
The views of tutors on the advantages and disadvantages of learning technology during COVID-19 lockdown

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During the COVID-19 pandemic, a lot of previously face-to-face learning has been moved online. This has meant that staff had to learn new tools for material delivery and adapt. Some staff members have found working online to be easy and convenient, whereas as some has noted how the technological solutions available to them are not fit for purpose. In 2021, as lockdowns are removed nationwide, a lot of teaching will now be moving towards a blended format, which means staff will need to adapt yet again from online towards this new format. The aim of this study is to ascertain what technology staff have been using during lockdown, what technology they plan to use during blended learning phase and how easy their current technological solutions are, as well as what technology staff would require in an ideal world. Google Forms surveys were sent out to all staff as part of an outcome evaluation, with a volunteer sample who participated in the study. Results showed trends in technology use such as that staff used MS Teams and Zoom the most, that staff felt challenges were related to lack of technology skills of both staff and students and weak internet connection, as well as that staff already used interactive platforms (e.g. Flipgrid and Padlet) and that staff were keen to explore new interactive platforms in the future such as Bulb.

Keywords: blended learning; online learning systems

COVID-19 was global public health emergency of international concern on 30th January 2020 as well as a pandemic on 11th March 2020 by WHO (Cucinotta & Vanelli, 2020). COVID-19 has affected many educational organizations worldwide, with as many as 290 million students' learning disrupted (Mailizar et al., 2020; Purwanto et al., 2021) as campuses were shut down and learning was moved largely online (Toquero, 2020). According to UNESCO (2022), 81.8% of students around the world were affected by closures of education providers during COVID-19 pandemic. During lockdown, many education agencies and providers moved to online teaching, which meant that tutors had to adapt to new technology and create new interactive materials (Chen et al., 2020). The online approach has been found to be appropriate and acceptable, especially for countries that are digitally advanced (Basilaia & Kvavadze, 2020). Several universities were more focused on transferring their lecture slides and homework material online as opposed to delivery methods, online teaching, and necessary technology (Wu, 2020).

Online learning systems are defined as “web-based software for distributing, tracking, and managing courses over the Internet” (p.1, Mukhtar et al., 2020). Technology is used to deliver the content as well as providing a way for students and tutors to communicate (Thanji & Vasantha, 2016). Examples of software include Microsoft Teams (MS Teams), Google meet, Zoom, and Skype for business (Mukhtar et al., 2020). The feasibility of online learning was assessed previously for staff and students (Jawaid & Ashraf, 2012; Sethi et al., 2019). It was found that students were very satisfied, that the access provision and online skills were of a good level, and that there was an institutional wide readiness for online discussions. However, these studies were conducted before the pandemic, for three universities in Pakistan. During COVID-19 lockdown, the use of online learning technology increased, so it is necessary to assess how acceptable, user friendly and appropriate technology is in the pandemic.

As some countries started slowly moving beyond lockdowns and allowing some face-to-face learning in universities, blended learning was seen as a potentially useful approach for teaching in a post-pandemic world (Batista-Toledo & Gavilan, 2022). It was predicted in 2020 that blended learning would take place up to 2025 (Statista, 2020).

During blended learning, part of the material is delivered online on a laptop to access course materials by themselves or in a group of peers and a part of material is delivered face-to-face (Martyn, 2003; Picciano, 2006; Rossett et al., 2003). Learning in this manner gives learners more control as it can be made more individualised and flexible (Martyn, 2003). Additionally, Graham (2006) suggested blended learning can apply the best factors of online and face-to-face learning. Innovative use of technology is important for blended learning, as it is important to ensure socialisation of students and makes content very interactive to promote engagement.

The blended learning approach may require some further adjustments in terms of technology use for staff. Students and tutors rated blended learning highly in terms of satisfaction, as it can be customised for a diverse learning experience, accounting for different students' needs, geographical distance from their university and formats. Indeed, blended learning may be more accepted as learners and tutors often prefer communicating face-to-face and online blend for learning as opposed to just online.

Challenges experienced during blended learning were issues in navigation, time for preparation and time-consuming resources, low student and staff skills in handling new tools, student lack of access to technology, as well as staff feeling that blended learning increased student autonomy but potentially decreased importance of tutors, and reduction in in-person interaction for students, and low connection levels (Bezliudna et al., 2021; Calderón et al., 2021; Colombi & Knosp, 2017; Power & Kannara, 2016).

Research on blended learning during COVID-19 pandemic largely focused on students and there is less evidence available about tutor attitudes (Batista-Toledo & Gavilan, 2022). Teachers seemed to point out the benefits such as that they were able to adapt materials for varied student needs and provide recordings for students to review whenever they wanted (Robson et al., 2022). Another

benefit was about collaboration and interaction online, such as online forums (Lin et al., 2021; Calderón, A. et al., 2021; Robson et al., 2022).

Teaching staff also felt that there were challenges such as lack of technological knowledge, and issues in terms of privacy (as many tutors were required by their teaching centre to ask students to keep their video cameras on and to record classes when online) (Green, 2022). Finally, some tutors felt that online content cannot replace face-to-face learning and can result in worse attainment (Calderón, A. et al., 2021).

Therefore, it appears that online learning and blended learning have their own challenges and advantages, and that tutors and students have been attempting to adapt to both teaching during and post the pandemic. This study will delve into what the technology use and acceptability of has been for staff during the pandemic phase (online learning) and how that should change in the post pandemic reality (blended learning). It is important to find out the specific challenges in both online and blended modes of delivery, in terms of what types of technology is necessary to facilitate a smooth transition from online to blended learning. This outcomes and process evaluation will be conducted based on a sample of staff from one institution. The findings can then be used to provide suggestions for implementation across other universities. There is currently less information available about the views of tutors. This is why the views of tutors is the particular focus of the current pilot study.

Conceptual framework

It has been established above that online learning tools have been used extensively during lockdown (Cheung, 2023; Damşa et al., 2021; Dharma et al., 2017; Fedorova et al., 2018; Ismail et al., 2021; Kohnke & Moorhouse, 2022; Pal & Vanijja, 2020; Sobaih et al., 2021; Spathis & Dey, 2021;). The highest percentage of people aged 16 to 24 compared to other age groups were using online learning materials (46%) during Covid-19 lockdown (Statista, 2020), which means that staff had to adapt their learning practices to online. Tutors have nonetheless experienced challenges in online teaching such as low technological knowledge of certain staff members, privacy issues and potentially worse student grades (Bautista et al., Calderón, A. et al., 2021; Green, 2022).

When reviewing key supporting and challenging aspects of using different tools in online learning, it is very important to ensure that relevant theory and empirical evidence are considered. One theory that may be particularly useful when attempting to understand facilitators and challenging factors of online learning is Self-Determination Theory. One key mediator between the intervention and sustained behaviour is motivation. According to Self-Determination Theory (SDT; Ryan & Deci, 2000), people are actively involved in their own behaviour and motivation. It has been shown that people are naturally focused on being autonomous (the need to experience self-direction), competent (the need to feel effective), and related (the need to feel close to others) in social contexts (Deci & Ryan, 2000). When these innate psychological needs are met, the behaviour is regulated by intrinsic (rather than extrinsic) motivation, which fosters sustained engagement to health behaviours. There is extensive empirical support for SDT, and the efficacy of SDT based behaviour change interventions targeting autonomy, competence, and relatedness.

In terms of online learning, it has been shown that SDT is a relevant approach to gaining understanding of the motivation to use online learning tools (Chen & Jang, 2010; Hsu et al., 2019; Meihami & Hussein, 2022).

In the pre-Covid period, Chen and Jang (2010) considered the motivation of 267 online students (studying for two online programmes) as well as hours per week studying, number of hits on the course materials, expected grade, final grade, perceived learning, and course satisfaction. It was found that basic need support and satisfaction resulted in better learning outcomes. This highlights the importance of autonomy-supportive environments in terms of basic needs satisfaction (Standage et al., 2005; Vallerand & Reid, 1984). Autonomy-supportive environments are when a teacher (or doctor or policeman or parent – any figure of support) acts in a way that promoted the satisfaction of

basic psychological needs (Reeve & Jang, 2006). For example, autonomy is supported by providing choices, relatedness could be enhanced by providing supportive feedback and competency could be satisfied via teaching students to complete class tasks. Vallerand and Reid (1984) and Standage et al., (2005) also showed that if basic needs are satisfied via the provision of autonomy-supportive environments, then this leads to a higher quality motivation (called autonomous motivation) which takes place due to intrinsic reasons (such as engagement and self-concept improvement of an individual) and leads to positive behaviour change which is also more long-lasting. The theoretical model which was tested in the Chen & Jang (2010) study was therefore from autonomy-supportive environment to need satisfaction to intrinsic motivation to learning outcomes (i.e. behaviour change). However, it was found that intrinsic motivation did not lead to improved learning outcomes as predicted by the previous work of Vallerand and Reid (1984) and Standage et al. (2005). According to Chen & Jang (2010), in the online learning situation, basic psychological needs could be more important for learning outcomes than intrinsic motivation.

The importance of basic needs support was also supported by the work of Meihami and Hussein (2022). In this study, online language learning was analysed based on the views of ELF tutors. It was shown that tutors felt that basic psychological needs are vital in terms of online materials development in terms of accessibility (competence need), autonomy of learners (autonomy need) and collaboration (relatedness need).

The research design in Meihami and Hussein (2022) allows a way of understanding the SDT based explanation of motivation (in terms of whether psychological needs of students are satisfied when the online class is introduced to students). SDT concepts allow to summarise the types of challenges and facilitators to motivation and learning in a systematic manner. In this particular study, theoretical assumptions of SDT are linked with practical examples of the basic psychological needs (e.g., autonomy is depicted via the example of learners being able to take ownership of their learning by having choices in material options; relatedness example from collaboration opportunities in the learning platform; competence example of learners being given an opportunity to learn how to use and engage in the online learning tools). The use of the narrative inquiry to explore a phenomenon (Creswell & Poth, 2018) is the design used in this study. This approach includes gaining understanding of key theory (basic psychological needs in SDT), asking participants to produce narratives and analysing said narratives thematically based on the conceptual framework (searching for examples of SDT basic psychological needs). The current pilot aims to use a similar approach in terms of literature review of SDT studies and searching for examples of SDT concepts. It also expands on the Meihami and Hussein (2022) design in including other SDT concepts (such as the creating of an autonomy supportive environment and different types of motivation), as well as including both qualitative and quantitative questions. The work of Meihami and Hussein (2022) uses only qualitative narratives, although this has been shown to be subjective in certain cases. To capitalize on the richness of qualitative data as well as the objective nature of quantitative data, this pilot study uses a mixed survey.

The reason that concepts from SDT such as motivation and autonomy supportive environments were considered is because this was partially shown in previous studies. For instance, Hsu et al. (2019) found that intrinsic motivation does predict certain learning outcomes in online learning. In this study, 330 undergraduate students studying online courses in agriculture, economics, management, sociology, and statistics, were asked to complete a survey based on SDT constructs. It was shown that basic psychological needs of students were satisfied, which resulted in improved intrinsic motivation, resulting in higher knowledge and better course grades. This suggests that motivation concepts should be considered, as well as basic psychological needs (as per Meihami & Hussein [2022] findings).

The reason autonomy-supportive environment concept was considered in the present pilot study is that it was found to be a key predictor of behaviour change in Chen & Jang (2010).

It appears that SDT is useful for explaining student motivation in online learning. However, no research to date has considered the views of tutors in detail in a mixed methods approach, which can help to capitalize on strengths of both qualitative and quantitative research.

METHODS

Participants

23 members of staff working at Study Group (Royal Holloway University centre in UK) completed a brief mixed methods survey. This was a convenience sample, where the research was a member of staff at the centre who asked available colleagues to fill in the survey. 30% (7 participants) were male, rest were female. The highest age group was 35–44 years old ($n = 11$), followed by 25–34 years old ($n = 7$), whereas the lower age groups were 45–54 years old ($n = 2$), 54–65 years old ($n = 2$) and 18–24 years old ($n = 1$).

In terms of jobs, there were 17 tutors; 4 professional services staff; and 2 managers. The subjects taught by the tutors are split by department: business and management ($n=3$), academic English skills ($n = 4$), humanities/social sciences ($n = 4$), and science ($n = 6$).

Design

This was a repeated measures design, where all participants completed the same survey. This was a survey which took 5–10 minutes to complete so counterbalancing was not used.

The approach used was mixed methods, which is one of three paradigms (quantitative, qualitative and mixed) (Johnson et al., 2007). The present approach is based on the adaptation of Creswell et al. (2011) mixed methods approaches in health science by Wong and Cooper (2016). The study of Wong and Cooper (2016) is concerned with student learning offered by Hong Kong's online education facilities. At the present Study centre, the students are also international and online learning is one of the major topics in the current study. Therefore, it was deemed appropriate to use similar methodology. Whilst the work of Wong and Cooper (2016) was sequential (Morse, 2010), the present pilot study involved both quantitative and qualitative questions in the survey. Initially, Wong (2015) conducted a quantitative research study which established a cause-effect relationship, which was followed by a qualitative study to confirm said relationship. Sequential and simultaneous mixed methods were explained by Morse (1991) to be two types of triangulation. For simultaneous mixed approaches, there is limited interaction between quantitative and qualitative methods during data collection and more interaction during interpreting. Sequential triangulation is generally used when results of one approach (e.g. quantitative study in Wong (2015)) is used to expand or prove the next study (qualitative study in Wong and Cooper (2016)). In the present pilot study, quantitative questions were used to ascertain key facts such as which subjects do the tutors teach and how they rate their technological skills. The qualitative questions were used in the same survey to find out more detailed opinions such as why a particular technology for online learning is the most useful. The views of teachers about online learning have not been studied in as great an extent previously as that of students, which is why it seemed important to gather both factual and opinion-based information at the same time, to triangulate and find out whether more topics need to be discussed in larger studies across Study centres in the UK and worldwide. Researchers considered that if certain views about current available technology challenges were made clear in the current pilot, this could be used as a starting point for further surveys and then could potentially lead to the adoption of new approaches, as suggested by the tutors. It is more likely that new views and information would be collected from open-ended questions.

One of the closed-ended questions is about tools tutors use during classroom teaching. Tutors are asked to pick between Zoom, MS Teams, Skype for Business, Online Whiteboard and Other. These options were chosen based on the author's experience of online teaching, as well as based on the literature. For instance, Zoom has been used extensively in online teaching (Cheung, 2023; Damşa et al., 2021; Kohnke & Moorhouse, 2022; Spathis & Dey, 2021). This is also the case for MS Teams (Ismail

et al., 2021; Pal & Vanijja, 2020; Sobaih et al., 2021), Skype for Business (Dharma et al., 2017; Fedorova et al., 2018). Online whiteboards are tools found within videoconferencing tools like Skype or Zoom and have been shown to be invaluable for student and tutor collaboration in learning (Menzel et al., 2022; Rojanarata, 2020). This is why those options were included.

Materials

This survey was designed based on the needs of the current study which aimed to find out the usability and acceptability of technology use during the lockdown (online learning) compared to blended learning technology. The format generally followed that of a usability questionnaire (Sauro & Lewis, 2016). Both closed and open-ended questions were used.

The survey questions are presented in Appendix 1.

Procedure

The advert for the survey was emailed out to all staff at Study Centre. The advert included the information sheet, which includes the researcher’s name and email, so that participants can contact the research if they have any questions. If participants agreed to fill in the survey, the researcher asked them to fill in a consent form. The consent form was stored on a secure drive on the researcher’s computer.

After that, the researcher sent a link to a survey in Google Forms. The participants filled in the survey, which included demographic information (gender, age group and job title), as well as questions about usability and acceptability. The first two questions are about confirming understanding of information sheet and agreement with statements on consent form. The surveys took 5 to 10 minutes to fill in overall. The participants were made aware of how their data will be kept anonymous (participants will not be mentioned by name and only as a group in publication) and how the researcher intends to use data (publications in UK) as well as how data will be stored and kept private and confidential. Participants were encouraged to ask any questions throughout and were reassured that participation was voluntary and that they could withdraw at any time.

RESULTS

In this Study Centre, 9 staff members (aged 25–64 years old) have a medium computer/technological skills level and 14 staff members (aged 18 to 44 years old) have a Very High skill level.

17 staff members (73%) tend to use 1 or 2 tools at a time, whereas as 4 staff members (17%) use 4 to 8 tools at the same time. Eight staff members who used 1 or 2 tools had Medium level of skills and 9 staff members who used 1 or 2 tools have Very High skill level. There was no significant difference in terms of how many tools were used based on skill level ($\chi^2(6, N = 23) = 4.62, p > 0.05$).

User friendliness

As can be seen in Table 1 below, most staff members used Zoom ($n = 22, 96\%$) and least used CMS such as Moodle ($n = 2, 9\%$). Zoom was considered the most user friendly ($n = 13, 57\%$), followed by MS Team ($n = 11, 48\%$).

Table 1. Tools currently used for teaching

Zoom	MS Teams	Online Whiteboard	Padlet	MS Office	Quiz software	CMS
22	11	6	2	4	3	22

The reasons that Zoom was considered user friendly were that there are many options (e.g. Polls, Whiteboards, breakout rooms), the call quality is good, and it's easy to access and navigate/use. The reasons MS Teams were user friendly is that it is integrated/multifunctional and saves chat/shared files/recorded sessions. It appears that the reasons for considering MS Teams/Zoom user friendly are similar for this group.

The user friendliness of MS Teams is supported by the following quote: “Even though I use ZOOM mostly, MS Teams is most useful because it's multifunctional. I particularly like that what I need can be centralised e.g., access to docs, chats.” (AES tutor, in the 45–54 age group).

The user friendliness of Zoom is further supported: “Zoom – because students don't need to be made a user (unlike Moodle where students need to be added) – you can join Zoom without a special email or username, just from sharing a link.” (Pure Maths and Applied Maths tutor, in the 54–65 age group).

Challenges

Zoom and MS Teams seem the most challenging tools (perhaps as they are the most used by teaching staff). Across both platforms, staff find it difficult to monitor students, to annotate and note that a lot of bandwidth used can cause glitching. In terms of Zoom in particular, staff noted that whiteboard is not a user-friendly option (“The Zoom whiteboard has not worked for me”, stated Sociology and Film tutor in 35–44 age group).

For MS Teams alone, staff suggested that call can be of a poor quality, breakout rooms do not work, and some find it difficult to navigate. This is shown in the following quote: “MS Teams - difficult to manage breakout rooms, poor quality calls.” (Politics tutor, in 35–44 age group).

Other challenging tools are Outlook (as email search is difficult to use), Skype (not suitable for teaching), Virtual Learning Environments (“...lacking the user friendly interface and they are more like a repository of files, data, information”, according to a Computer Science tutor in 35–44 age group), and Wooclap (Music and Literature tutor in 25–34 age group stated that she found “navigating it quite tricky”).

Future planning

More than half of staff stated that they will be teaching in the blended format in the future ($n = 13$, 57%). The tools that are currently used that were considered appropriate for blended learning were: Zoom, MS Teams, Padlet, Wooclap, Moodle, Emails (Outlook), Flipgrid and MS Forms. Zoom was mentioned by 12 tutors and MS Teams by 7 tutors.

According to a Computer Science tutor in the 35–44 age group, “all online teaching tools, Zoom, Teams, Virtual Learning environments are offering a good range of tools for blended learning. On that note, services from Microsoft and Google seems to be taking a lead on integrating all services under one umbrella”.

Challenges in blended learning mentioned by tutors included internet connection issues, multiple logins and systems, students turning off videos and not participating (in Zoom classes, for instance), as well as staff not having high enough level of access to tools. Bad internet connection (of both students and staff) was mentioned by 8 tutors.

Tutors also provides ideas for future. In terms of Zoom, tutors suggested having a whiteboard and having chat transcripts saved for students to look at after class would be useful for future blended learning. Tutors also stated that MS Teams should be used in the future (especially as RHUL has been using it since start of pandemic – this is where most students will be going so makes sense to follow

with university approaches) and that “as it is possible to integrate the leaning management system with Moodle” (Computer Science tutor in 35–44 age group).

Other comments were that Padlet should be used in the future as it is “invaluable both for synchronous and asynchronous work” (Music and Literature tutor in 25–34 age group), that there should be on sign in for all tools (as currently staff have ISC and university access which is confusing) and a “Built in camera's integrated with the class computer” to record sessions easily (Sociology/Film tutor in 35–44 age group), future blended learning should include “Bulb as it offers an integrated and interactive platform that could be used for assessment as well as teaching” (AES tutor in 35–44 age group) and Pro version of Mentimeter for interactive lectures. In summation, it appears that there is an interest in better hardware (“More powerful machines (in terms of CPU) with large RAM and Large SSD storage” according to a Physics and Maths tutor) to run many programs at the same time, and built-in camera to present easily to students. Also, it can be suggested that tutors feel open to using interactive tools such as Padlet, Bulb and Mentimeter as it means students can participate more effectively during blended learning.

CONCLUSION

The present study shows the views of staff on online and blended learning appropriate technological tools. From the analysis of the results a series of conclusions can be made. Also, results can be linked to SDT model proposing the link from autonomy-supportive environment to basic need satisfaction to intrinsic motivation to positive behaviour change (Chen & Jang, 2010; Deci & Ryan, 2000; Meihami & Hussein, 2022; Standage et al., 2005; Vallerand & Reid, 1984).

It appears that staff were using Zoom and MS Teams in online learning successfully, due to many options available and ease of use. Indeed, it has been shown that Zoom use has positive effect on student understanding (Natsir et al., 2021; Reviandani, 2021). Ease of use is related to the competence basic psychological need satisfaction (as staff may feel competent in using tools) and having many options to choose from may lead to staff feeling more independent in terms of choices they can make (autonomy satisfaction).

At the same time, staff also found MS Teams and Zoom most difficult to use (e.g. Zoom whiteboard was not simple to use and in MS Teams breakout rooms did not work well). Difficulty of use may result in competence and autonomy frustration of staff, resulting in more extrinsic motivation or amotivation to use online tools further – this is the so called “dark side” of SDT model (Haerens et al., 2016). Other research also shows that many students reported issues in MS Teams teaching such as technical issues and problems in terms of socialising (Tu & Luong, 2021) (this can be linked to relatedness frustration). Previous evidence also supports the idea that certain online tools may be problematic due to students and staff having weak technology skills as well as student lack of access to technology (Bezliudna et al., 2021; Calderón et al., 2021) – this could be an example of competency frustration. Therefore, it appears that challenges of online learning may lead to a basic needs frustration in both students and tutors, resulting in lower quality motivation or lack of motivation and therefore lack of willingness to use tools in online settings or annoyance at different aspects of online learning.

It should also be noted that whilst potentially being cost-effective (Sadeghi et al., 2014), blended learning simultaneously has issues for students who have fewer resources. To effectively participate in blended learning, students need to have good understanding of technology, internet access and reliable computer access (Carius, 2020). The fact that in the present study staff mentioned that certain tools were not simple to use, suggests that appropriate tools are needed – tools that work quickly and easily to make them accessible to students from different backgrounds.

In terms of future blended learning, staff felt that Zoom and MS Teams were most appropriate, as well as mentioning interactive tools that are used in the centre already (Padlet, Wooclap, MS Forms) and Flipgrid) and potential new tools (Bulb or Pro version of Mentimeter). More interactive options could result in relatedness and competency satisfaction.

Interactivity and potential for increasing social connection and collaboration have been mentioned in the literature as key benefits of blended learning (Asghar et al., 2021; Calderón et al., 2021). Also, the fact that staff mentioned different tools which were interactive suggests that staffs are willing to engage and learn new approaches, be flexible and promote student-centred learning approaches (Hadiyanto et al., 2021; Singh, 2003).

Tutors also predicted certain challenges related to internet connection issues, students turning off video and low staff technological skills. This is also linked to competence frustration. Internet connection issues have indeed been shown to be a problem for blended learning, supporting staff predictions (Bezliudna et al., 2021).

In summation, whilst the present study is only a pilot of a larger potential usability study and does not reflect on what took place once blended learning was established at this centre, or how the staff transitioned back to face-to-face teaching from blended learning, it can provide key ideas and lessons about tutor attitudes to technology and blended learning.

For instance, tutors seemed engaged in interactive aspects of technology, which shows that there is a potential of blended learning to be collaborative and engaging for students. Also, staff understood how important it is for technology to be accessible and simple to use for staff (some with low technological skills) and students with diverse needs and resources. This awareness should then lead to more learner-centred teaching and more flexible approaches to blended learning (as well as face-to-face teaching in the post-pandemic climate). Finally, staff are very aware of benefits of existing tools as well as their challenges, which suggests that they can find ways to overcome challenges to provide appropriate and user-friendly blended learning environments to harness benefits such as the multifunctionality and interactivity of said tools.

In terms of SDT, it can be suggested that key factors which are important for tutor engagement and use of online tools in teaching are relatedness (example of interactivity and collaboration), competency (importance placed on ease of use) and finally autonomy (staff feeling in control of the tools due to ease of use and accessibility). If those key concepts are satisfied, then it is possible for staff to use tools successfully in the future and be more autonomously motivated whilst using the tools. This fits in with the findings of previous researchers concerning the importance of autonomy-supportive environments which create a potential for basic needs satisfaction (Chen & Jang, 2010; Hsu et al., 2019; Meihami & Hussein, 2022). However, in the case of the present study, it was not possible to fully exemplify intrinsic motivation, as was predicted by Vallerand and Reid (1984) and Standage et al., (2005). Chen & Jang (2010) previously suggested that need satisfaction may be more important for online learning behaviour of students than intrinsic motivation. It could be that this is the case in the present study. However, it is also possible that as a pilot, the present study did not have enough data to provide examples of intrinsic motivation leading to behaviour change. This study used the phenomenon approach of Creswell and Poth (2018) which includes summarizing the existence of SDT concepts from examples in the data. An alternative and more widely used approach is using SDT surveys to highlight the same concepts and relationships. Whilst using the Creswell and Poth (2018) was a more practical approach for a pilot study, future large-scale work could include both phenomenon and survey-based approaches for comparative purposes.

It should also be noted that the present study also identified key challenges to accepting the online tools by tutors. This can be viewed in terms of the “dark side” of the SDT model. This has not been previously considered in terms of the online learning sphere. Haerens et al., (2016) showed how in face-to-face teaching, if a controlling environment (one that frustrates (i.e., does not satisfy and actively goes against basic needs support) is created by teaching, this results in basic needs not being achieved, leading to controlled motivation (based on extrinsic factors such as fearing punishment or monetary loss at work) or amotivation (no motivation at all). Controlled motivation then leads to behaviour that is not sustainable over time, whereas amotivation could lead to no behaviour change. In terms of the present study results, examples of competency and autonomy frustration were shown. This could then result in lower quality or lack of motivation to use online tools in teaching. Further

research should be conducted in order to show the potential “dark side” more fully (as opposed to for just two basic needs frustration) as well as to learn more about what is needed to support tutors to prevent the “dark side” of the online teaching SDT model taking place.

In the future, a large-scale study across all of Study Groups centres in the UK should be conducted to confirm the present findings across different areas of internet connectivity and large numbers of staff. Additionally, staff should be asked in more detail about their views on not only technological but other challenges in the blended learning field (interviews should be used for summarising views of staff from different disciplines and levels of technological skills). Also, staff could be asked to reflect on what they thought blended learning would be like and what technological tools should be used, compared to what they actually used during blended learning. A final aspect that may be of interest is the transition from blended learning to face-to-face and how the fact that staff had to teach online and in a blended manner for two years affected their relationship to technology for teaching and their pedagogical approach.

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Survey

TECHNOLOGY USE IN CLASS

By clicking "Yes", you confirm that you have read and understood the participant information sheet. *

Yes

By clicking "Yes", you confirm that you agree with all the sections in the Consent form. *

Yes

Please state your gender.

Female

Male

Other

Please select your age range.

18 - 24

25 - 34

35 - 44

45 - 54

54 - 65

65 and over

Please rate your level of computer/technological skills.

1. Very Low
2. Medium
3. Very High

What subject do you teach?

Short-answer text

Which Study Group Centre are you based at?

Short-answer text

What tool do you use for classroom teaching?

- Zoom
- MS Teams
- Skype for Business
- Online Whiteboard