Case study: The perceptions of STEM Tutors on the role of tutorials in distance learning

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Abstract

As part of a wider study into perceptions that students and teaching staff have of tutorials, we investigated the Open University (OU) model for tuition in STEM subjects through a process of semi-structured interviews with a self-selecting set of tutors. The focus of the study was to elucidate the expectations that practitioners (tutors) have of their role, and their perceptions of student expectations of tutorials. Using a grounded theory research approach, we identify themes that illustrate tensions between the perceptions of tutors and their view of student expectations regarding the purpose and utility of tutorials. We explore the underlying reasons for these tensions and look toward a future shared understanding of tuition amongst stakeholders.

Keywords

Group tuition; distance learning; tutor perceptions; face-to-face tuition; online tuition; synchronous online learning

Introduction

For almost 50 years the UK Open University (OU) has been supporting learning through distance learning methods. Teams of academic authors and support staff (working in module teams) produce comprehensive self-study materials, while every student on a module is assigned to a small group of students, the tutor group, supported, both academically and, to some degree pastorally, by a single tutor. The role of the tutor is to support self-study through detailed feedback on assignments (correspondence tuition), one-to-one interaction with students, and by delivering group tutorials. It is this final aspect of the tutor role that is the subject of this case study, in which we examine current perceptions of tutors about the role and purpose of tutorials in an era characterised by widespread adoption of online communications and a greater focus on meeting student expectations. This is the first part of a wider-ranging study in which we intend to explore the perceptions of tuition from various stakeholder viewpoints (students, tutors, academic managers), to identify differences between expectations and practice that need to be addressed in order to develop more effective forms
of support.

In its original inception, the OU tutorial model was predicated around the provision of local face-to-face tutorials between a tutor and students (with the consequence that student groups were organised on a geographical basis). Such tutorials are relatively infrequent when compared to the face-to-face provision made in traditional Higher Education (HE) settings, and, typically tutors use their judgement to choose the content and teaching style adopted in their sessions, so as to best support students at given points in a module. Although attempts have been made post-hoc (e.g. Tait, 2000) to analyse at a high-level the purposes of tutorials, it remains the case that from an institutional point of view, it is the practice and perceptions of experienced front-line teaching staff that defines the nature of tutorial provision. Since such views are the product of experience and environment, they are likely to change with time as indeed are student expectations of tuition (as noted by Stevenson and Sander, 1998). The motivation for this study was the identification of two changes that are likely to have major effects on tutor’s perception of tuition over the past 10 years, these being; the move towards more online tuition, and the increased emphasis on student satisfaction.

Starting from the mid-1980s, the OU was at the forefront of introducing asynchronous conferencing into its teaching (see e.g. Mason and Bacsich, 1998), an approach that typically stood apart from, and had little overlap with, the concept of a 'tutorial'. The same cannot be said of synchronous communication technologies, such as Blackboard Collaborate (operated in the OU as ‘OU Live’), which allow real-time audio and text communication whilst sharing a virtual whiteboard, since these provide a mechanism to emulate some of the features of a face-to-face tutorial session. An analysis of the OU experience of introducing such systems was given by Kear, Chetwynd, Williams, and Donelan (2012), who identified a key deficiency of synchronous conferencing in the areas of interaction and participation, and of social presence more generally. These issues were also highlighted by MacDonald and
Campbell (2012) who went on to discuss how they might be addressed through a programme of discipline-specific professional development for teaching staff. It might be expected then that tutors working through this medium will have responded to deal with the practical issues of social presence, although the evidence to date (e.g. Lowe, Mestel, and Williams, 2016) shows that progress in this area is slow. Our study has involved tutors who all provide both face-to-face and online tuition, and it is of interest to investigate the influence on tutors of this blended approach.

Another change to the environment in which the tuition model operates is the increasing emphasis on the student experience. Research into understanding student expectations of tuition in the OU is not new (e.g. Stevenson, Sander, and Naylor 1996), but the degree to which students expect their needs to be met has been amplified by changes in the UK Higher Education environment (HE White Paper, 2011, TEF, 2016) which have led to a focus on teaching excellence and student-facing accountability.

A distinguishing feature of the OU tuition model is that student attendance is, by and large, optional. Experience has shown that participation rates in tutorials are low, and anecdotally, have been falling for many years. This indicates that for many students a conscious decision has been made about engagement with the tutorial provision. It is at this point that student perceptions of tuition become vital, and although this case study does not address this question directly, we can gain some useful insights from what tutors report as student expectations.

Rather than investigating these two specific changes, we wanted to be sensitive to other changes that might shape tutors’ views of tuition. Consequently, we adopted a more holistic approach, described below, that aims to capture broader factors that may have influenced tutor perceptions of the purpose of tutorials within the OU system.
**Method**

Semi-structured recorded interviews with a mix of open and closed questions were conducted with 19 OU STEM tutors who had volunteered to participate in the research. Each interview followed a similar pattern. Background and experience of tuition within and outside the OU were probed, followed by a focus on perceptions of the purposes of group tuition in the OU context. Tutors were then asked about their perceptions of other viewpoints, those of students in particular, and whether this influenced their approach to tutorial design and delivery. Table 1 shows the full set of questions used. All interviewees were provided with the initial questions in advance, which allowed time for reflection and preparation.

Recordings of each interview were transcribed and analysed independently by each author to draw out emergent themes. This involved iterative reading of the scripts, and occasional revisiting of the recordings, followed by rationalisation and agreement on the key emergent themes.

<table>
<thead>
<tr>
<th>Tutor background (closed questions)</th>
<th>What modules have you tutored on?</th>
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<td>Have you tutored in other faculties (as well as STEM)?</td>
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<td>What experience do you have of tuition outside the OU?</td>
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<th>Purposes of tuition (open questions)</th>
<th>What do you think group tuition in the OU is for?</th>
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<td>How have you come to this understanding of the purpose of group tuition?</td>
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<td>Have your expectations of the purposes of group tuition changed or developed since you started with the OU?</td>
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| Mode of delivery (closed questions) | Can you tell us the mode of delivery for your group tuition? 
How is group tuition delivered on your module/s? |
|-----------------------------------|---------------------------------------------------------|
| Objectives (open questions)       | What are your objectives of your group tuition? 
To what extent are you given guidance on the objectives of group tuition by your module team/s? 
How do you decide what to include in your tutorials? 
How do you decide when to offer tutorials, if you are able to do so? |
| Other views (open questions)       | How do you think that your views of group tuition align with those of the module team? 
your line managers? 
other tutors? |
| Perceptions of student views (open questions) | How do you think students benefit from group tuition? 
What do you think students see as the purposes of group tuition? 
How does that influence the approach you take to planning/designing/delivering your tuition? |

Table 1. Semi-structured interview questions
**Study Participants**

Interviewees were first-level tutors from science (10), engineering and technology (6) and mathematics (4) modules, some of whom worked in more than one STEM discipline. Most also had extensive tutoring experience at higher levels, had experience across disciplines and faculties, and almost all had extensive teaching experience external to the OU. Thirteen had taught or still teach in colleges and/or schools. Seven had taught or still teach in other HE institutions. Five work in teaching and learning in other areas such as professional development, vocational training, basic literacy and prison teaching.

Interviewee ages ranged from 43 to 72. The tutors were based in locations across England, Scotland and Wales, from large towns to remote areas. The geographic location of each tutor is relevant, as those in more remote areas may be more likely to run online rather than face-to-face tuition.

We recognise that by asking for volunteers, our interviewees may have had a strong prior interest in tutorials and their purposes, which may have led to bias. In addition, in some cases, the interviewer and interviewee were colleagues who had previously worked together. It is possible that this familiarity and understanding of each other’s background and beliefs about tutoring also have had an influence on our findings. However, given that the key aim is to draw out themes about *perceptions* of tuition, we do not believe any such influences invalidate our approach.
Emergent Themes

A number of themes emerged from the analysis of interviews with tutors. These include a belief of the part of tutors in their role in facilitation, motivation, the understanding of threshold concepts and building confidence among the student body. Furthermore the ideas of social interaction and collaboration were perceived as clear purposes of group tutorials.
**Tutors as facilitators**

In the context of the OU, where all the study materials are provided by the academic authors, it is not surprising that tutors see themselves as facilitators of student learning. One described the purpose of the role to be

… to guide a student through the material rather than to teach them,

essentially acting as the ‘guide on the side’ not the ‘sage on the stage’ (King, 1993). This role extends beyond engagement with the delivered material, with tutors also reporting that facilitation was to 'enable students to participate themselves', as well as 'allowing students to share ideas and knowledge' and 'getting students to do stuff for themselves'.

**Threshold concepts and skills**

Many interviewees explained that a key purpose of tuition is to address threshold concepts, challenging material and pinch points. Experience allows tutors to predict student difficulties and misunderstandings, which allows the design of appropriate tuition:

once I am used to the module, I might have more idea of what I think are the sticking points and difficulties

and

... [students] benefit from the reinforcement of concepts through guided practice.

Tutors agreed that their role is 'to be able to help ... with the concepts they are having difficulty with or skills they are having difficulty with', and 'helping [students] to engage with the more challenging aspects of the module'.

Challenging their students intellectually was seen to be important in order to enrich learning experiences:
...it is about extending learning from what they have got in their distance learning model, it is about adding another dimension.

One tutor recalled,

The expression on somebody’s face when I challenged them once was quite interesting. He came up to me afterwards and he said ‘I enjoyed that so much’ … It wasn’t what he was expecting.

Tuition is also seen as an opportunity for developing key transferable skills that students will need in further studies and future employment. These tutors help with concepts, scientific concepts the students have difficulty with, skills, particularly maths skills.

and

Part of the tuition helps to develop this type of skill...basically professional skills they can apply that employers value a lot.

**Motivation and building confidence**

Maintaining motivation was seen as an important reason for group tuition:

...where you are geeing up the whole group, preparing them for what is coming and giving them some advice and guidance on how to tackle it.

This ties in closely with the findings of Ogina and Mampane (2013), who noted that tuition can motivate students to study.

Connected to this, building student confidence was seen as a key outcome of group tuition, something that is perhaps particularly needed in a distance learning context. Tutors want their students to feel free to seek guidance and 'not be frightened of asking questions, not be frightened of being wrong'. Tutors frequently mentioned the importance of developing
self-confidence in students, and were well aware of instances where their support had been instrumental in this process:

...a student will sort of say that they didn’t think they could do it. So that is a benefit, that is a self-confidence thing with students isn’t it?.

Social interaction

Interviewees noted that an important purpose of group tuition is social interaction and sharing. This observation is in line with the findings of Stevenson and Sander (1998), who surveyed OU psychology students about their expectations of face-to-face tuition. Distance-learning students may feel isolated, and tutorials are their main opportunity to experience social learning.

We are trying to get them to have an opportunity to socialise with each other, gain some friends, share ideas and expertise and mutually resolve issues.

Tutorials give students '...a sense of inclusiveness and belonging, otherwise they would feel very much out on a limb…'. One tutor observed that 'for me learning is a group activity and without that social element to the learning people don’t learn as perceptively'. Tutorials are '…really good for the students socially…when they meet other students it can really enliven them and invigorate them'.

The ability to collaborate in group work is essential in most workplaces. Tutors see tutorials as 'providing opportunities for [students] to collaborate as a group'. Collaboration and group work help students develop their learning through peer interaction:

... particularly in face-to-face there is a huge opportunity for students to learn from one another… actually if you as a student are explaining it to another student, then that helps you get it clear in your mind in order to be able to explain it, as much as it helps the student who it is being explained to.
and

The students can help each other, learning is pretty much a group process.

**Perceptions of students’ expectations of tutorials**

Through their interaction with students, tutors develop their own view of the student perspective, although this may be a far from perfect picture:

... it’s good to have students’ feedback and see what they are interested in … [but] it’s a lot harder than it seems trying to get students to tell you *what they want* …I normally sit down and I normally think, if I was a student on this module, what would I expect?

Tutors may also reach their understanding of the value of tutorials based on their own background and experiences in HE:

I still remember how useful some of the tutorials that I attended were, so I think I try and model some of my tutorial aspects around the things that were useful to me when I was a student.

**Lecture or tuition**

Many tutors thought that their students expected a didactic experience instead of a facilitative one:

...at level 1 a lot of them arrive thinking that it is a lecture or lesson and they will sit there in rows, preferably on the back row, and keep quiet while you write things on the board, so ...it is a bit of a shock that you are actually asking them to do things.

Yet OU tutors are clearly capable of managing student expectations and providing a fruitful experience:

Quite a number of students have come up to me and said they really like doing the hands-on stuff and they find that are learning a lot by doing it.
Assessment preparation

A strong shared perception is that students expect tutorials to concentrate on and prepare them for their assessment tasks. A typical response was:

I spend a majority of time in tutorials on support for assignments because I think that is what the students want.

This is a clear source of tension for tutors: they would like to expand the student learning experience yet they feel constrained to meeting perceived student expectations of assessment preparation:

It would be a wonderful opportunity to give them a very rounded-off introduction to studying and to learning, to the module and to the pathway but they don’t take this on. They want to have that assignment preparation and then they want to go home.

Changing expectations

Many interviewees believe that students and their expectations have changed:

the OU student population has changed and become significantly younger, and I think in many ways more demanding.

Expectations have also changed because of 'technology improving a lot'. Tutors recognise that students will now use the internet to support their studies: ‘…they tend to ask their questions on the internet or forums'. Tutors also believe that students have busier lives and less time to devote to their studies:

I think over the years students used to be on schedule and they used to be prepared to spend more time studying in order to be on schedule. I think that life for, maybe for all of us, but a typical student has got much busier now. They are trying to cram more things into life. … you used to know that pretty much all your students would be on schedule … Now you have to accept that that most of them will be madly trying to catch up.
Many interviewees believe this to be a reason for falling tutorial attendance.

Discussion and conclusions

One of the motivations for this study was to examine if the move towards online methods had influenced tutor perceptions of tuition. We are not concerned here with matters of how online delivery might have changed practice, although respondents often reported on techniques that they had found useful in addressing the issues of interactivity and participation in the online environment. Rather, we were interested to see if the increased use of online tuition, and in particular the difficulties associated with social presence, had changed perceptions of the purpose of tutorials.

Firstly, it is clear that the elements of addressing threshold concepts and acting as a guide to the module, are key identifiable purposes of tuition. However, with regard to the social aspects of learning in tutorials, as expected, tutors reported differences between online and face-to-face delivery. This had not stopped interviewees from attempting to develop interactivity in online sessions. A typical response echoes the frustrations of many tutors in facilitating interactive sessions,

I am still struggling if I am honest, with OU Live [online synchronous] sessions to make them more interactive. I can set up quizzes and polls and things like that but to actually get students to speak I find quite difficult, to get them to write on the whiteboard is even more difficult...

Whilst online tuition continues to present barriers to interactivity, it seems such an integral part of teaching methodology that tutors are motivated to develop their skills to overcome these barriers in whatever ways they can. Furthermore, while online tuition presents challenges to interactivity, it is seen by many tutors as increasing participation in tutorial events.
...lots of people would agree the face that face-to-face tutorials is a good way of facilitating the independent learning of students but the downside is that you very often don’t get a very good attendance, you get a better attendance on the OU Live type things…

The prominence of problems of interactivity and the ease of access to online tuition in the responses may be indicative that these social presence aspects of tutorials remain a high priority for tutors.

An area which was less well addressed in the responses, was the degree to which student self-confidence can be developed through online tuition. Where it was mentioned, there was an implication that online tutorials may not as effective as the face-to-face environment for developing self-confidence,

I think a lot of the face-to-face stuff is confidence building, OU Live as well but I think face-to-face it is about encouraging and letting them know that they are doing well and letting them meet each other and find out that they are in the same boat, that sort of thing…

Although one tutor made the interesting observation that the ability to watch recordings of online sessions could be beneficial: 'I think in a way that is one of the good things about OU Live because if you are really that lacking in confidence you could then listen to the recording'.

This study also aimed to explore differences between tutor perceptions of tutorials, whilst simultaneously ascertaining their (i.e. tutors’) perceptions of student expectations of those tutorials. The issue of mismatched expectations would be of concern in any organisation offering a service, and has been highlighted in a HE context by Borghi, Mainardes, and Silva (2016). While we should not take tutors’ views of student expectations at face value, they should act as indicators to potential tensions inherent within the OU tutorial model.
As we noted above, it was commonly reported by tutors that tutorials should help students to understand threshold concepts and address anticipated difficulties. Tutors also sense that their experience allows them to identify the challenges that lie ahead in a way that students cannot. This sense of perspective feeds into the design and delivery of tutorials, and it is of interest to question whether students, and particularly those new to HE, appreciate this aspect of tuition. We saw that it appears to be the tutors’ perception of students that they come to tutorials with an expectation that their tutor will ‘teach’ rather than ‘facilitate’, and that there is a somewhat negative connotation to this.

Another mismatch appears in the focus on assessment. Tutors see students as being overly focused on assessment, and in the extreme, just wanting to learn enough to pass their module. It is not uncommon for tutors to report that students seem to be learning just enough to gain a qualification and have a task-oriented concept of tuition. This is in conflict with the desire of tutors to challenge students intellectually and broaden their learning experience beyond the study materials.

Motivating students to learn was a further stated expectation of the tutor’s role. It is not clear whether students have the expectation that a tutorial will be motivating, and we make the observation here that within a system where tutorial attendance is optional, the poorly motivated student is unlikely to attend.

Furthermore, skills seen by tutors as important in the workplace, such as collaboration and group working, which could be developed during tutorials, may be awkward to incorporate and unsuccessful if students are expecting a lecture-type experience.

These mismatches are not lost on tutors, and it raises the issue of the management of student expectations; especially when students are new to HE and distance education. A desire to prepare the student for tuition and its complexities was evident from our
respondents, tempered by an expectation of failure due in part to falling attendance and a perceived lack of time, motivation and willingness.

The changing nature of student circumstances is also identified by tutors as a factor leading to changes in student expectations. Perceptions of busier student lifestyles, stronger and deeper interactions with ‘off-module’ online media and the internet, and the trend towards a younger mean student age were all identified as acting to reduce ‘on-module’ social interaction and reduce tutorial attendance.

Our work has confirmed the complexity of expectations of tutorials as perceived by our experienced tutors. It is perhaps not surprising that students may have very different perceptions of the role and place of tuition within their learning. What exactly those perceptions are, are yet to be explored.

The wider question is whether it is ever possible to achieve a common understanding amongst stakeholders of the roles and purposes of tuition. We have explored tutor perceptions of tuition, and student perceptions through the lens of the tutor. The next stage in our project will be to examine student perceptions first hand, and seek to understand not only their expectations, but also how to meet these in terms that make sense to them. This is a dynamic situation: circumstances and expectations continually evolve, so even if we were to reach such an understanding, it would only be a snapshot of perceptions at a given time. Ultimately we would hope that there would be learning on the part of the institution about how understanding perceptions of tuition is vital for the further development of tutorial provision.

**Acknowledgements**

Our heartfelt thanks go to all of the tutors who participated in this research. We wish to dedicate this article to the memory of our tutor colleague, Dave Edwards, who worked closely with us on this project and many others.
Funding

We are very grateful to The Open University and The OU Centre for STEM Pedagogy (eSTEeM) who funded this work.

Disclosure

No potential conflict of interest was reported by the authors.

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