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# Supporting students effectively in an online teaching environment at the beginning of their student journey

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**Abstract** We report that introducing online teaching to Access students studying a Level 3 pre-degree Higher Education module at The Open University has long-lasting beneficial effects. This study shows that a single online teaching session, which focuses on a heavily-weighted summative final piece of assessment, encourages students who participate to subsequently attend online teaching sessions on future modules to a significantly greater extent than those students who did not undertake the introductory Access module. This effect was seen in students progressing to three subsequent modules. Qualitative interviews of students who had undertaken the introductory online teaching session showed that the students could recall the session some three years after it had taken place, were able to report the benefits of having attended the session and also reported that it made them far more likely to attend future online teaching events in subsequent modules they undertook.

**Key words** Online teaching, Access, assessment, effective participation, tuition, tutorial, student confidence

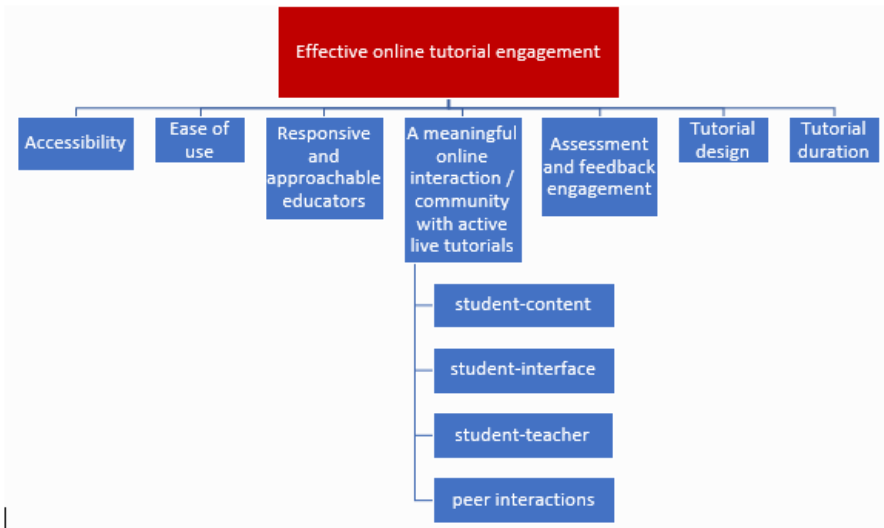
## Introduction

Students educated within a distance teaching organisation can receive their tuition through a face-to-face medium but more recently, and typically, that tuition has been offered through alternative mediums, including online teaching rooms and telephone tuition. The advantages to students have been well characterised, for instance Kramer, Olson and Walker (2018) reported that students who received online tutorials score 0.82 points higher on a 15-point science process skill assessment than their peers who received traditional textbook instruction on the same topic. However, difficulties persist due to a lack of student engagement and, for optional online tuition attendance, this can

be even more problematic. Campbell *et al.* (2019) reported that despite having a robust online tutorial provision within their module, 'difficulties were identified in encouraging student interaction in online synchronous tuition'.

Various attempts have been made to encourage student engagement and in their case study, McGuinness and Fulton (2019) surveyed students to identify factors that would make for more effective participation with online tuition; four factors were identified as the most important at promoting engagement – accessibility, ease-of-use, design, and duration of the online tutorials. Farrell *et al.* (2019) investigated students' views of what comprised the most effective online teaching and found seven factors that came to the fore, including: educators that are responsive and approachable; engagement with assessment and feedback; a meaningful online interaction/community and active live online tutorials. A study that identified an additional factor was that of Harsasi and Sutawijaya (2018) who identified tutorial flexibility as a key positive factor in online tutorials. Zhu *et al.* (2020) reported that it was many of these factors coming together and being mediated by an effective teacher linked to the involvement of other students within the online environment that could drive effective participation. This is reflected in what others have found (Brahmasrene and Lee, 2012; Guo *et al.*, 2016; Huang, Zhang and Liu, 2017 and Lee, Yoon and Lee 2009).

Having encouraged students to attend online tutorial sessions, various analyses were conducted to determine what students find useful within the sessions. Zhu *et al.* (2020) reported that within an online tutorial session 'four types of online interactions have been identified as significant, which are student-content, student-interface, student-teacher, and peer interactions'. Other authors including Cheng (2014) also found that factors that influenced perceived student usefulness of online tutorial sessions included the learning system used and teachers' instruction in a blended learning context, both of which were found by McGuinness and Fulton (2019). These factors added to students' satisfaction, which in turn led to them indicating that they intended to continue to use the online rooms system. Figure 1 summarises the factors contributing to effective online tutorial engagement.



**Figure 1** Summary of some of the factors which have been suggested/reported to contribute to student engagement in online tuition (Zhu *et al.*, 2020; McGuinness and Fulton, 2019).

In their study, Zhu *et al.* (2020) showed that it was students with a high level of motivation or determination that tend to develop a positive attitude toward learning tasks, put an effort in, and are persistent in their learning. This is supported by Chen *et al.* (2017) who indicated that the main factors driving the students to continue online learning were improving their performance and meeting emerging learning needs. An online or blended learning environment exposes students to the activities involving the use of different online learning components. Such learning experiences not only contribute to an increase in students’ confidence in using technology (Billings, Connors and Skiba, 2001; Kenny, 2002), but also improve their course satisfaction and online learning attitudes (López-Pérez, Pérez-López and Rodríguez-Ariza, 2011).

Zhu *et al.* (2020) stated in their summary that there is a need to establish a model incorporating students’ attitudes, online learning experiences, and continuous intention to learn online. They went on to state that teachers ought to create a supportive learning environment that can ‘trigger their learning motivation, promote social interactions to maintain the students’ online course engagement, and foster their positive attitudes toward

online learning (Ng (2018); Pérez et al. (2018); Vanslambrouck et al. 2019 as quoted in Zhu et al (2020)). Zhu *et al.* (2020) also pointed out that 'students' online learning experiences in a blended course may play an essential role in impacting their willingness to undertake online learning in the future'. This would suggest that early positive engagement with online learning would be of benefit to students. Our project set out to ascertain whether it was possible, by setting up an early positive online learning experience, to influence students' behaviours. We devised a longitudinal study exposing them to a positive online learning experience in their first module at The Open University, UK, and then analysed their behaviour towards online study on subsequent modules they studied.

## Rationale and context

The Open University is by far the largest university in the UK, with over 160,000 students in 2020–21 (equating to 44% of the UK's part-time undergraduate provision). These students are predominantly adult learners (aged 21+) and around 30% of students are aged 40+. Students study from wherever they are based across the four nations of the UK and internationally, enabling many people to study at university who would not otherwise be able to do so. The Open University provides opportunities to over 36,400 students with a disability and is the largest provider of Higher Education study for students in prisons and other secure environments. The Open University teaches students living in rural areas (25% of our students), from deprived communities (26%), carers (5%), students who have no or low levels of previous educational qualifications (34%) and those already in work (70%).

The majority of students take modules at undergraduate Levels 4, 5 or 6, which broadly equate to studying at years 1, 2 and 3 at conventional UK universities. Our students typically study modules of either 30 or 60 CATS points over eight-month periods and are supported in doing so by having an allocated tutor. At The Open University, the Access modules are an optional starting point for students who lack the confidence or skills to directly enter undergraduate study. These modules, presenting three times during the year (in October, February and May) can be studied either over eight months, for six to seven hours a

week, or at a quicker, 'fast track' pace, which replicates the weekly study commitment for a 60-credit Level 4 module. The Access modules are linked to qualifications but do not replace the need for students to study 360 credits at Levels 4–6 for their degree.

The Access modules are similar to the Level 4 modules at the University, in that they are multidisciplinary, giving students experience of studying disciplines that they may not have previously encountered in their compulsory education. There are three Access modules – the Arts and Languages module, the People, Work and Society module, and the STEM module, the latter with which this investigation is concerned. What differs the most about Access modules compared to Level 4 tutoring at The Open University is that the primary mode of tuition delivery has always been one-to-one telephone calls between tutors and students. There is no face-to-face teaching, and no compulsory online group tutoring, although a few online tutorial sessions using tutorial conferencing software are run for cohort-wide progression and support activities. Where students do not wish to use the telephone – Access modules and The Open University as a whole attract a large percentage of students with disabilities, health issues and mental health concerns – their contact with their tutor would still be on a one-to-one basis, but usually via email. Whilst each small tutor group (usually 17 students) has a tutor group forum where students can communicate with each other, these are traditionally quiet, with most students choosing to study independently and communicate only with their tutor. In advance of signing up for the STEM module, all students have a one-to-one discussion with an Educational Adviser to ascertain whether an Access module is the right starting point for them. This also allows The Open University to ensure that students are aware of the length of the module, the time commitment required and what studying an Access module with The Open University entails.

This project built on scholarship previously undertaken to chart if studying an Access module resulted in greater confidence and skills for students undertaking on their first Level 4 module (Butcher *et al.*, 2018) and to see if students gained better results, both for the module overall and for individual assessments (Butcher *et al.*, 2020). Finding that the STEM module generally

improved student confidence and achievement through building greater resilience in study, this investigation took as its mission one of the primary purposes of Access modules, which is to introduce students to aspects of further study they would encounter in other modules. As online tutorials have gained in popularity and regularity in undergraduate degree programmes across the University, and was the sole method of group tutorial delivery during the pandemic, the authors identified that Access students might well be disadvantaged by this lack of an introduction to the group tutorial environment on their initial module.

The three key research questions (RQs) the project sought to answer were:

- RQ1: Are students able to use synchronous online tuition, and how are students best supported in using online tuition?
- RQ2: Do students understand the purpose (and educational value) of synchronous online tuition?
- RQ3: Does introducing students to synchronous online tuition in Access (or their introductory module) lead to increased participation in online tutorials throughout their degree?

## Method

The research team initially contacted the tutors of students who were midway through a Maths, Science and Technology Access Level 3 module (Y033) that started in either October 2018 or February 2019. The team asked them if they were willing to run an online teaching session for their students who had previously only received tuition by telephone, in a one-to-one situation. We generated a teaching (PowerPoint) resource that tutors could use in an online room environment to assist students in answering the highly-rated final piece of summative assessment. The session was designed to be one hour in length and the content was chosen to both allow students to become familiar with the tools and technology within the online room environment and to also get an insight into how best to answer the summative assignment questions. We chose this assessment-related subject as we thought it would be appealing to students

and would result in a greater attendance at the online event. Tutors who agreed to participate were asked to record students who either attended the online teaching sessions in person and/or watched the recording of the session subsequently or who did neither.

Following University ethics approval, the research team subsequently tracked students who participated in their Level 4 studies and onwards to higher levels of study too. Of the students who either attended the online tutorial session or watched the recording we were able to track 24 individuals who remained active at the end of 2021. Of the 24 students, five studied *Questions in science*, a Level 4 introductory science module (S111, which started in October 2019), five students studied *Engineering: origins, methods and context* (T192, which started in October 2019) and six students studied *Introduction to computing and information technology* (TM111, which started in October 2019). The remaining eight students studied seven different modules between them.

The 16 students who between them went on to study S111, T192 and TM111 were subsequently contacted and asked if they would be prepared to undertake a semi-structured qualitative interview based on their experiences of online tutorials on both the Access module and also on their subsequent modules. The research team chose to undertake interviews as opposed to surveys as we believed that students would be more likely to engage. Seven students agreed and were subsequently interviewed by one of the research team (Carlton Wood). Therefore, it should be noted that the students who agreed to partake were effectively a self-selecting group of students. Their responses were transcribed and analysed. Our analysis of their responses was similar to a previous study we have utilised (Butcher *et al.*, 2020) where we based our analysis approach on that of Corbin and Strauss' (2008) concept-driven theoretical sampling, enabling us to develop 'emergent partial conceptual frameworks' (p. 195) with coding arrived through an inductive framework informed by Bassey's (1995) case study work. All members of the research team analysed all of the transcribed interviews. Each member of the team was asked to identify and select quotes that pertained to at least one of the RQs and these



were coded through an inductive framework to identify those that should be used.

The research team were also able to analyse the attendance of all students at the Level 4 online teaching sessions, including the 16 students that we were tracking. This was done by utilising the reporting function of OU Analyse – a bespoke student data analytics platform that has been produced by The Open University, UK (Herodotou *et al.*, 2019a, 2019b, 2019c and 2020). The reporting function shows where students have either signed up for online tutorial sessions that they then subsequently did or did not attend, where they signed up but subsequently cancelled their attendance or where they had had no interaction with the signing-up process.

## Results and discussion

This project set out with the main aim of ascertaining whether it was possible, by creating an early positive online learning experience, to influence students' behaviours going forward. The approach we adopted here was to provide a single online tutorial that was focused on a heavily weighted synoptic piece of assessment, and support this by having the tutor the student was most familiar with present the session. We know from previous work (Butcher *et al.*, 2018) that students have found that their confidence levels increase as a result of studying an Access module. This confidence is around the skills of studentship and cover such aspects of knowing what it is to be a student at a particular institution. In the previous study (Butcher *et al.*, 2018) students also commented that it was the increased familiarity with the nature of assessment, the submission of their work and how to respond to feedback that also increased their confidence. The Access modules were designed to have tuition that was delivered via telephone in a one-to-one manner. This is at odds with the delivery model of tuition on subsequent STEM modules which is increasingly built around online teaching sessions. Hence, in this study, by giving Access students a very positive online tutorial experience, we felt that we could increase their confidence in the tuition delivery model. We also hoped that this would influence students subsequently, as Zhu *et al.* (2020) reported online teaching sessions being mediated by an effective

teacher linked to the involvement of other students within the online environment could drive effective subsequent participation.

To address RQ1 which was 'Are students able to use synchronous online tuition, and how are students best supported in using online tuition?' we utilised the qualitative interview responses of students. From these we ascertained what benefit they thought attendance at these sessions brought them. Increased confidence appeared to be a repeating theme with comments such as:

'Once I had seen how easy it was to use then that made me much more confident going forward in using it ... I saw that the technology worked.'

Other comments showed that students' confidence in their own abilities had been increased too:

'There was a few of the features in the software were explained as well, which obviously helped for future tutorials and encouraged me to go knowing that I knew a little bit how things worked.'

The research team probed to see if there were any specific reasons behind these responses and it was clear that the chance for students to become familiar with the technology was one driver:

'Until I had seen that online meeting in Access I didn't know what to expect but once I had seen how easy it was to use then that made me much more confident going forward in using it ... I saw that the technology worked.'

And also that:

'I was much more likely to attend because of having had the experience of going to that Access tutorial .... Because it came across in a very friendly informal way ... and I think there was a few of the features in the software were explained as well, which obviously helped for future tutorials and encouraged me to go knowing that I knew a little bit how things worked.'

Giving the students a chance to become familiar with the technology is similar to the ease of use that Cheng (2014) reported and which forms part of the sub-set of characteristics that underpin successful online tutorials shown in Figure 1 above. From previous work (Butcher *et al.*, 2018) we know that increased confidence across a number of student behaviours is a

key benefit of undertaking Access modules and increased confidence in the use of technology can now be added to the list.

To address RQ2 which was 'Do students understand the purpose (and educational value) of synchronous online tuition?' we once again utilised the qualitative interview responses from the students. When students were asked about their preference between face-to-face versus online teaching, there was a majority that indicated that they were more satisfied with online tutorial sessions:

'To be honest, I'm all for online.'

Whereas others who had been affected by the pandemic and the withdrawal of face-to-face teaching commented that:

'I've never really experienced the face to face, but I would still probably find it more engaging in a face to face rather than the online tutorial ... students can go quiet in an online tutorial.'

It was clear that the students had thought about the relative pros and cons of the two modes of delivery; two contrasting comments were:

'I would say I prefer online. I do think it's good to have at least like one, maybe two face-to-face tutorials in a year [and] even if you can't get to [online tutorial sessions] they are recorded so that you can view them afterwards ... it's really helpful if something stops you attending in person that you can catch up afterwards.'

And:

'I honestly think the face to face ones that have been fantastic, but for two of them, I was the only person that turned up, which was pretty good.'

The other aspect that revealed itself around RQ2 was that even when students were not able to attend all the online tutorial sessions that were available, they gave indications that they deployed some kind of tactical student awareness of what teaching sessions were likely to be most beneficial to them, for example:

'In terms of the Level 1 modules I must have attended at least 20 online tutorials, I tend to go for those that are related to assessment particularly the TMAs to get some tips on how to answer them. I try to attend these live and I will watch the recordings if I get the chance but it just depends on how much time I have.'

This student clearly demonstrated a well-developed study skill of prioritising their available time for assessment-focused materials (Butcher *et al.*, 2020; Farrell *et al.*, 2019).

This type of student response which focuses on assessment was not an isolated one; clearly the ex-Access students as they moved onto Level 4 modules knew the importance of engaging with this type of tuition, as one student remarked when surveyed:

'I tend to go for those that are related to assessment particularly the Tutor Marked Assignments to get some tips on how to answer them.'

This mirrors the increased assessment awareness that ex-Access students demonstrate that we have previously shown (Butcher *et al.*, 2020) and that others (Farrell *et al.*, 2019) indicate is one of the factors contributing to student engagement (Figure 1).

The final research question addressed was RQ3, 'Does introducing students to synchronous online tuition in Access (or their introductory module) lead to increased participation in online tutorials throughout their degree?'. The students' perception when asked if they could recall attending the single online Access teaching session varied, with some students being a little unsure, with comments such as 'I think I recall attending' and:

'If I'm honest, I don't remember that because it was quite a while ago now ... but yeah, I did do some online tutorials.'

It is worth noting that in most cases students were interviewed some two or three years after their Access studies had been completed and in many cases the students had taken at least two other modules subsequently. However, the majority of students interviewed could recall the event with far more clarity and in their responses began to indicate the positive outcomes from attending:

'I knew it was a good thing ... that kind of prepared you for the following modules ... so that I knew what was coming with the online tutorials.'

And:

'Yes although it was a long time ago I can remember it really well, it sticks in my mind as it was my first experience of doing anything like that ... it was good fun, there was nothing counting on it and so I could just go along and find out about the last assignment.'

We were interested in ascertaining why the ex-Access students wished to attend the online teaching sessions at Level 4 and what their rationale was for attending. This part of the interview was most revealing, with comments such as:

'Pretty much gone to everything ... I've got a feeling I might have missed two in the in my whole time of doing it ... and I mean, I've always been in the opinion that if you're gonna do it then, you know, do it all.'

This response was not atypical and many students when reporting how many sessions they attended frequently strayed into giving reasons why they wanted to attend tutorials, such as in this response:

'I do attend as many of them as possible ... they can be helpful on maybe things that I haven't quite understood, so it is good for the tutor to explain and cover things that a lot of students tend to find more difficult, and the tutors are obviously aware of the areas the students find difficult. So they focus the tutorial on that area and they can explain things.'

These statements suggest that objectives for an effective online tutorial session have been met, such as responsive educators and creating a meaningful online environment (Figure 1).

The main driver for conducting the interviews was to assess the value of having a single online teaching session in the Access module and its influence on students' behaviour going forward. The responses of students in the interviews was suggestive of a relationship between increased student attendance at online tutorial sessions on subsequent modules and having studied the Access module. This was revealed when students were asked if they were influenced to attend online tutorial sessions in the subsequent modules they attended to any extent by their experiences on the Access module. Responses included:

'I was ... because I knew that I would need that information when I completed [the Access module] ... I would know how [the online] tutorials would work and I would know what I had to do going forward.'

'Completely influenced by it. I was much more likely to attend because of having had the experience of going to that [Access] tutorial.'

'Oh, far more likely ... It helped me get used to studying again and although I was spoon fed a little bit I knew that tutorials would be helpful. That is nice to know how, otherwise I would have had no idea about what to expect from online tutorials.'

Given the qualitative interview responses from ex-Access students were suggestive of the fact they sought to attend as many of the Level 4 module online teachings sessions as they could, we were interested to see if we could analyse this in greater detail and gain further evidence to support a positive affirmation of RQ3. Initially using the student names and personal identifying numbers provided by the tutors, we tracked students to see who had progressed from the Access module onto a subsequent Level 4 module. We then analysed which students remained active two years later and then tracked these students on the subsequent modules they had undertaken. Table 1 below shows the number of students who were active and the Level 4 modules they initially progressed to.

**Table 1** The numbers of ex-Access students that progressed onto Level 4 modules – and that were still actively studying two years after starting their first Level 4 module.

<b>Title of module</b>	<b>Module code</b>	<b>Module start date</b>	<b>Number of active students</b>
Questions in science	S111	October 2019	5
Engineering: origins, methods and context	T192	October 2019	5
Introduction to computing and information technology	TM111	October 2019	6
Environment: journeys through a changing world	U116	October 2019	1

Discovering mathematics	MU123	October 2019	1
Questions in science	S111	October 2018	1
Science: concepts and practice	S112	October 2019	1
Engineering: frameworks, analysis, production	T193	February 2019	1
Technologies in practice	TM129	October 2019	1
Science and health	SDK100	October 2019	1

It is clear from Table 1 that there were a variety of modules that students had progressed onto – this was not surprising as the content of the Access module was far-ranging and gave students a taster of a whole range of STEM subjects. There were three modules that students clearly preferred to study and the research team subsequently looked in detail at these three modules, *Questions in science* (S111), *Engineering: origins, methods and context* (T192) and *Introduction to computing and information technology* (TM111), to track and analyse their behaviour in greater detail.

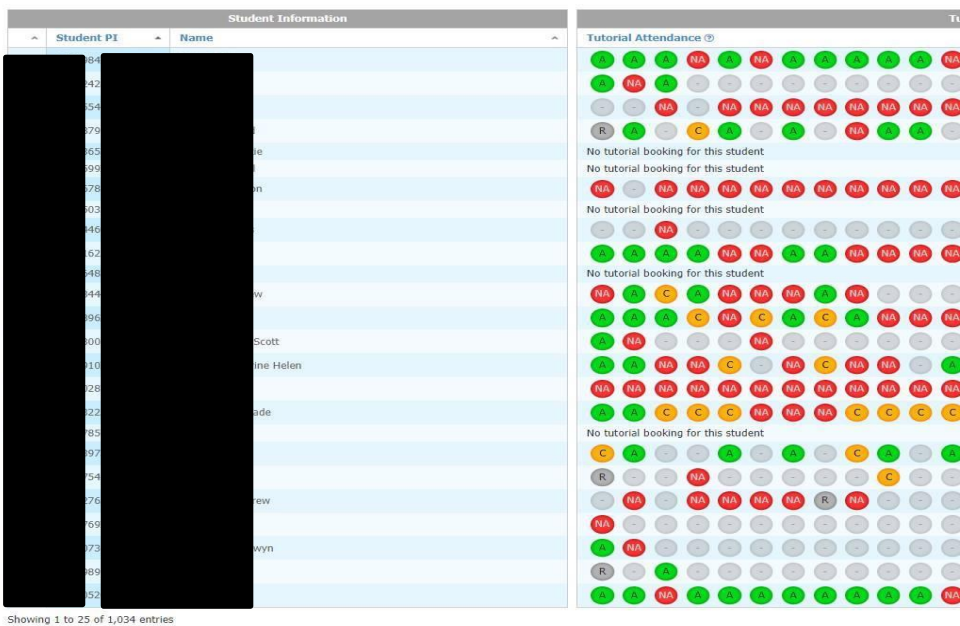
From the data in Table 1 the team then sought to identify the number of online teaching sessions that the students either attended, signed up for but subsequently cancelled their attendance, signed up for but didn't attend or just did not give any indication of whether they wished to attend the sessions. OU Analyse, an in-house data analytics tool that was developed by the OU to track student behaviours, was utilised for this purpose. A representation of the OU Analyse data from students who went on to study *Questions in science* (S111) is shown in Figure 2.



**Figure 2** Data analytics output showing the attendance levels of ex-Access students who had either attended *Questions in science* (S111) online teaching session (green circles), signed up but didn't attend (red dots) or signed up and then cancelled their attendance (yellow dot). Grey dots indicate no student interaction with the signing-up process. Identifying names (column 2 in the figure) or personal identifiers (column 1 in the figure) have been deliberately anonymised.

The green dots show where a student has attended an online tutorial session – so out of 80 possible sessions (16 potential online tutorial sessions per student, and five students) these students attended between them 66 sessions – expressed as a percentage, this is 82.5% attendance.

We then looked at a representative sample of *Questions in science* (S111) students who had not studied the Access module and their attendance is shown in Figure 3.



**Figure 3** Data analytics output showing the attendance levels of S111 students who had not previously studied Access. Students had either attended S111 online teaching session (green circles), signed up

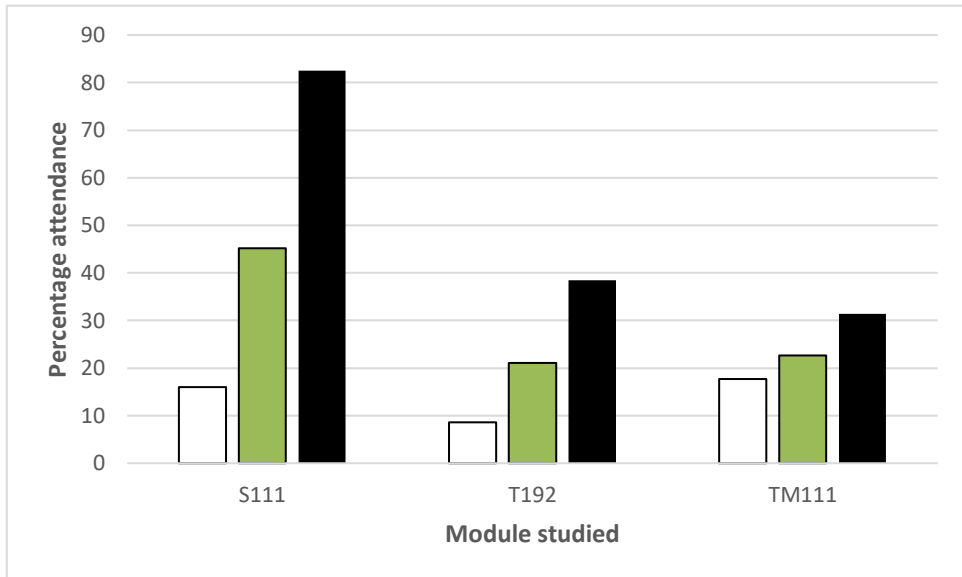


but didn't attend (red dots) or signed up and then cancelled their attendance (yellow dot). Rows with a grey dot indicate no student interaction with the signing-up process. Identifying names (column 2 in the figure) or personal identifiers (column 1 in the figure) have been deliberately anonymised.

Immediately it is possible to ascertain a far fewer number of non-attendances compared to attendances (red versus green respectively) than for those students who had previously studied Access and had attended the single online teaching session offered to them. In quantitative terms, for the 25 students shown in Figure 3, out of 400 possible sessions (16 possible online tutorial sessions and 25 students) these students attended between them 65 sessions – so expressed as a percentage this is 16% attendance. A similar analysis for all students on the *Questions in science* module (who had not undertaken the Access module previously) was undertaken and a similar percentage was calculated (and shown in Figure 4 below). Hence there is a very clear difference in tutorial attendance when students have studied Access prior to embarking on a Level 4 module and had the chance to attend an online room meeting in the Access environment. Additionally, there appears to be increased awareness in ex-Access students about the Level 4 modules having online room meetings, as all the ex-Access students either attended, or at least signed up for but then didn't attend, sessions (Figure 2) whilst the non-Access students often did not sign up for any sessions on the Level 4 module at all. This suggests Access students understand the purpose of online tuition, which we set out to investigate in RQ2. In Figure 3, five students are in this category and this represents 20% of all students who did not engage with any online teaching sessions.

A similar analysis to that conducted on *Questions in science* (S111) was also conducted on two other modules shown in Table 1: *Engineering: origins, methods and context* (T192) and *Introduction to computing and information technology* (TM111). This analysis revealed a similar pattern of results and these are

shown in Figure 4:



**Figure 4** Graphical representation of the percentage difference in attendance in online tutorials for students who had previously studied an Access module versus those who had not. Black fill indicates those who had studied an Access module and who signed up and attended an online tutorial session, whereas green fill indicates those students who had previously studied Access but did not sign up and undertake an online tutorial session. No fill indicates students who had not previously studied an Access module.

It is clear from the information in Figure 4 that students who have previously taken an Access module before embarking on a subsequent Level 4 module are more likely to attend online teaching sessions if they have previously attended an online tutorial session. The difference is quite striking from a high of 82.5% on the *Questions in science* module to 31.4% for the *Introduction to computing and information technology* module.

We were particularly interested in the effect on students who had studied Access and attended the online tutorial session and we were able to use students who had undertaken Access but not signed up for the online tutorial session as a type of internal 'control'. The information in Figure 4 reveals that if a student had undertaken an Access module before, they then signed up and attended more online tutorial sessions on subsequent modules they undertook regardless of whether they had attended an online tutorial session in their Access module. However, in all three Level 4 modules investigated, if students had studied an

Access module and partook of a single online teaching session, then they attended far more online tutorial sessions than either their peers who had just taken an Access module (black versus green bars in Figure 4) or those students who had not previously taken an Access module (black versus white bars in Figure 4). We put this down to the increased awareness/confidence of Access students as we demonstrated in the previous study (Butcher *et al.*, 2018) and which supports RQ3.

It should be noted that there is wide variation in percentage attendance increases between the three Level 4 modules studied. We surmise that the *Questions in science* module is different from the other Level 4 modules in that it is far more interdisciplinary in nature and also contains many assessment points. We suspect that ex-Access students are signing up for the online teaching sessions to fill the gaps in their knowledge and understanding in areas they are not familiar with.

It appeared clear from these responses that having given students on Access some (limited) experience of an online room teaching session, the experience stayed with them for at least two or three years. They knew the benefits and advantages of having tuition delivered in this manner and, more importantly, were prepared to sign up for it and attend subsequent online teaching sessions in the modules that they went on to study. It would seem that this study demonstrated what Campbell *et al.* (2019) were advocating – namely that online teaching sessions were helpful but there had to be an effective mechanism in place to ensure student attendance. It should be noted that the students within this study were largely self-selecting and it may have been that this group were just more inclined to attend online teaching sessions. However, comments from the interviews such as ‘I was much more likely to attend because of having had the experience of going to that Access tutorial’ would seem to suggest this was not the case. This was not an isolated comment and other similar comments suggested that having attended an online teaching session did make students more inclined to attend future similar events.

Zhu *et al.* (2020) stated in their summary that teachers ought to create a supportive learning environment that can ‘trigger their learning motivation, promote social interactions to maintain the

students' online course engagement, and foster their positive attitudes toward online learning' (Ng, 2018; Pérez *et al.*, 2018; Vanslambrouck *et al.*, 2019 as quoted in Zhu *et al.*, 2020). We would claim that for ex-Access students, this is exactly what we have achieved in this study.

The element that most surprised the authors in this study was the long-lasting nature of the students' awareness of the online Access teaching session. Given that students were surveyed a minimum of 2.5 years and a maximum of 3 years after the session, many were able to recall it in very specific detail – for instance this quote:

'Yes although it was a long time ago I can remember it really well, it sticks in my mind as it was my first experience of doing anything like that ... so I could just go along and find out about the last assignment.'

The interviewer had not given any prompts about what that online tutorial session was about so for the student to recall it centred on the last piece of assessment and to mention this was startling. It clearly had made a major impression on this student as indeed it had on others. We have taken the results of this study and they have been incorporated into the learning strategy for the Access programme. This programme comprises of three different modules but having an online tutorial session focused on the final assessment is now the norm for each tutor group in each of the three modules.

The wider Higher Education community should note the work of Farrell *et al.* (2019) who investigated students' views on the most effective online teaching. Four of the factors they identified include educators that are responsive and approachable; engagement with assessment and feedback; a meaningful online interaction/community; and active live online tutorials, and are those that we readily identified within this study. Of the four factors, the engagement with assessment and feedback seemed to galvanise students in our study and was a very positive driver for student behaviour in attending online teaching sessions. We would suggest that educators should bear this in mind when deciding the potential content of online teaching sessions.

The results presented here are relevant to a wide Higher Education audience more generally. Various providers are looking

to produce learning that is attractive to students, for example, microcredentials, and as Varadarajan *et al.* (2023) showed, 'micro-credentials can be opportunities to acquire 21<sup>st</sup>-century skills in more student-centred ways'. However, the authors in their review went on to show that the 'majority of the articles reviewed expressed concerns related to the academic support of educators, faculty, students'. The challenge, as ever, is to support students to succeed in Higher Education who have limited, and frequently unsuccessful, previous forays into this space. We suggest that the Open University's Access model of modules, with tutors offering support allied to giving students experience of technologies such as online tutorial sessions early in their university experience, can aid students' confidence and willingness to engage with such technology throughout their academic journey.

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