Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course

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ABSTRACT

Flexible teaching and learning and the ‘flipped classroom’ are current buzzwords in higher education in Australia and elsewhere in the world. They are reflections of the progressive change in higher education over the last few decades towards more student-and learning centred pedagogies and practices, which are made possible through new technologies and more delivery of online and blended (combination of face-to-face and online components) courses. The increasing personalising and flexibility of learning in higher education requires equal attention spent to assessment practices to ensure a cohesive learning experience. This paper provides the findings and conclusions of a study about a flipped classroom, which also included flexible assessment components. The study showed that students enjoy and are more engaged in a flipped classroom, prefer a blended learning to a fully online learning approach, want and require clear structure and guidelines, and strongly value flexible assessment through more choices and control. The main concern of higher education teachers is the time commitment and lack of institutional support for flipping classrooms and providing flexible assessment. It is argued that personalising learning requires more personalising of assessment, and that it is mainly the responsibility of teachers and institutions to develop ‘flexible students’.

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1. Introduction

Over the last few decades in education, there has been a progressive change towards more student-centred and self-directed learning. Teaching and learning is moving from teacher centred pedagogies and practices to personalised learning in which students are more actively involved in the learning process and where students demand more flexibility through online and blended university courses (Johnson, Adams, & Cummins, 2012a; Keamy, Nicholas, Mahar, & Herrick, 2007; OECD, 2006). Personalising education and learning means that the “learner is central” in that the needs, interests, backgrounds and learning styles of individuals are placed at the centre, and students are more empowered through more “choice and voice” in their learning (Keamy et al., 2007, p. 2). Increasingly, Information and Communications Technology (ICT) is the enabler for personalising learning by giving students greater diversity in their learning and more flexible, personalised learning spaces (Brown & Green, 2015; Keamy et al., 2007, pp. 2–4; Gordon, 2014).
The current changes in higher education about personalised learning and flexibility in pedagogic thinking and practice, called flexible pedagogies by some scholars (Gordon, 2014; Ryan & Tilbury, 2013), are wider than a focus on flexible delivery and more student choices. Flexibility “should be considered as an attribute of both learners and educators — and can also be understood as a characteristic of institutional educational strategies” (Ryan & Tilbury, 2013, p. 9).

As discussed in more detail below, flexibility also needs to extend to choices for students about assessment methods and format. As Casey and Wilson (2005, p. 9; emphasis added) stated in their guide about flexible learning, “flexibility over time and place of study and assessment methods continue to be major factors for students”. We need to rethink assessment practices to make them more flexible and personalised through a stronger emphasis on assessment for learning and assessment as learning than assessment of learning (Keamy et al., 2007; Taras, 2002). There are increasing scholarly studies about the use of flexible assessment methods in higher education (Cook, 2001; Irwin & Hepplestone, 2012; Morgan & Bird, 2007).

Flexible teaching and learning and the flipped classroom have become key terms reflecting innovative pedagogies in higher education (Sharples et al., 2014). The flipped classroom is an important concept in these discussions. It is recent terminology and refers to providing content and learning material to students before class time and using class time afterwards to actively discuss/problem-solve key aspects of that material (EDUCAUSE, 2012). It relies heavily on modern online technologies as well as significant changes in the approach to teaching from academia to be implemented effectively.

This paper is situated in the current debates about flexibility of teaching and learning, personalising learning, the flipped classroom and more flexible assessment for students. It provides critical reflections and insights about a blended learning approach in which one of the authors flipped an advanced undergraduate course, and included flexible assessment through more choices and individualised submission dates for students.

2. Background

2.1. Personalised learning through flexible teaching and learning

Steeples, Goodyear, and Mellar (1994, p. 90) pointed out 20 years ago that with increasing numbers and diversity of students there would be increasing provision of teaching and learning in which “the individual learner [has] more responsibility for, and control over, their own learning … and will need to exercise greater control not only in negotiating their learning goals but also in structuring, timing and otherwise organizing their learning activity”. Recent Horizon Reports about the future of higher education indicate that with increasing economic pressures and international competition the traditional models of higher education around the world are changing, with education paradigms shifting towards more online learning, hybrid learning, and collaborative and interactive classrooms (Johnson, Adams, & Cummins, 2012b, pp. 4–5). People expect now “to work, learn, and study whenever and wherever they want” and “increasingly students want to use their own technology” (Johnson et al., 2012a, p. 3). The use of technology has provided new opportunities to make higher education more flexible and student-centred (Palmer & Devitt, 2008, 2014) and is seen by many University leaders as providing new ways to meet the challenges of the higher education sector in the context of economic constraints, increasing globalisation of education, and changing pedagogical approaches (Allen & Seaman, 2013; OECD, 2005). Technology is however, in our view, not the main determinant of flexibility, but a crucial enabling factor, as pointed out by others (Gordon, 2014; Keamy et al., 2007, p. 2). Technology and new pedagogies need to be harnessed to “engage students on a deeper level” (Johnson et al., 2012b, p. 5) and to personalise learning for students.

In regards to pedagogy, six pedagogical ideas are identified by Ryan and Tilbury (2013) which are all about transforming teaching and learning and creating an increasing flexible, future-oriented higher education system (Ryan & Tilbury, 2013). These pedagogical ideas around flexibility are:

1. learner empowerment — actively involving students in learning development and processes of ‘co-creation’ that challenge learning relationships and the power frames that underpin them, as part of the revitalisation of the academic project itself;
2. future-facing education — refocusing learning towards engagement and change processes that help people to consider prospects and hopes for the future across the globe and to anticipate, rethink and work towards alternative and preferred future scenarios;
3. decolonising education — deconstructing dominant pedagogical frames that promote only Western worldviews, to create experiences that extend inter-cultural understanding in the HE system and the ability to think and work using globally-sensitive frames and methods;
4. transformative capabilities — creating an educational focus beyond an emphasis solely on knowledge and understanding, towards agency and competence, using pedagogies guided by engaged, ‘whole-person’ and transformative approaches to learning;
5. crossing boundaries — taking an integrative and systemic approach to pedagogy in HE, to generate inter-disciplinary, inter-professional and cross-sectoral learning, to maximise collaboration and shared perspective, while tackling bias and differences of perspective;
6. social learning — developing cultures and environments for learning that harness the emancipatory power of spaces and interactions outside the formal curriculum, particularly through the use of new technologies and co-curricular activities. (Ryan & Tilbury, 2013, p. 6)

In short, flexible learning and teaching is about a more personalised learning for students with more choices for, and involvement of, students in their own learning. It is about “the increasing focus on the personalisation of learning experiences and maximising opportunities for collaboration in universities, in line with expectations around student choice and education quality” (Ryan & Tilbury, 2013, p. 26). Whether this leads to ‘learner empowerment’, as listed above, is debateable. There are certainly more choices for students about “pace, place and mode” of learning and designing their own “pathway” of learning in this learner-centred flexible approach (Gordon, 2014, p. 4). However, empowerment is a complex and contentious term, and it is questionable whether empowerment in the form of more individual choices has overall positive results for teachers and learners (Francis, 2008). The issue of ‘learner empowerment’ or the institutional aspects from the list above are not the central focus of this paper as we are more concerned with student engagement and active learning through the flipped classroom model, and with student and teacher perceptions of such flexibility.

2.2. Blended learning and the flipped classroom

The flipped classroom is a blended learning approach which means that “there is integration of both face-to-face and online delivery methods” (Partridge, Ponting, & McCay, 2011, p. 2). Students in a blended learning environment have the advantages of both face-to-face and online learning, such as personal interaction with the teacher and other students and the flexibility and variety of online content (López-Pérez, Pérez-López, & Rodríguez-Ariza 2011). Blended learning is ultimately “a fundamental redesign that transforms the structure of, and approach to, teaching and learning” (Garrison & Vaughan, 2011, p. 5). Flipped learning requires flexible environments where students can choose when, where, what and how to study and learn.

There is increasing evidence in the literature that blended learning is at least equal to traditional face-to-face teaching and learning in achieving learning outcomes (Allen & Seaman, 2013; Garrison & Vaughan, 2011; Means, Toyama, Murphy, Bakia, & Jones, 2010). As ‘Good practice’ reports about blended and technology-enhanced learned have shown, blended learning has many institutional, personal and pedagogical benefits, but also has many challenges (Partridge et al., 2011; Kepell, Saddaby, & Hard, 2011). It can lead to greater student engagement, has more flexibility for accommodating different learning styles, and can lead to “improved student outcomes” (Partridge et al., 2011, p. 5; Faculty Focus, 2014). Some of the challenges of blended learning and the flipped classroom are student expectations of less work and students’ lack of self-responsibility for their learning. The increased time commitment and the lack of institutional and technical support is a major issue for teachers (Partridge et al., 2011, pp. 5–6).

The flipped learning model is about increasing ‘active learning opportunities in the classroom by shifting direct instructions outside of the larger group learning space” (Hamdan, McKnight, McKnight, & Arfstrom, 2013, p. 6), and hence “reverses the traditional classroom approach to teaching and learning” (Sharples et al., 2014, p. 15). A central part of the flipped classroom is therefore the face-to-face interaction where active learning takes place. In the ‘flipped classroom’ the delivery of lectures and engagement with content material is designed to occur prior to the face-to-face classroom. Despite the current hype about the flipped classroom as a new approach to improve student engagement and deeper learning, there is no general consensus on what exactly the flipped classroom is and there is limited evidence about its effectiveness (Bishop & Verlagier, 2013; Sharples et al., 2014: 15). Critics of this model point out amongst other things that (i) good teachers have always tried to engage students through different approaches and methods in order to improve student learning; (ii) that the model is flawed as pre-class or lecture preparation requires knowledge and skills that student do not yet possess; and (iii) that there are also equity concerns as not all students have technological capabilities or access to high-speed internet and computers (Hamdan et al., 2013, pp. 11–12). However, critics can agree that the “changeover to the Flipped Learning model encourages teachers to re-evaluate their teaching” (Hamdan et al., 2013, p. 11). Whether it is successful or not depends entirely on how it is implemented and on the skills of the teacher who does it. So in that sense, flexible learning and teaching and the flipped classroom clearly are still very much teacher-centred and driven.

2.3. Flexible assessment

Introducing more flexibility into learning and teaching has an important, often neglected, component — the assessment process. Assessment is the main motivator for student learning, that needs to be constructively aligned with all other learning activities (Biggs, 2003), and may also need to become more student-driven and more flexible. True flexibility may then mean that there needs to be a move away from the traditional model of assessment where the lecturer/teacher decides what and how students are to be assessed. Ryan and Tilbury (2013: 30) argue that embedding “flexible pedagogies” and achieving the outcomes of a 21st century education depend on the “transformation in assessment practices.” The Centre for the Study of Higher Education stated in 2002 that “renewal of assessment practices is at the forefront of efforts to improve teaching and learning in Australian higher education” (James, McInnis, & Devlin, 2002, p. 3). It argued that a “new era of assessment” is needed that aligns with changes, such as more diverse and larger student cohorts and the need to develop more skills, such as
problem-solving, team work and communication skills that are required in the workplace (James et al., 2002, p. 3). There is a need for more discussion around innovations in assessment because “getting assessment right will be one of the most important priorities for education systems in the OECD [Organisation of Economic Cooperation and Development] over the near term” (Looney, 2009, p. 7).

As Looney (2009) has shown from other studies, students want more ‘authentic’ (work and life related) assessment and more flexibility of assessment practices that reflect the changes of their teaching and learning environments where they have to work while studying and require more flexibility. As clearly outlined in the core principles for effective assessment:

“Many students express a strong preference for choices in the nature, weighting and timing of assessment tasks. This preference for ‘negotiated’ assessment is a logical extension of the trend towards offering students more flexible ways of studying and more choice in study options. Students who seek ‘more say’ in assessment often say they prefer to be assessed in ways that show their particular skills in the best light. They also argue they will study more effectively if they can arrange their timetables for submitting assessable work to suit their overall workload. Providing higher education students with options in assessment — in a carefully structured way — is worth considering in many higher education courses though it is not a common practice. Encouraging students to engage with the curriculum expectations in this way should assist them in becoming more autonomous and independent learners.”

(James, 2002, p. 3; emphasis added)

Similarly, a Joint Information Systems Committee (JISC) guide for effective teaching and feedback states as important principles for effective teaching and feedback (JISC, 2010, p. 18): “[g]ive choice in the topic, method, criteria, weighting or timing of assessments” and “Involve learners in decision making about assessment policy and practice”.

In the context of the described changes in higher education, flexible assessment has only recently gained attention in scholarly research. Boud (2010) argues that we can improve the quality and effectiveness of teaching and learning through improving assessment practices. This means inter alia that assessment for learning (formative assessment) rather than assessment of learning (summative assessment) “is placed at the centre of subject and program design” and that “students and teachers become responsible partners in learning and assessment” (Boud, 2010, p. 3). In flexible assessment the focus is on formative assessment and aspects such as self- and peer assessment become increasingly more important (William, 2011).

Recent studies have shown that increased choice of assessment as well as increased input into the assessment process can have positive effects on student engagement and motivation (Pacharn, Bay, & Felton, 2013). As Zepke & Leach (2010, p. 170) have argued, active and collaborative learning is essential for achieving better student engagement and better learning outcomes, and a critical part of this is the ability of teachers to stimulate intrinsic rather than extrinsic motivation of students and students’ self-beliefs through encouraging “the exercise of choice and self-direction, leading to a greater feeling of autonomy” and control. These points express the significance of looking at how assessment is done at universities and how it could be made more flexible so that student experience and achieving learning outcomes are increased.

Flexible assessment is, in short, changing assessment practices to be more learner-centred and directed, and also to be more about ‘learning-oriented assessment’ (Carless, 2007) where assessment as learning and for learning not just of learning is part of the assessment process. Flexible assessment combined with a flipped classroom approach to teaching is the focus for this study.

3. Methodology

One of the authors (TW) used a flipped classroom approach for his advanced undergraduate course Governance and Sustainable Development in the Social Sciences and included flexible assessment as a central component of the course. Students had two face-to-face lectures (one at the start and one at the end of the course). The face-to-face lecture at the beginning was used to explain the concepts of flexible learning, the flipped classroom and flexible assessment. Students in this course had not experienced the flipped classroom model before and had no prior warning of the change to this model until they were introduced to it in this lecture. Similarly the teacher had no experience in implementing a flipped course although he had completed a Graduate Certificate in Online education. The face-to-face lecture in the last week of the course was used to review the course content and wrap up the course. Students met each week for 2 h with the lecturer (TW) in a tutorial environment to discuss the week’s content.

There were 109 students enrolled in the course. Most students did the course as part of their Bachelor of Development Studies or Bachelor of Environmental Policy and Management where the course was offered as an elective. There were 17 international students (mostly from Brazil); and the gender distribution was 81 female and 28 male students.

The teaching model for the Faculty of Arts at the University of Adelaide involves 3 h face-to-face contact between teacher and students, mostly in two one-hour lectures followed by a one-hour tutorial per week. In contrast to this, in this course students had a different teaching and learning sequence (see Fig. 1). Each week they were required to complete a learning module which included two short mini-lectures (about 10 min long), relevant web links, short readings, and a quiz, before their 2-h tutorial each week. The tutorials were designed as interactive, collaborative activities to reinforce the concepts and content of the week. For example, students needed to prepare country positions on climate change and a mock climate change conference was conducted in the tutorial about climate change governance; or students worked together in small groups on case studies about effective forest governance and presented the lessons to the class. After the tutorial, students completed a short 100 word entry into a reflective journal about the learning activities in the tutorial and what they had
learned including self-assessment of their preparation and participation in the tutorial. The journal was part of the overall assessment.

Students could negotiate when to submit two major assignments within a pre-defined 3 week period; and had choices of assessment types (either report or essay), and had to do three pieces of assessment for an e-portfolio with a range of nine choices about governance and sustainable development (book review, video analysis, comparison of two websites, twitter feed analysis, editing a Wikipedia entry, engage with professional discussion board; writing a submission to the Government; analysing 'best practice' case studies; and making a video). Students had to submit their own 'Personal Assessment Plan' by the end of week 4 which outlined their personalised assessment with clear dates of submissions of their assignments, and allowed them to indicate what kind of feedback (e.g. written, oral, video) they preferred to receive, and what aspects the feedback should concentrate on. They could also include any personal learning difficulties or issues that the lecturer should be aware of.

To determine the student perception of these changes the authors canvassed opinion using surveys and focus groups. There were two surveys, one prior to the course beginning (19 questions, Appendix A) and one at its conclusion (19 questions, Appendix B). They were developed by the authors, and teachers in the Faculty of Arts tested them for face validity. The surveys were designed using Surveymonkey and paper versions were printed from this and provided in class (to enhance the response rate) to students on a voluntary basis by one of the authors (EP) who was not involved in the teaching of the course. EP also ran two focus groups of student volunteers at the end of the course to provide greater understanding of some of the issues raised in the surveys.

The views and experiences of teachers in the Faculty of Arts about flexible learning, the flipped classroom and flexible assessment were also investigated through a 13 question survey (Appendix C) could be investigated to help understand the changing culture in learning in higher education.

4. Results

4.1. Students’ views and experiences with flexible learning and assessment

The pre-course survey ran after the introductory lecture and received 96 responses with a response rate of 88%. Sixty nine per cent of the respondents were female and the respondents were on average 23 years old. Of the students who responded to the question on cultural origin, 46 students identified themselves as being Australian and 34 were from other backgrounds. Most of the students received an average grade of a credit (43%) or distinction (44%) in their previous year. In the student surveys, most items loaded to the same factor apart from those related to valued aspects of assessments and time commitment. The items related to attitudes towards flexible learning and assessment had a reliability of 0.7 in the pre-course and 0.86 in the post-course survey.

Many of the questions in the pre-course survey were based around student expectations of flexible assessment and the flipped classroom. The majority of students agreed that the approach to the course was likely to be appropriate and stimulating (Table 1) but there was a significant consistent percentage that was unsure about the approach. Interestingly, there was only a small percentage (22%) that felt that face-to-face classes were preferable to watching lectures online and the majority of students did not feel that the altered educational approach would involve less work or time on their behalf. The students were also asked about their level of anxiety about the course, given the new approach. Seventy six per cent had an anxiety level of 5 or less (out of 10) regarding flexible assessment. For the flipped classroom 69% had an anxiety level of 5 or less.

Students were asked to rank the importance of various aspects of assessment to them. The results are shown in Fig. 1. Students felt all aspects were important but ranked the methods used (58%) as very important compared with criteria (31%), weighting (28%) and timing (40%).

The post-course survey asked similar questions to the pre-course survey and had a response rate of 74% corresponding to 81 students. The respondents had an average age of 23.4 years and were 75% female. Forty students identified themselves as Australian and 33 of other cultural backgrounds. 51% of students reported receiving an average distinction mark in their previous year and 37% reported a credit.

Student responses to the questions post course were consistent with their pre-course survey responses (Table 2). There was still a significant number of students undecided about the effectiveness of the teaching initiatives, around flexible
Students were still positive about many of the flipped classroom activities but were now in stronger disagreement with the question stating that there was less work and time commitment than in regular classes.

There was a strong positive response to the learning modules (62% broad agreement to enjoyment and 70% for their effectiveness). The more traditional 2 h tutorial was also well regarded with 88% broad agreement as to its effectiveness (Table 2).

The students were also asked to provide an honest appraisal of their engagement with the learning modules. 43% of students reported they did all 11 online modules, 47% did 8–10 of them and the remaining 10% of students reported doing between 5 and 7 of the modules.

Finally students reflected on the value of different aspects of assessment. Fig. 2 shows some changes in attitude with students rating both the methods and timing of assessment with 47% ranking these two aspects as very important.

4.1.1. Students: open ended comments and focus groups

In the surveys, students provided open ended comments and two focus groups were run at the end of the semester with a total of 12 students. Both comments and focus groups provided some additional insight into student reaction to flexible assessment and the flipped classroom.

In regard to the workload, 34 students suggested in the open ended comments that there was more work involved and that was more time consuming than a traditional course (11 suggested the workload was similar to their other courses which average of 3 h of work preparing for the tutorials) but most students were pleased with the flexibility. There were issues about the clarity of guidelines for the course and an acknowledgement by some students that they needed to be better organised to succeed in a flipped environment.

### Table 1
Results from pre-course survey of students.

<table>
<thead>
<tr>
<th>Question (strongly agree to strongly disagree)</th>
<th>Broad agreement (percent)</th>
<th>Neutral (percent)</th>
<th>Broad disagreement (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course will suit my learning needs</td>
<td>69</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course will provide a more stimulating learning experience for me</td>
<td>67</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course is an effective way to teach the content material.</td>
<td>73</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>I am excited to be in a flexible learning/flipped classroom.</td>
<td>72</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>I believe at this stage (beginning of the course) that being in a flexible learning/flipped classroom will involve less work and time commitment for me than a regular class (face-to-face lectures and tutorials).</td>
<td>37</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>My preference is going to traditional face-to-face lectures than watching mini-lectures online.</td>
<td>22</td>
<td>32</td>
<td>46</td>
</tr>
<tr>
<td>To involve learners in the assessment process in a course is an excellent idea.</td>
<td>73</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>From what I have experienced so far, the flexible assessment in this course is organised in a way that suits my learning needs</td>
<td>79</td>
<td>28</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Broad agreement (Agree and Strongly Agree) and Broad Disagreement (Disagree or Strongly Disagree) are used to collect responses together.

### Table 2
Results from post-course survey.

<table>
<thead>
<tr>
<th>Question (strongly agree to strongly disagree)</th>
<th>Broad agreement (percent)</th>
<th>Neutral (percent)</th>
<th>Broad disagreement (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The flexible learning/flipped classroom approach in this course suited my learning needs</td>
<td>74</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>The flexible learning/flipped classroom approach in this course provided a stimulating learning experience for me</td>
<td>70</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>The flexible learning/flipped classroom approach in this course was an effective way to teach the content material.</td>
<td>74</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>I enjoyed being part of a flexible learning/flipped classroom.</td>
<td>71</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Being in a flexible learning/flipped classroom involved less work and time commitment for me than a regular class (face-to-face lectures and tutorials).</td>
<td>24</td>
<td>14</td>
<td>62</td>
</tr>
<tr>
<td>My preference is going to traditional face-to-face lectures than watching mini-lectures online.</td>
<td>28</td>
<td>31</td>
<td>41</td>
</tr>
<tr>
<td>Is flexible assessment a good idea?</td>
<td>67</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>The flexible assessment in this course suited my learning needs</td>
<td>67</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>I enjoyed the learning modules</td>
<td>62</td>
<td>26</td>
<td>12</td>
</tr>
<tr>
<td>The learning modules were effective tools to enhance my learning</td>
<td>70</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>The 2 h tutorial was beneficial to my learning</td>
<td>88</td>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Broad agreement (Agree and Strongly Agree) and Broad Disagreement (Disagree or Strongly Disagree) are used to collect responses together.
In regard to learning modules and mini-lectures, students liked the convenience of shorter, recorded mini-lectures although they did note that they missed the interaction between students and teachers and the ability to ask questions in face-to-face lectures. Some comments about learning modules and Mini-lectures included:

- I really enjoyed the online learning modules because of the source documents since it wasn’t like you had to read a book, it was diverse with other videos and journals and even websites to check out. I think that diversity is so important.
- I liked the learning modules, they clearly defined what was required of us each week and made it easy to stay up to date. The quizzes tested us on what we learnt each week which was really useful in helping us from falling behind.
- I love the idea of the short lectures, 15 min is great. I feel like I was focused the whole time because it was nice and clear and gave you the essential information.
- The mini lectures were super clever, much more engaging than a 1–2 h face-to-face lecture. Excellent idea.

For some (24%), however the Mini-Lectures were too short and they would have preferred normal 50 min lectures:

- Mini lectures aren’t worth the downloads, twenty minutes once a week is pointless it’s not enough time to go into any detail.

Students in the focus groups felt that the initial face-to-face lecture was very important, providing context for the course, rationale for its structure, and the opportunity to clarify issues. Students indicated that they often did not read course outlines, and the opportunity to engage with the new set-up of delivery of content material was critical. It was also highlighted that missing the introductory lecture was problematic. Although the students in the focus group had varied views about the recorded mini-lectures, with some stating that they were too short and provided no immediate chance to ask questions, the majority appreciated the flexibility it gave them. Students typically accessed the mini-lectures and reading the day before their tutorials on the topic, citing the need to have the material fresh in their heads before discussing it the next (or same) day. They typically prioritised the tasks of the learning modules lower than assessments but felt it was important to engage with the material prior to discussion in tutorials. One student suggested that if the course information made it clear that there would only be two face-to-face lectures, it may have attracted additional students into it. Students appreciated the ability to be able to listen to shorter lectures due to their inability to maintain attention in longer, live sessions. As one student said, “in a 1 h lecture I tend to zone out. I liked this better – more engaging.”

Students typically interacted with the learning modules and mini-lectures via tablet, smartphone or laptop. They rarely used university machines as their devices provided this provided more flexibility and because it was often time consuming and difficult for students to find available computers on campus.

Students valued the two-hour face-to-face tutorials highly. For them, tutorials were necessary due to the lack of face-to-face lectures. They felt that two hours was an appropriate time for the tutorial and the size of the groups (20–25) was also appropriate. Students were highly resistant to making the tutorial classes any larger than 25 students feeling that the opportunity to form a learning community would be damaged due to people talking about other matters, lack of confidence in speaking in larger groups, insufficient attention from the tutor and the forming of smaller, inflexible sub groups within the class. Students did not feel that online tutorials would have the same impact on their learning mainly due to the lack of face-to-face social contact and the potential for significant delays in discussion sometimes occurring in online discussions.
Some student comments about the two-hour tutorial sessions:

- The two hour tutorials are awesome. They give you plenty of time to discuss aspects that you maybe don’t understand so well and also helps you form friendships within the tutorial group and get to know your tutor better. The flipped classroom style was also excellent and I found it very engaging.
- The 2 h tutorials were very useful and the different tasks in the tutorials kept us engaged.
- The class discussions are great because they are interactive and create critical conversation. They go for 2 h which is a good amount of time to be an effective learning environment.

Students did suggest, however, 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 adequately for each of them.

Comments about the flexible assessment revolved around the fact that students liked being able to set their own dates to avoid clashes with other assessment deadlines. They felt it helped develop their learning processes but found the variety of due dates somewhat confusing. A significant number of those in the focus groups admitted that they chose the dates incorrectly for their circumstances. This was sometimes due to insufficient information from other courses about due dates, sometimes due to lack of care or just poor decision making because they hadn’t had the opportunity to choose before. They did note that because of the variation in submission dates across the course, and the variety of assessment tasks, they struggled to find someone to discuss their assignments with and also became confused about their submission dates. This confusion was sometimes further exacerbated by the learning management system (Blackboard) and the structure within it as it had been set up by the lecturer.

Choosing assessment tasks was also well received by the students. They were content with the number of choices available and felt that additional choices could have been confusing. They did not always choose areas of strength for their assignments (such as an accomplished essay writer choosing to write an essay rather than another form of assessment), but this was the most common response. Some other student comments about flexible assessment:

- The flexibility to be able to set our own due dates with the flipped classroom concept this was great.
- I also liked the my uni portfolio as a major summative assignment. It allowed us to show our knowledge on a good range of different areas relevant to this course.
- [I liked] the choice of assignment due dates because it allows flexibility.

4.2. Teachers’ views and experiences with flexible learning and assessment

There were 47 respondents to the teacher survey on flexible learning. Factor analysis of the teacher survey showed all items loaded to the same factor except for the workload question. Excluding that, the survey had a reliability of 0.79. The Likert question results are tabulated in Table 3 and, like the student results show a strong series of neutral responses. Teachers overall believed that flexible learning and flipped classrooms specifically required greater amounts of work. Approximately half of all teachers indicated that they had a low level of commitment to the flipped classroom but felt under high levels of pressure to include them in their courses. This was supported by results from the open ended questions and the results of the interviews with xxxx teachers.

Of the teachers that agreed to be interviewed, many were engaged in flipping their classes and using flexible assessment. Some teachers had done flipped classroom “by default” and others were currently “experimenting” with it as they were currently providing a blended learning environment through some online content. Many were open to flipping their classroom because, as Teacher 1 put it, “our current model of teaching is not sustainable” in a context of budget constraints and

<table>
<thead>
<tr>
<th>Question (strongly agree to strongly disagree)</th>
<th>Broad agreement (percent)</th>
<th>Neutral (percent)</th>
<th>Broad disagreement (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible learning is an excellent way to improve student learning and engagement.</td>
<td>57</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>The flipped classroom is an excellent way to improve student learning and engagement.</td>
<td>32</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td>Flexible learning overall involves less work and time commitment for me than a regular class (face-to-face lectures and tutorials)</td>
<td>4</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>Implementing a flipped classroom overall involves less work and time commitment for me than a regular class (face-to-face lectures and tutorials).</td>
<td>8</td>
<td>22</td>
<td>70</td>
</tr>
<tr>
<td>Involving learners/students in the assessment process in a course is an excellent idea</td>
<td>55</td>
<td>24</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question (1–10)</th>
<th>1–4 (Percent)</th>
<th>5 (Percent)</th>
<th>6–10 (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a scale from 1 to 10 what is your current level of commitment to include the flipped classroom into your courses? (1 = highest)</td>
<td>37</td>
<td>13</td>
<td>50</td>
</tr>
<tr>
<td>On a scale from 1 to 10 how much pressure do you feel you are under to include a flipped classroom into your courses? (1 = most pressure)</td>
<td>37</td>
<td>11</td>
<td>52</td>
</tr>
</tbody>
</table>
more time demands for teachers. All interviewed teachers, except one, provide a diversity of assignments and choices for students.

A concern shared by all teachers was the time commitment and workload issue to set up, implement and manage a flipped classroom and flexible assessment. Teacher 2 clearly stated that he was in the traditional mode of teaching and would not flip his courses or provide flexible assessment (the assessment is always the same in all his courses and includes an end of year exam) “because of the time input” required, which would compromise his research.

Open ended questions from the survey provided supporting evidence in this area as well as suggesting that the flipped methodology was not a new concept to some teachers. Thematic analysis showed that the time required to implement a flipped classroom was the most prevalent concern. Comments in this area included:

- have not tried this method of teaching yet, but am keen to experiment. Of course finding the time to change courses to fit this model is the biggest hurdle.
- Flipped learning is a great pedagogical practice, but takes time to develop and implement. If I am teaching a normal lecture I can prepare the lecture in about 1 h. To prepare a flipped class takes close to 6 h but it is worth it as the students are more engaged, seem to have a better concept knowledge on a deeper level and I can track cognitive development better.

Other dominant themes were the perception that there was a lack of evidence to support the use of flipped classrooms and that the concept (with a different name) had been around for some time and was in use already.

- Students are already encouraged to prepare before attending tutorials and lectures. Lectures are an efficient means of delivering course material that allows for discussion and feedback at the time of presentation. Our tutorials require students to prepare beforehand, and are generally very successful at implementing a collaborative, Socratic style of learning, based around discussion, debate, and small-group activities. The flipped classroom appears to implement a mode of learning that we already practice, but in a less efficient manner than our current arrangements permit.
- Music students are already familiar with the flipped classroom model - they are expected to practice and rehearse music before coming to class!

Other themes of interest included the concern that the use of flipped classrooms was not being supported by training and was designed solely to save money.

Some specific comments were:

- Flipped learning is a great pedagogical practice, but takes time to develop and implement. If I am teaching a normal lecture I can prepare the lecture in about 1 h. To prepare a flipped class takes close to 6 h but it is worth it as the students are more engaged, seem to have a better concept knowledge on a deeper level and I can track cognitive development better.
- Like most of my colleagues I am simply appalled by the way this [nonsense] has taken over educational theorising. It runs counter to every solid experimental and theoretical result obtained by psychologists about learning, memory skill acquisition and deployment. It is a disgrace to the educational profession sold by technology entrepreneurs.
- Flipped classroom learning is just another dirty trick from the central administration to avoid hiring a decent number of lecturers to conduct proper teaching. It is just another neoliberal attitude to try and make a profit.
- Students are already encouraged to prepare before attending tutorials and lectures. Lectures are an efficient means of delivering course material that allows for discussion and feedback at the time of presentation. Our tutorials require students to prepare beforehand, and are generally very successful at implementing a collaborative, Socratic style of learning, based around discussion, debate, and small-group activities. The flipped classroom appears to implement a mode of learning that we already practice, but in a less efficient manner than our current arrangements permit.
- Music students are already familiar with the flipped classroom model - they are expected to practice and rehearse music before coming to class!

From Table 3 it was noted that a majority of teachers favoured student involvement in the assessment process. Fig. 4 shows the areas in which they felt it most appropriate, derived from survey data. The areas regarded as those where teachers were likely to give students some choice in their assessment was in the methods (66%) and timing (58%) of assessment. Open ended comments in this area had a strong theme around the concept that some amount of flexibility in assessment was desirable.

- The design of good flexible assessment needs care and reflection. Equivalencies need to be spelt out. Cohort agreement can be sought by posting flexible criteria and context some weeks before assignments are due. The assessment parameters of what can be by choice and what is non-negotiable need to be clear, and understood! I’ve found that when this is done it promotes ownership of the learning process at the same time as allowing academics to exercise their responsibilities appropriately.

This positive theme was moderated by an equally strong theme that students lack the skills in assessment necessary to make the appropriate decisions. Other themes focused around the need to ensure deadlines are met to keep the course to
schedule, that is too hard to do and that teachers were already allowing flexibility in assessment to some extent. Positive comments lead towards the usefulness of giving students ‘ownership’ of their learning. Negative comments were concerned around the lack of student ability to set their own assessments or self-assess and the additional workload involved, as well as the potential mismatch with workplace situations.

- We are supposed to be making our students ‘job ready’; too much flexibility in assessment won’t be assisting them in preparing for the workforce. In many jobs employees have to cope with competing, non-negotiable deadlines. If students emerge from the university with the impression that they can choose or negotiate deadlines or select the parameters of the tasks that they are given, employers won’t thank us.
- Students do not possess the necessary knowledge and expertise to be heavily engaged in determining the modes and priorities for the full range of assessment of knowledge and skills, however some flexibility is desirable, including where it assists in the development of reflective capabilities, and the development of self directed learning approaches.
- Assessment requires prior knowledge, even mastery of the field of knowledge being assessed. The idea that students can teach themselves and then assess themselves would appear flawed, and the direction of questioning above suggests that flexible learning is being considered as a basis for securing further budget cuts.
- Fig. 4 shows the teacher responses to the question “From what you know about flexible assessment, for which of the following aspects of assessment would you provide a choice for the students in your courses:”

In the interviews, there was a consensus that “there need to be clear guidelines” (Teacher 1) about course structure and assessment, especially if there was flexibility and choice for the students. Teacher 2 stated, “there is a lot choice [in his courses] but also a lot of structure on how to do things”. Some teachers raised concerns about the length of a mini-lecture, which was felt not to provide much space to cover course content for the week. Teacher 2 said that a “10 min mini-lecture is almost an oxymoron” considering the normal lecture time of 50 min. The teachers agreed that traditional lectures still have a place in University teaching, in particular for very large courses. Teacher 7 was concerned that if “everyone would be doing
flipped learning that students might not think that this is university anymore” and would feel lost and also cheated for their fees. Teacher 5 strongly believed that the “flipped classroom provided deeper learning” because of greater student interaction in the actual classroom. It is, however, problematic in the view of this teacher to set up 2 h tutorials for each of her courses as it would “double her work load”.

5. Discussion

This study provided useful insight into the attitudes of students towards new approaches to teaching, specifically flipped classrooms, flexible assessment. Their responses are enlightening, especially when compared to those from the teachers. It showed that students overall enjoy and want a more personalised learning approach through the flipped classroom and flexible assessment. It also shows quite strongly that many students are undecided about the merits of many facets of personalised, flexible learning and it remains to be seen where their opinions settle. The role of the teacher in this environment is crucial. Our results showed these teachers are also undecided and potentially misinformed about the value of these strategies and our study will help provide an evidence based discussion point for some of the key issues teachers face. Our study adds to the “compelling evidence of the importance of encouraging student control over the learning process as a whole” (McLoughlin & Lee, 2010, p. 1), and shows that personalising learning is successful in improving student engagement and the students’ learning experiences in higher education (Jones & McLean, 2012; McLoughlin & Lee, 2010). It is beneficial for student engagement and experiences to have longer face-to-face sessions (in this case it was 2 h tutorial sessions) in which structured small group activities were set up by the teacher (TW) for interactive, collaborative learning. Students felt they “had to engage” and were more compelled to be prepared for the face-to-face classrooms by doing the learning modules.

This does not necessarily mean the learning outcomes have been achieved in a more effective way or that students received better marks. It was a limitation of this study that it focussed on student engagement and experience rather than learning outcomes. Dowling, Godfrey, and Gyles (2010, p. 375) concluded that the flexible teaching model is “a means of increasing student learning outcomes”. But overall there is limited evidence in the literature that the flipped classroom and personalised learning leads to better marks and learning outcomes (Jones & McLean, 2012, p. 76; Sharples et al., 2014, p. 16). These issues need further research.

A clear outcome from this study is that students want their personalised learning not only in the form of online activities, but predominantly through interactive, collaborative, well-structured learning activities in a face-to-face environment. It is clear from the findings that students liked the face-to-face interaction in the tutorials. For them, as one student put it, “it is still really important to come to class and it’s not all online.” This supports other research findings that fully online learning is not the preference of students but a blended learning approach is (Allen & Seaman, 2013; Garrison & Vaughan, 2011; Rovai & Jordan, 2004). However, blended learning is in many ways equally difficult for teacher and students. Students require a very high level of self-motivation, organisational skills and independent learning which is often unfamiliar to students used to traditional face-to-face teaching and learning environments (Partridge et al., 2011, p. 5). This study supports this as students were concerned about self-motivation, remembering to do course tasks and technical issues as well as potential lack of direction and additional workload.

To overcome these concerns, the course design and the role of the teacher is essential. It is the role of the teacher, whether in online, blended or face-to-face courses to provide learning experiences so that students engage with the content, and student-teacher and student—student interaction is promoted (HRC, 2009, pp. 3–5). Obviously it is not possible to suit all students and their particular interests and preferences. Some students prefer to have face-to-face lectures to online material and mini-lectures. Although students like choices and flexibility they still want a set structure for the course and for the assessment format and processes. The design naturally cannot overcome the lack of self-motivation and time management of the students but it can help with providing clear structure and instructions and making the workload manageable. It can help with the development of the students to become more independent and self-regulated learners. The flipped classroom and blended learning provides the opportunity for teachers to rethink pedagogies and their teaching practice and put the learners more at the centre (Faculty Focus, 2014). There is thus “a fine balance to be achieved in attempting to promote learner control, knowledge creation, agency and autonomy by offering flexible options and choice, whilst offering guidance and structure when needed and adding value to the learning process through personalised, customised and adaptive approaches” (McLoughlin & Lee, 2010, p. 38).

What is currently lacking in the literature is research about what level of control students really want or truly need. As Teacher 3 said, a “certain degree of flexibility is a good idea” — but at which level of flexibility is the course still effective in improving student engagement, experience and learning outcomes? This area requires further research for different disciplines as it is likely there is no one size fits all model of blended learning and flexible teaching and learning. The findings of our case study shed some light on this issue. It showed that students do not desire an approach to flexible learning in which learners could exercise complete ownership and control over their learning without the need for guidance and clear structure of their learning. Complete student control and self-regulation of learning should not be the aim of personalising higher education. Students want and require structure and guidelines. The responsibility for learning rests with the student but the responsibility to set up an engaging, interesting and stimulating flexible learning environment; and to enhance the development of a wider skill set for students (e.g. critical thinking, group work, and communication skills) is ultimately the responsibility of the teacher and the universities.
As for the teacher, it means increased time commitment to design and implement blended/flipped classes (Means et al., 2010). But, as mentioned earlier, the lack of institutional and technical support (Partridge et al., 2011, pp. 5–6) remain major challenges. Higher education teachers, with the exceptions of innovators who are experimenting with new ideas, are reluctant to change traditional teaching methods (Partridge et al., 2011, pp. 5–6). There is a “pervasive resistance of academics to the personal adoption and use of new technologies or techniques” (Johnson et al., 2012a, p. 4) which is counter-productive for institutions seeking to provide more flexible learning and teaching. The high level of time commitment for blended learning and the flipped classroom came up in the teacher survey and interviews as the most expressed concern of teachers.

There is a misconception at university and faculty levels that needs to be overcome that blended and online learning, defined as having more than 85% of online activities (Allen & Seaman, 2013), is the easier teaching option and requires less time commitment. Teachers in higher education face the contradictory pressures to provide more acknowledgement in workload models, and adequate training, tools and guidelines (Hamdan et al., 2013; Looney, 2009). This changes but that their added time commitment is often not acknowledged in workload models and that there is limited flexibility in teaching and assessment. For flexibility in teaching and assessment, teachers need technological support, acknowledgement in workload models, and adequate training, tools and guidelines (Hamdan et al., 2013; Looney, 2009). This would be another significant change required for institutions as these aspects have been lacking for many years (Blin & Munro, 2008), but it could be argued that the need for such changed institutional practices is greater now than it ever has been.

Flexible teaching and learning in a flipped classroom requires a high level of time commitment by the teacher for initial design and implementation, and running a flipped classroom where classes/tutorials are in 2 h blocks. 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 time pressures and coordination between courses was also brought up by students. 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. This highlights a need for approaches to blended learning and flipping classrooms that are at least faculty-wide and that have student representation. Simple course design may not be sufficient to address these issues and wider curriculum-based change may be necessary. Teachers/course coordinators need to adjust the assessment format and amount of face-to-face interactions to what particular student cohorts in their courses not only want but also need in regard to achieving learning outcomes. Students could decide in a democratic group decision making process at the beginning of the course what kind of assessment pieces they would prefer, when submission dates of assessment should be, and how many face-to-face lectures are to be maintained.

As these points show, there is still a strong teacher-centred and driven component in personalised learning. This is a valuable insight as debates about flexible learning, the flipped classroom and new forms of flexible assessment tend to neglect the crucial role of the designer and teacher of the university course. Teaching and the central role of the teacher is “still important” in designing and delivering flexible learning, as highlighted by Casey and Wilson (2005, p. 8), and for achieving cooperative and collaborative learning (Gillies, Ashman, & Terwel, 2008; Millis, 2010). As Gordon argued, in flexible learning and teaching, teachers continue to play the central, connecting role between the institutional framework and students. They have the expertise to ensure that learning outcomes, learning activities and the assessment tasks are all constructively aligned (Biggs, 2012) and help provide students with the best learning experience possible. Flexible pedagogies require the interplay between (i) flexible systems institutions that allow for flexibility in teaching pedagogies and practices and learning; (ii) flexible teachers who are flexible in the approaches and modes of teaching; and (iii) flexible students who are capable to be flexible learners (Gordon, 2014, p. 5 & 9; emphasis added).

In regard to flexible assessment, designing effective, efficient and fair assessment for graduate students is not an easy task, in particular with increasingly larger and more diverse student cohorts in regard to cultural and educational background and individual knowledge and skills in university classes. We are at the start of “new era of assessment” (James et al., 2002, p. 3) in which there may be more student choice and input into the assessment process. These changes towards flexible assessment are slowly happening across universities. This study showed that students overall welcome educational change around flexible pedagogy, while increasing student engagement in the assessment process and setting criteria (Irwin & Hepplestone, 2012, p. 782). There can be no doubt that personalising learning means also to personalise assessment and that there is potentially an area where both students and teachers can agree to place effort.

For flexible assessment to be effective in developing a variety of important 21st century skills, the scope of flexibility and choices for assessments needs to be determined by the identified learning outcomes (Irwin & Hepplestone, 2012, p.780). Irwin & Hepplestone provide the example, that if a critical learning outcome in a course is to develop particular writing skills then assessment choices are determined by that. Flexible assessment should be seen “as a first step towards more student-led pedagogy, while increasing student engagement in the assessment process and setting criteria” (Irwin & Hepplestone, 2012, p. 782).

Finally, there is the concern that personalised learning through flexible learning and assessment might lead to ‘shallow’ rather than ‘deep’ or higher order thinking as students might choose assignments and learning activities that suit their own learning style and current knowledge rather than expanding into new and more challenging territories and thus neglect to
develop other skills (Irwin & Hepplestone, 2012, p. 779). However, a coordinated assessment strategy across a degree program where a variety of assessment types are used will reduce this potential problem and this study shows that some students at least like variety and new challenges in their assessment. As one student said in the focus groups, “I felt like you always do essays for all of your courses all the time, so I chose something different to give it a go.”

6. Conclusion

The majority of the students enjoyed the increased flexibility in their learning and their assessment. In particular, students enjoyed the two-hour tutorial and the flexibility around submission of assignments and the various choices each of the assignments provided. What came out strongly is that students want their personalised learning not only in the form of online activities but predominantly through interactive, collaborative, well-structured learning activities in a face-to-face environment. There can be no doubt that “flexibility is the name of the game now” (Teacher 5) and blended learning and flipping the classroom are teaching models that leverage the flexibility of online learning and the social interaction and collaborative learning of the face-to-face classroom.

In essence, flexible teaching and learning are about the personalisation of teaching and learning through being more learning (rather than learner) centred. This personalisation of learning and teaching needs to include the personalisation of assessment practices. This, however, does not mean that a complete student-driven or ‘learner-centred’ version of personalised learning should become the overall mantra for teaching pedagogies at universities. Full control of students over teaching and learning activities would be counterproductive to student learning and experience, and overlooks the critical role of the teacher. This is not to deny the importance of personalising teaching and learning in higher education, as we have argued in this paper. Students should be more involved in decision-making about teaching and learning, and should have flexibility in their learning and their assessment. However, self-directed and self-regulated learners and ‘flexible students’ are not a given as not every student is ready for, and open to, more personalised and self-regulated learning and the shift from passive, spoon-fed to active, collaborative learning. Flexible teachers and flexible higher education institutions need to provide the context for the development of such ‘flexible students’. In that sense, personalising learning is mainly the responsibility of teachers and institutions. Personalised learning is not a quick fix for improving student experience and outcomes, and is still in its early stages but it is a realistic pathway towards making higher education more flexible and learning-centred.

Appendix A. Pre-course student survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale (abbreviated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course will suit my learning needs</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course will provide a more stimulating learning experience for me</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>From what I have experienced so far, the flexible learning/flipped classroom approach in this course is an effective way to teach the content material</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>I am excited to be in a flexible learning/flipped classroom.</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>I believe at this stage (beginning of the course) that being in a flexible learning/flipped classroom will involve less work and time commitment for me than a regular class (face-to-face lectures and tutorials).</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>My preference is going to traditional face-to-face lectures than watching mini-lectures online.</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>On a scale from 1 (lowest) to 10 (highest), what is your current level of concern/anxiety about the flexible learning/flipped classroom in this course? Please provide further comments.</td>
<td>Open ended response</td>
</tr>
<tr>
<td>To involve learners in the assessment process in a course is an excellent idea.</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Rank the importance of the following to you regarding your assessment Methods of assessment (e.g. essay, exam, report, quizzes) Criteria of assessment (setting the criteria for your assessment pieces) Weighting of assessment (how much weight in per cent is</td>
<td>(Very Important, Important, Not very important, Not important)</td>
</tr>
</tbody>
</table>
Appendix B. Post-course student survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale (abbreviated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The flexible learning/flipped classroom approach in this course suited my learning needs</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>The flexible learning/flipped classroom approach in this course provided a stimulating learning experience for me</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>The flexible learning/flipped classroom approach in this course was an effective way to teach the content material</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>I enjoyed being part of a flexible learning/flipped classroom in this course</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Being in a flexible learning/flipped classroom involved less work and time commitment for me than a regular class (face-to-face lectures and tutorials). Please explain your answer</td>
<td>Open ended response</td>
</tr>
<tr>
<td>My preference is going to traditional face-to-face lectures than watching mini-lectures online. Please explain your answer</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>I enjoyed the learning modules</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Please provide an honest reflection/assessment of your work in this course (all 11 modules, 6–10 modules, 5–7 modules, 1–4 modules, no modules)</td>
<td>Open ended response</td>
</tr>
<tr>
<td>The Learning Modules were effective tools to enhance my learning</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>The two-hour tutorial was beneficial to my learning</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Is flexible assessment (students being involved in the assessment process) a good idea?</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>What is your gender?</td>
<td>M, F</td>
</tr>
<tr>
<td>What is your age?</td>
<td>Open ended response</td>
</tr>
<tr>
<td>What is your cultural background?</td>
<td>Open ended response</td>
</tr>
<tr>
<td>What was your average grade for your courses last year?</td>
<td>(High Distinction, Distinction, Credit, Pass)</td>
</tr>
<tr>
<td>The flexible learning approach in this course suited my learning needs</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>The flipped classroom is an excellent way to improve student learning and engagement</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Flexible learning overall involves less work and time commitment for me than a regular class (face-to-face lectures and tutorials)</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Implementing a flipped classroom overall involves less work and time commitment for me than a regular class (face-to-face lectures and tutorials)</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>On a scale from 1 (lowest) to 10 (highest), what is your current level of commitment to include the flipped classroom into your courses?</td>
<td>1–10</td>
</tr>
<tr>
<td>On a scale from 1 (highest) to 10 (lowest), how much pressure do you feel you are under to include a flipped classroom into your courses?</td>
<td>1–10</td>
</tr>
<tr>
<td>Please provide any further information regarding your thoughts on flexible learning and the flipped classroom</td>
<td>Open ended response</td>
</tr>
</tbody>
</table>

Appendix C. Survey for teachers

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale (abbreviated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible learning is an excellent way to improve student learning and engagement</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>The flipped classroom is an excellent way to improve student learning and engagement</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>Flexible learning overall involves less work and time commitment for me than a regular class (face-to-face lectures and tutorials)</td>
<td>(Strongly agree to strongly disagree)</td>
</tr>
<tr>
<td>On a scale from 1 (lowest) to 10 (highest), what is your current level of commitment to include the flipped classroom into your courses?</td>
<td>1–10</td>
</tr>
<tr>
<td>On a scale from 1 (highest) to 10 (lowest), how much pressure do you feel you are under to include a flipped classroom into your courses?</td>
<td>1–10</td>
</tr>
<tr>
<td>Please provide any further information regarding your thoughts on flexible learning and the flipped classroom</td>
<td>Open ended response</td>
</tr>
</tbody>
</table>


### References


### Question: Involving learners/students in the assessment process in a course is an excellent idea

### Scale (abbreviated)

- Strongly agree to strongly disagree
- (no choice, some choice, complete freedom)

### Question: From what you know about flexible assessment, for which of the following aspects of assessment would you provide a choice for the students in your courses?

- Methods of assessment (e.g. essay, exam, report, quizzes)
- Criteria of assessment (setting the criteria for your assessment pieces)
- Weighting of assessment (how much weight in per cent is given to each assessment piece for your overall mark)

### Timing of assessment (when work is submitted)

Please provide any further information regarding your thoughts on flexible assessment. Open ended response

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