evaluation with one student indicating that they didn't feel like they were getting

their money's worth because they didn't have access to the lecturer every week. While this is only preliminary research, we look forward to more research being conducted into the flipped classroom to better understand how it effects students and teachers alike.

6.3. Is flipped worth the effort?

We interviewed 3 course coordinators and 6 tutors/teaching assistants and asked them if they believed that the flipped classroom approach to teaching was worth the investment. Nearly every response said "yes and no". They identified benefits such as student learning, that the tutors felt they could better identify students who needed more assistance, and that they were able to create a holistic learning environment. However, there was a word of caution around the extra time spent creating a flipped classroom, especially without formal support from the university. As one course coordinator said:

> *"In the end, each academic has to ask themselves: Do I want to deliver a high quality, pedagogically designed flipped experience for my subject at the expense of my research time? Because it will eat into your research time".*

We agree that for many academics, the lure of a flipped classroom might be there, but they might not have the support provided by their faculty and university to deliver this change, especially with increasing pressures on publications. We hope that this does not become an either/or situation, as we do believe that the flipped classroom approach can offer many benefits for both the teacher and student. However, with any educational change, there needs to be a clear pedagogical reason why.

7. Tools

Resources to assist with setting up the flipped classroom

Edudemic's guide to the Flipped Classroom

University of Adelaide's report of Flipped Learning

University of New South Wales Flipped Classroom Resources

Workload calculator

Rice's workload calculator

Online reading software

Perusall – Online PDF storage where students can asynchronously read and comment together

Recording software

You will need to pay for software such as Camtasia, Filmora, and ScreenFlow

However, FFsplit and CamStudio are free

Panopto is a designed as an all-encompassing flipped classroom platform

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