

Is the Synchronous Tutorial Still a Learning Activity in the 21st Century?

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Abstract: “Is the Synchronous Tutorial still a central learning activity in the 21st Century?” The Tutorial or seminar is a key aspect of many academic courses and provides opportunities for the student to ask questions and investigate ideas and theories on the theme of the module being studied. Prior to the COVID-19 Pandemic Universities were investing in Digital technologies to support student learning. This has involved using products such as managed learning environments to store learning materials and to record synchronous sessions. Evaluation of learning during the COVID-19 Pandemic is raising a number of questions regarding providing direction to students on a module. While some institutions have invested in technology to record in class sessions the move to online teaching during the COVID-19 pandemic made recording of synchronous sessions much easier. Scheduled classes are seen as key to establishing study patterns for students and provide focus at set points during the study week. The trend to record everything that is delivered to students may end up changing student study patterns with an implicit movement to asynchronous learning activities. Why attend when a recording can be viewed? Alternatively, is recording just a natural progression that is supported by modern Educational Technology? This paper will explore the effects the record everything culture is having on learning in Higher Education and will seek to investigate if there is still a role for the synchronous Tutorial in the 21st Century.

Keywords: tutorial, recording, active learner, online tutorial, oxford tutorial

1. Introduction

The traditional Oxford Tutorial model of small groups of students meeting on a regular basis to discuss the content of material covered in lectures is a very well-established model stretching back to the 11th Century (Beck, 2007), (Palfreyman, 2001). In the 21st Century technology has played a significant part in higher education supporting both face to face learning and distance learning (Lambie, 2018), (Syynimaa, 2019), (Nordmann, *et al.*, 2019), (Le, 2022), (Bond *et al.*, 2020). However different learning approaches utilise tutorials and supporting lectures in different ways and while it is possible to move classes online thought needs to be given to how this is done. Lambie and Law (2015,2016,2017,2018,2020) have examined the difficulties of moving Tutorials online and in particular highlighted the lack of visual and aural cues in online Tutorials compared with face to face Tutorials. This can make it difficult for the Pedagogue to assess what is happening in the session. This lack of audio and visual cues can impact on the running of the traditional Oxford Tutorial in terms of student/student and student/pedagogue interaction.

The authors experience spans two distinct Higher Education sectors. The first is the traditional University set up with students expected to attend face to face sessions over a 12 week semester and the second is straight distance learning where students receive study material by post with further online material via an online course planner. In the distance learning world, the study period is extended to take into account that students mostly work and are therefore studying part time. Some face to face Tutorials are organized with further online sessions to support students studying at a distance. The authors are interested in whether there is value to students in the recording of an online Tutorial and how students access the recording.

In the authors experience the Tutorial session is a key component of student learning and provides opportunities to deepen the knowledge they are gaining via lectures (either face to face or online) and other sessions such as practical work in laboratories. The discursive nature of the Tutorial provides opportunity to discuss and enrich the knowledge of the student. The opportunity for the student to assume a “teaching” role as part of this activity is a central idea of the Oxford Tutorial style and illustrates the idea of student and pedagogue appearing to be equals in this setting in which both have contributions to make (Beck, 2007), (Palfreyman, 2001). Technology has opened up the manner in which Tutorials can be delivered and accessed by students. Online Tutorial sessions can be easily recorded with the opportunity for students to review work that was covered in an online Tutorial session. It is interesting to note that in the authors experience in the online world there always seems to be a small core of active learning students who regularly attend online Tutorials. Looking ahead to Table 1 it would also appear that some of these students access the recordings of the live sessions in order to further reflect on

the concepts that have been covered. So, it would appear that for some students there is value in the Tutorial recordings.

In the authors face to face role the move online caused by the COVID19 lockdown has driven the demand for recordings of online lectures. This demand for online recordings has further expanded and now includes practical sessions which utilised a demonstration aspect via the screen sharing option in the Managed Learning Environment (MLE) (Module Evaluation Survey, 2022). The module evaluation survey was for a Mobile Computer Programming module. To date there has not been any significant demand for the recording of Tutorial sessions from students attending the day University. The assessment for the practical programming module identified, did have a class test component, so Tutorials were the natural place to cover related material and appropriate questions. The authors are therefore questioning what is the purpose of recording Tutorial sessions in order to support student learning as part of the overall clamour to record primarily online activities. There is scope to compare this with their distance learning experience where there is an expectation that online Tutorials are recorded.

The authors note that the recording of live lectures was already a well established practice in some institutions (Nordman, 2019), (Llamas-Nistal and Mikic-Fonte, 2014). In the pre-COVID years the authors' employing institution had not invested in lecture capture facilities in the face to face setting, so the ability to review a recorded lecture was new to students as a result of online working. Similarly, the recording of practical demonstrations in labs was not possible in the Pre-Covid live Face to face situation, but online practical demonstration using an MLE were possible. So again, are recordings of positive value to students?

If the experience of living through the COVID-19 pandemic has forced us to think about one thing and one thing only then it is the sense of community that was lost due to the enforced lockdown in many countries. Higher education suffered from this loss of community in the same way as many other parts of society. However, to compensate Universities had already invested in a range of Managed Learning Environments (MLE) such as Blackboard, WebCT etc. over a period of several years and were able to effectively use this technology to lessen the shock of going fully online. Tutorials are one "formal" place where students can come together to discuss the ideas being covered in a particular area and hence form a learning community. The Tutorial or seminar session was one area where a learning community needed to be created directly in the online world to facilitate discussion about a specific topic and to overcome the restrictions placed on learning by strict lockdowns. Lambie and Law (2015,2016,2017,2018,2020) identified that moving online is not a simple task and can suffer from a lack of visual and aural cues with the Tutor having to rethink the way that a session is delivered. This requires a rethinking of the way questions are posed and answers solicited and in how the online session is conducted (one large group or with a number of small breakout groups in separate virtual rooms). In this context of community what role do Tutorial recordings play?

Gwebu et al. (2021) suggest that an effective learning community has several functions including; assisting students to initiate both academic and social support networks, providing an environment that allows the student to acclimatize to the expectations of university and an environment providing community delivered academic aid. Gwebu et al. (2021) cite several key aspects from Tinto (2010) research into the conditions that support student retention, highlighting the need to articulate the "expectations" of, in this case, participation in an online tutorial as a driver for the student to maximise the benefit of attending and participating in the online tutorial. It is therefore fundamental that those attending an online tutorial should be told what is expected of them regarding participation effort, behaviour, and interaction during the online tutorial thus providing them with the ground rules for success. Having set the ground rules for participation effort, behaviour, and interaction the student should have a successful online tutorial session and being buoyed by this, return for future online tutorial sessions.

Tinto (2010) cites "feedback" and "involvement" as the backbone of the student's ability to maximise their benefit from participating in all aspects of university life and in turn being part of a learning community (cited in Gwebu et al., 2021, p. 4). Feedback plays a vital role in helping the student acknowledge the consequences of their behaviour on aiding or diminishing their ability to be successful. Also noted, is the value of peer feedback and its role in helping the student successfully adapt their social skills to better assimilate themselves into the university environment. The suggestion is that the "social feedback" can be procured from "involvement" hence the more that the student participates both academically and socially the more likely it is that they will endure throughout their studies due to their sense of community.

Assessment goes hand in hand with any academic course with the nature of the assessment influenced by the subject area and the nature of the topic being investigated. A typical assessment arrangement is an exam and a coursework with various weightings possible for the split of assessment components. In practical modules such as found on computing courses the practical lab sessions feed into the coursework component of the assessment. Where an exam or class test component is included, it is likely that Tutorials will feed into this assessment component. In order to progress the discussion, it is worth investigating the role of a Tutorial session in the Higher Education Context in order to determine if there are any merits in recording the session. To do this the authors will draw on their experience of working in the face to face and online world.

2. Literature review

The literature review seeks to examine the role of a Tutorial and discuss if recording the tutorial could enhance the student experience.

2.1 The role of the tutorial

Beck (2007) identifies that tutorials are intended to help students to think for themselves. This will require the student to have prepared some form of answer to questions set by a Tutor or from having engaged with the material covered in a lecture or as a result of some form of flipped classroom scenario. In the face to face Tutorial there are variations on how the traditional Oxford Tutorial can be delivered as discussed by Balwant and Doon (2021). This is of particular interest where resources are much tighter and the one Tutor to two or three student Tutorial ratio is not possible.

In all of this, student engagement is still the key with the need for the student to have done the work.

What advantage then does recording a Tutorial session provide in the Higher Educational Environment? It would provide a verbatim record of what was discussed and may allow a student to return to the recording in order to review the discussions. This may be useful in preparing work for a piece of assessment. The assumption is that recording facilities are readily available in the face to face world and that the participants agree to the recording of the session. In the online world recording the Tutorial session is much easier and is generally provided as a facility by the synchronous delivery tool (Blackboard Collaborate, Adobe Connect etc.). However, moving completely or partially online raises questions regarding student engagement. Hudson and Luska (2013) indicate that recording Tutorial sessions results in a reduced attendance at live sessions. To counteract this, they propose including live demonstrations as part of the live session, even then attendance rates at live sessions of around 53% seem to be acceptable.

According to Beck (2007), the essence of the "Oxford Tutorial" from which the modern tutorial is derived centres around three key aspects. Firstly, one to two students per tutor; secondly, essay reading and thirdly, critical questioning and discussion. For most Universities, the first key aspect, the ratio of students to tutor is not achievable as it is not economically viable (Beck, 2007). Interestingly, Beck (2007), further cites several reasons from the student's perspective for the change in tutorial format including students have varying ideas of what a tutorial is; due to variances in cognitive expectations, students' preferences for pedagogical methods are evolving and an increasing preference for group learning. Becker (2007) postulates that there is no formal pedagogical theory to explain the tutorial or any justifications for why it has persisted for so long and therefore why it is regarded as so successful; to this end prompting a study to produce an ethnographic characterisation of the tutorial as a setting for teaching and learning.

The objectives of tutorial education, according to Clark (1955), includes instilling in students a confidence in their own judgments and conclusions, developing independent thinkers, and develop students' abilities to convey themselves via writing or other presentational means (cited in Becker, 2007, p. 5). First of all, how does moving online affect this activity and secondly how then would a recording of a tutorial session be of use in developing critical and independent thought? Bowler and Raiker (2011) suggest, based on their review of the available literature, there is a dearth of pedagogical recommendations for delivering effectual tutorials through online synchronous discussion. In their paper, they discuss the procedure used to develop a pedagogical framework that would help tutors lead successful online synchronous tutorials within a higher education setting. Factors to consider when undertaking an online synchronous tutorial discussion include the group size, the tutorial's nature, the features of the application being used and, importantly, understanding that the tutor and the student both have roles within the tutorial (Bowler and Raiker, 2011). Bowler and Raiker (2011) further stipulate

that online synchronous discussion falls into two groups: online synchronous tutorials and online synchronous instruction.

As part of their research, Bowler and Raiker (2011), cited the work of Mason (1991) and Lim and Cheah (2003) whose work provides the central behaviours and incumbencies for the online tutor. This work centres around Mason’s division of the online tutor’s responsibility into three categories: managerial, intellectual and social and Bowler and Raiker (2011) propose that Lim and Cheah (2003) six roles dovetail with Mason’s three underlying responsibility categories. Based on Mason and Lim and Cheah’s work they produced a table to document the roles and responsibilities of the online tutor which is reproduced below.

Table 1: Roles and responsibilities of the online tutor. Bowler and Raiker (2011)

Mason's (1991) three responsibilities for the online tutor		
Social	Organisational	Intellectual
Effective open discussion requires a safe, supportive environment -welcome message; encourage participation; reward positive contributions	Ensure students can access discussions and manage dialogue -objectives; agenda; rules	Provide meaningful learning opportunities for students -Focus the discussion; ask questions; summarise; develop themes; design activities; critique
Lim & Cheah's (2003) six roles of the tutor in asynchronous discussion		
Keeping the discussion focused	Setting meaningful tasks Guiding participants in the 'technicality' of online discussion	Answering queries, providing feedback and posing conflicting views to elicit thinking/reflection Drawing conclusions and providing content expertise Recommending resources for extension of learning

As part of their research, Bowler and Raiker (2011) report on the work of Ligorio et al. (2002) who determine four categories of online tutor’s responsibility: social, managerial, technical, and pedagogical. However, Bowler and Raiker (2011) oppose Ligorio et al. (2002) definition of pedagogy which makes it a separate category contending that pedagogy is ingrained all categories. Apart from guidance regarding using the online technology the points in Table 1 apply in the face to face world as well.

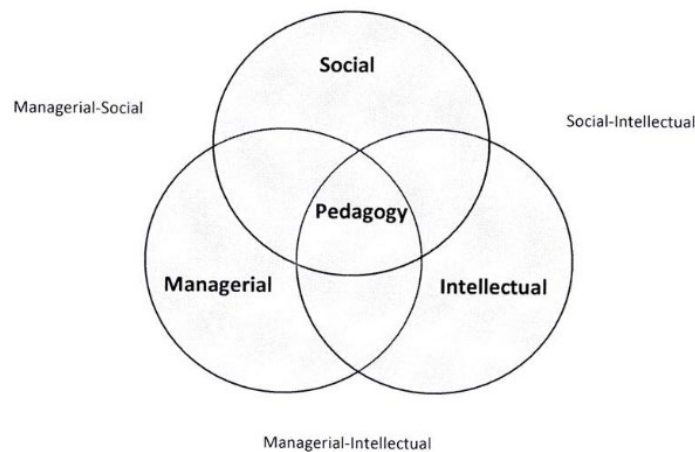


Figure 1: A pedagogical framework for facilitating online synchronous tutorial discussion. Bowler and Raiker (2011)

Bowler and Raiker (2011) expressed the belief that the models presented by Mason (1991) and Lim and Cheah (2003) offered a linear perspective that did not fully express the intricacies of applying a socio-constructivist approach, hence, within their proposed framework they suggest pedagogy is the essence of teaching and learning. Findings resulting from the Bowler and Raiker (2011) study suggest that tutorial group sizes should be restricted to an amount which will afford purposeful dialogue in the range 15 – 20 students; instruction should be provided for tutors on the influence of pedagogy on the social, managerial, and intellectual elements of the

student/tutor roles and responsibilities; finally, students should be made aware of the similarities and differences between social made applications and the online synchronous tutorial system being used.

The argument here may be that managing the face to face situation is much easier than a multi faceted online session. Adding the additional dimension of recording tutorial sessions further adds to the complexity of the situation. Hudson and Luska (2013a, 2013b), indicate that recording tutorial sessions results in a reduced attendance at live sessions. To counteract this, they propose including live demonstrations as part of the live session, even then attendance rates of around 53% seem to be acceptable.

It is clear that there is a dichotomy between the purity of the oxford style tutorial with the emphasise on presenting an appropriate argument and the need to help students focus on key points to get them through impending assessments.

2.2 The role of technology in delivering lectures

Access to resources is a key factor in the 21st century with an increasing emphasis on the use of Computing and Information Technology (C and IT) in the delivery of content. In fact, you could now argue that C and IT is core to the delivery of Higher Education. So, the question is what role do live sessions (Lectures. Labs. and tutorials) play in this process and what are the reasons for recording them?

Lectures are traditionally seen as being the source of providing knowledge or at least direction to provide direction in some way. This is usually focused on the identification of a specific theory or approach to the solving of a particular problem. Prior to COVID-19 some institutions had already invested in lecture recording equipment with the focus being on recording the Powerpoint slides and the associated commentary by the Lecturer. Students report that there are a number of good reasons for wanting lectures recorded (Mackay, 2019) These include:

- An opportunity to follow the lecture if the live session was missed
- An opportunity to go back over specific sections of the lecture in relation to material they found difficult

For the academic delivering the material there is the dilemma of how best to support the learning activities of individual students balanced against the overall workload. Should the recorded lecture session simply replace the live session in a flipped classroom approach? (Mackay, 2019). This would “free up” the live session for possible alternative uses but would not reduce workload on the Module Leader as time and effort needs to be put into producing the Lecture recordings.

2.3 The role of technology in delivering tutorials

In the wider context the question is what role does technology play in the 21st century higher education environment. Is the ability to record a Lecture and a tutorial session either face to face or online just a natural progression as recording technology becomes ubiquitous?

As part of their research, Bowler and Raiker (2011), cited the work of Mason (1991) and Lim and Cheah (2003) who's work provides the central behaviours and incumbencies for the online tutor. This work centres around Mason's division of the online tutor's responsibility into three categories: managerial, intellectual and social Bowler and Raiker (2011) further propose that Lim and Cheah (2003) six roles dovetail with Mason's three underlying responsibility categories. Based on Mason and Lim and Cheah's work they produced a table to document the roles and responsibilities of the online tutor which is reproduced below.

In terms of online Lectures, the authors report that some students prefer a pre-recorded session which does not have any question and answer sections. This commentary came about from the module evaluation questionnaires that students fill in towards the end of a module delivery (Module Evaluation Survey, April 2022). Therefore, should the tutorial where “specimen” answers are discussed also be recorded and made available to students. In addition, there were requests to have practical demonstrations delivered during online lab sessions recorded. The rationale given by students for this was that it provided an opportunity to review the demonstration again in order to try and understand the activity or if the session was missed the opportunity to view the missed session. There do, therefore, seem to be good reasons to record online sessions for specific topic areas such as Computer Programming. The ease with which the online session can be recorded along with

the ability to demonstrate practical activities makes this task a practical proposition which the student can use as a specific resource. So there seems to be some merit in reviewing the recorded session in terms of the discussion (answers) provided. There is also some negativity associated with this. Previously the loss of a learning community was commented on, and recordings may contribute to this as identified by Hudson and Luska (2013a, 2013b). There is the danger of funnelling students into their own private learning world.

For the academic delivering the material there is the dilemma of how best to support the learning activities of individual students balanced against the overall workload. Should the recoded lecture session simply replace the live session in a flipped classroom approach (Syynimaa,2019). Are the benefits of recording the tutorial the same? In conclusion the way forward may involve further education of students as to the purpose of recordings. There is a tendency to view recordings in a negative context of simply being an alternative to a live session particularly for students who missed the live event.

This suggestion then is that tutorial recordings are just a progression of the use of technology. The challenge for the pedagogue is how to use a tutorial recording in a positive way among the multitude of recordings available to students?

3. Investigation

There is the perception that prior to COVID engagement in higher education was excellent and everything in the garden was rosy! This is unlikely to be the case universally and that face to face engagement is in some ways hampered by the role that managed learning environments play in the delivery of content in higher education. With the increased use and dependency on Managed Learning Environments there has been a decrease in direct student participation in some subjects with an increased use of the MLE to compensate. It may be the case that technology is now available to support learning and for example, notes no longer need to be copied but can be downloaded electronically instead, with the opportunity to annotate as needed.

The investigation therefore seeks to focus on the role that recordings play in the learning that students engage in focusing specifically on tutorials. The literature has reported a mixture of positive and negative aspects of providing recordings.

The advantages include:

- **Positive aspects**
- Reviewing specific sections to review difficult content
- Producing focused content free from interruptions
- Content can be reviewed for revision purposes
- **Negative aspects**
- Recording is simply a replacement for missing a live session so there is potentially no need to attend
- Some aspects of social interaction may be lost by not attending. Questions can't be asked directly when they arise
- Is the focus too much on skills development rather than critical thinking?

Are recordings therefore just a natural progression in the use of technology and do the benefits outweigh the negatives? The question really is in what way does the use of a recording enhance a particular aspect of student learning and how do students engage with the recordings in a positive way. Perhaps the use of recordings needs to be built into a module? For example, including some content that is only in the recording? This would provide a positive incentive to engage with the activity of listening to the recordings. This is in contrast to Hudson and Luska(2013a) which took the approach of including activities in the live session that were not in the recording.

It is worth discussing/identifying what we mean by a recording. Possible approaches include:

- Narrative to accompany Powerpoint slides
- Talking head with the speaker visible during the playback because their talking was recorded using a camera during preparation
- Practical demonstration of a specific skill or worked example

In the case of an online tutorial the session is likely to be:

- Focused questions on a specific topic
- Small discussion groups in virtual breakout rooms

4. Analysis

At the time of writing, the authors had experience of delivering three specific modules in distance learning mode along with online tutorial sessions which were recorded. The recordings are available to students in their region along with the recordings produced by other Tutors. The module topics were Information Technology and Web Technology

A summary of the recordings and views can be found below. The Information Technology Courses are delivered twice a year and the Web Technology course is delivered once per year from October to June.

Table 2: Views per recorded tutorial

Information Technology course 1	No of recordings in cluster	Total Number of Views from students in the cluster	Mean number of Views per Recorded tutorial (Views/recordings)	Mean number of Views per Student (Views/Student)	Total Number of Students in the cluster	Total Number of Students on Presentation (UK wide)
Presentation October to March 2021J	32	1284	40.13	2.82	455	3102
Presentation April to September 2022D	11	274	24.9	0.9	305	3281
Information Technology Course 2	No of recordings in Cluster	Total Number of Views	Mean number of Views per Recorded tutorial (Views/recordings)	Mean number of Views per Student (Views/Student)	Total Number of Students in R11 (Scotland)	Total Number of Students on Presentation
Presentation October to March 2021J	18	643	35.72	2.47	260	1902
Presentation April to September 2022D	14	563	40.21	1.84	305	2199
Web Technology Course 1	No of recordings in Cluster	Total Number of Views	Mean number of Views per Recorded tutorial (Views/Recordings)	Mean number of Views per Student (Views/Students)	Total Number of Students in R11 (Scotland)	Total Number of Students on Presentation
Presentation October to June 2021J	24	1100	45.83	6.43	171	1408

The figures seem to suggest that there is value in the tutorial recordings to students. This is shown by the fact that each recording is viewed a number of times (View/Recordings). Looking at the total number of students there is some indication that each student may be viewing at least one recording (Views/Students). So, the figures suggest value to the student but do not state what that value is. Further investigation in the form of a focus group would be needed to ascertain the perceived benefit. More detailed analysis involving the date of access of the recording may reveal motivations such as preparation for an assessment. It is interesting to note that the number of views seems to be higher in the winter presentation in comparison to the summer presentation.

The figures do invite further investigation and it also seem natural to ask if the number of views increased during the COVID period as a result of lockdown requirements. This will require access to historical data to establish some form of baseline level.

5. Conclusion/discussion

A tutorial session is by its nature discursive and to be successful requires students to work interactively in order to address the questions that were posed in order to discuss possible answers. Depending on the nature of the question set, the question may have a specific solution or a range of possible solutions. Although technology provides for easier recording and distribution of recordings, the record everything aspect is adding to the volume of material available to students.

Lambie and Law (2018) identified that Tutor/Student interaction can be viewed as a two dimensional continuum. Figure 2 is a modified version of this continuum which seeks to include the role of a recording as part of the reflective process. Lambie and Law (2018) focused on interaction in an online tutorial primarily for distance learning students. A further aspect of being an active student and a reflective learner would include a review of the tutorial session recording which provides a further opportunity for reflection on the topic being considered. The argument here then is that recording the tutorial session could be viewed in a positive light rather than in a negative context of an opportunity to watch the session because the live session was missed. To make this a positive act the role of recordings should be discussed with the student body and built into the activities as part of a module which is typically in the region of 2 hundred hours of student effort.

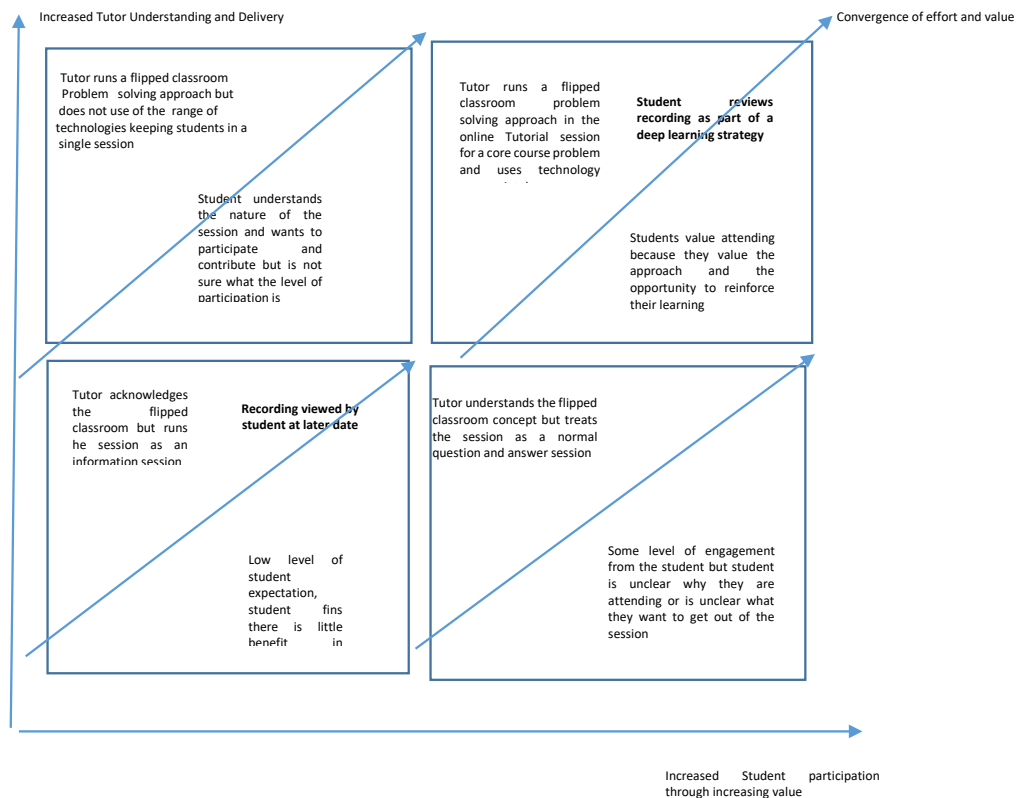


Figure 2: Attitude and engagement interaction

This approach would seek to show there is specific value on using the recording rather than just as an opportunity to catch up on a missed event and that reflection on presented ideas is part of developing independent critical thinking which is line with the ethos of the Oxford tutorial.

Having discussed the role of online tutorials in relation to the classic Oxford tutorial approach the key question here is how recorded Tutorials are being viewed. Are they an alternative to attending the live session or are they a way of being able to go back over the material covered in the tutorial. Viewing a recording asynchronously negates the ability to discuss topics directly, however recordings may provide other opportunities as discussed.

To this end, there is scope for investigating the relationships between:

- The number of live tutorials for a particular module
- The number of students attending the live session of a particular tutorial
- The number of views of a recording of a particular tutorial that was delivered live

Do students who attend a live session also view the recorded session? Perhaps they also view a session recorded by a different Tutor. The authors have started to pursue accessing this information which is recorded but not directly available to members of academic staff. This investigation may shed some light on the value the modern student gives to tutorial recordings and provide evidence for producing material in a particular format either as an alternative to a live session or as a means of supplementing live sessions to support deeper learning.

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