

How has Covid-19 affected how teacher educators engage their students in learning?

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Summary

The use of technology and the availability of information has affected how people learn and interact. Virtual learning environments (VLEs) have been used for some time to support learners in higher education (HE) to acquire skills and knowledge. This study investigated whether the current strategies supported by VLEs are suitable for learning in an extended online HE environment such as used during the pandemic. It aimed to understand the impact of the changes forced by Covid-19 on the perceptions of teacher educators based within the HE sector, specifically within the initial teacher education (ITE) partnership in the University of Wales Trinity Saint David (UWTSD). The study considered teacher educators' perceptions about the enforced use of technology on their practice and wellbeing. Study findings are based on an analysis of semi-structured interviews using Braun and Clarke's (2006) thematic analysis, and participants' results from the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tennant et al., 2007). These indicate a need for more effective management of online learning environments and greater expertise in digital pedagogy. They also show that the enforced change affected study participants both negatively and positively.

Introduction

In March 2020, Covid-19 restrictions led higher education (HE) establishments to move to remote learning. This forced many academics to change their teaching practice. Although prompted by public health concerns, the shift to a digital pedagogy was already evident in the education environment in the design of the Curriculum for Wales and the reforms of initial teacher education (ITE) (Furlong, 2015; Donaldson, 2016). ITE reform has been based on the need for greater ownership of, and responsibility for, ITE by partnership schools and the Higher Education Institution (HEI). This resulted in a learning partnership between the HEI and schools within the ITE department of UWTSD, with school and university staff working together to deliver teacher education. Covid-19 has forced teacher educators to interact with their learners in a different way, making greater use of technology, the virtual learning environment (VLE) and technology-enhanced learning (TEL). We hope that the recommendations from our research will support the ITE programme as it develops.

Literature review

The use of technology and the availability of digital information for learners are not new. A high proportion of undergraduates find the traditional form of lecture uninspiring, preferring practical group-based collaborative activities (Pryor et al., 2009). Learners have taken control of their own learning by turning to digital platforms such as YouTube to develop relevant skills (Norman & Furnes, 2016).

There is also pressure on universities to attract more inclusive populations of learners while facilitating lifelong learning and incorporating technology-based education (Williams, 2002; Garrison & Kanuka, 2004). Beetham & Sharpe (2019) have found that, to accommodate a more inclusive and relevant approach, pedagogies need to be examined, and that developing a digital pedagogy to support learners is complex. This is different from models of blended learning or using the internet as a tool to support learning in face-to-face learning environments (Garrison & Kanuka, 2004). Blended learning has long been recognised as combining internet-based learning environments and face-to-face learning environments. Indeed, for successful learning to take place in such environments, participants need to be part of a community of enquiry. Such communities promote learning through dialogue, critical debate, mediation of ideas and collaboration (Garrison & Kanuka, 2004).

A 2017 report commissioned by [Jisc](#), based on a survey of 22,000 students from ten international and 74 UK educational organisations, suggested 'the full benefits of technology to support learning are yet to be realised, with technology more commonly used for convenience rather than to support more effective pedagogy' (Newman & Beetham, 2017, p. 4). Bond et al. (2018) explored academics' use of technology to support their teaching, collecting data from a sample of 381 academics from seven faculties in a German university. Findings indicated that academics' use of digital technology to support their students' learning ranged from 8 per cent of academics in one faculty to 27 per cent of academics in another. It appears that one of the major barriers to developing such pedagogies is a reluctance amongst academics to do so (Fiedler et al., 2014). This reluctance appears to stem from academics' concerns about their technical competency, incorrect use of technology, technical issues or the classroom management that the increased use of technology might involve (Autry & Berge, 2011).

It is clear from the literature that, while students want to use digital methods, academics are generally reluctant, and that they need to step outside their 'comfort zone' to develop digital pedagogies.

Research design

Methodology

Mixed-methods research suited our study as it compensates for the limitations of using exclusively quantitative or qualitative methods. We used an online survey and semi-structured interviews to find out how Covid-19 affected how teacher educators engaged their students with learning, and how the change to online delivery affected the (former's) wellbeing.

Ethical approval was granted by UWTSD. Participants were informed that participation in the study was voluntary and that they could withdraw from the study at any time. Anonymity and confidentiality were ensured as no personal identifying information was taken.

Sampling and data collection

A convenience sample of 22 teacher educators from south Wales responded to our request to complete an anonymous online survey. The sample age range was 20 to 59 years ($M = 47$), mainly women (91 per cent), and with an average of 10 years' teaching experience (range = 1 year to 22 years). The survey included the WEMWBS (Tennant et al., 2007), with five closed-response and nine open-ended questions asking about feelings about teaching during the pandemic. The questionnaire took approximately 10 to 15 minutes to complete.

Of the 22 teacher educators who completed the questionnaire, 11 agreed to participate in a semi-structured interview. They came from all phases of compulsory education, with specialisms across the six Areas of Learning and Experience (AoLEs) which form the basis of the Curriculum for Wales. Interviews were conducted and recorded on Microsoft Teams. Interviews lasted between 40 and 60 minutes and consisted of nine open-ended questions. We based our interview guide on our literature review of digital pedagogies. Questions included: 'Thinking back to before the Covid-19 Pandemic, what sort of technology did you traditionally use to support your teaching in ITE?' and 'Can you tell me how and why you used this technology, or if you didn't employ any technology why was this?'

Data analysis

For the quantitative data, we calculated a chi-square goodness-of-fit test to determine differences across wellbeing scores. We analysed the open-ended questions using the principles of content analysis (Krippendorff, 2018). We coded the entire dataset, and rated every 10th response (10 per cent of the dataset) to ensure inter-coder reliability.

For the qualitative data, we analysed interviews using Braun & Clarke's (2006) thematic analysis. The analysis of data included transcribing each interview; reading and re-reading the transcripts for accuracy and to familiarise ourselves with the data; noting general thoughts and impressions about each interview transcript. The next step involved the production of codes. This step involved re-reading each interview to identify emergent codes within the data and a final read-through allowed the authors to merge and refine some of the codes. We then met to compare these codes and to discuss how we had generated them. To ensure rigour and credibility (Tracy, 2010), we checked the coding against the initial descriptions developed. We grouped codes into relevant sub-themes. Finally, we defined and refined these into seven main themes.

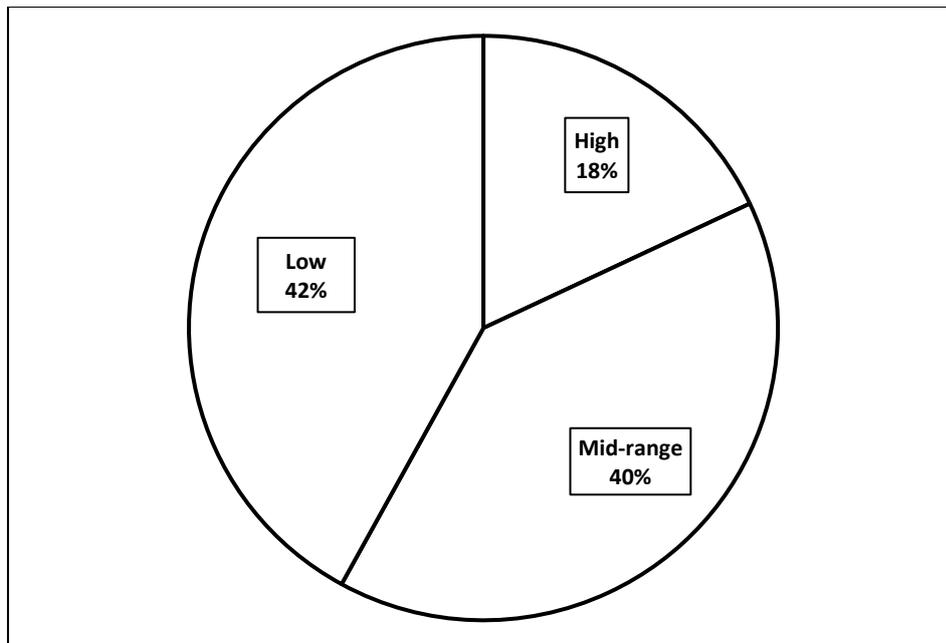
Findings

The individual scores for the WEMWBS are presented following the Scottish Government's Mental Health Indicators data set (Stranges et al., 2014) which created three population groups: a score of 60–70 = high mental wellbeing; 43–59 = mid-range mental wellbeing; and 14–42 = low mental wellbeing. Figure 3.1 shows that 18 per cent of teacher educators scored high on mental wellbeing; 40 per cent in

the mid-range; and 42 per cent scored low. A chi-square goodness-of-fit test reached significance, $\chi^2(2) 10.64, p = .005$, suggesting that significantly more teacher educators had mid-range or low mental wellbeing compared to high mental wellbeing. The UK population average for the WEMWBS is 51.60 (Craig et al., 2011) and, for this study, 46.63.

Chart 1

Percentage of teachers across the three levels of mental wellbeing



When asked how they felt about the change to online teaching, 41 per cent felt positive, and 31 per cent felt negative. Over half of respondents felt negative about the lack of face-to-face contact with students. More than two-thirds (68 per cent) felt unprepared to use the online technology needed for teaching. However, when asked if their feelings had changed over the past few months, the same 68 per cent felt positive about their use of technology and lack of face-to-face teaching.

Feeling prepared for online teaching included feeling confident, and an interest and enjoyment, in using new (to them) online tools. Those who felt unprepared, mentioned anxiety about providing a poor-quality experience and the difficulty of forming relationships online with students.

We asked participants about the effect of online teaching on them. Fifteen participants responded. Positive effects included learning new skills and the flexibility of working from home. Negative effects included feeling stressed, anxious and frustrated about the lack of instant feedback from students and difficulty in gauging student learning and understanding.

Lack of face-to-face contact with colleagues also affected participants: they missed the interaction, informal chat and support.

They noted the psychological effects of anxiety and depression and 'having to battle against a sense of loneliness and isolation'. However, when asked if these feelings had changed over time, the majority said 'yes', citing improved confidence in and enjoyment of online teaching.

Table 3.1 presents the seven main themes that emerged from the analysis of the interviews.

Table 3.1

Thematic analysis of semi-structured interviews

Main theme	Sub-theme	Example quotations
Use of technology and pedagogy	Traditional constructivist pedagogies used in a non-traditional online environment	I think my style is probably the same and the pedagogical beliefs that I have remained the same.
	The impact of technology on pedagogical philosophy	I'd say that I've tried to stick to the same sort of teaching principles, and trying to be creative, but that more things fail.
		Every lecture has come to rely on PowerPoint.
Perceived changes in pedagogy	Perceived changes in pedagogy	We know that online pedagogy is its own form of pedagogy, but we still kind of assumed we can shoehorn this in quite rapidly.
	Increased use of digital apps	The Zoom and Teams revolution has taken place during the pandemic. Before the pandemic, I'd never heard of Zoom or Teams.
Managing virtual classrooms	Reflections on managing online learning	We've had a big thing about them not wanting to speak and not putting their cameras on. And the thing is, if they put all the mics on, it doesn't work anyway...not knowing – somebody could be flying totally under the radar.
	Logistical aspects of teaching within a remote learning environment	They [students] want to turn the cameras off, and because of the channel width they haven't got their microphones on, so there's no calling out... quite often I'm talking to a wall, I'm teaching to a wall.

Online relationships with students	Problems managing online relationships	I think that if you take the principle that relationships are key to good teaching, it's been a lot harder to build those relationships.
	Pastoral problems	I don't feel that there's that connection online.
Online student engagement	Realisation that online environments require different operational teaching skills	The challenge if you are presenting a session, is that it is very difficult for you to monitor who is engaged. However, you don't get visual cues from students.
	Student engagement	I've had a student in my class all day, and I couldn't tell you if he was in Wales, England or Scotland or if he was even behind the screen and connecting.
Subsequent move to blended learning	Use of asynchronous and synchronous learning	And I suspect that a blended approach in the future will be better, more effective.
	Suggestions for the move forward	The response I get from students when you push them into chatting about it is fairly positive about learning in this way. You have to be open to new methods which will be even better and more effective.
Wellbeing	Impact of online teaching on wellbeing	Generally, I'm fairly positive about it. I think there are welfare benefits.
	Welfare	I had a stressful week, a couple of weeks back. And I remember thinking how can that machine in that room be causing me so much angst?

Participants also discussed what teaching might be like in the future. They thought that the approach was unlikely to revert to pre-Covid-19 methods, with many promoting a blended approach. Some acknowledged the positives of online teaching and learning, and the combination of synchronous and asynchronous learning.

4. Discussion and recommendations

The move to online learning has led the teachereducators in this study to reflect on their teaching practice and the consequent impact on them and their students. The responses reflect both gains and losses; a commitment to providing a quality service to students; and a positive attitude towards blended learning.

There were pedagogical dilemmas such as how to build relationships with students in an online setting; how to engage them in learning; and how to manage the online learning environment. These dilemmas need attention if remote online learning is to develop effectively within the ITE programme. Participants noted the need for a different pedagogy, while attempting to 'shoe-horn' classroom style pedagogies into an online environment.

The participants in this study had little time to prepare for online learning and the different pedagogical techniques required for successful online teaching and learning. Teacher educators need enough time for planning, preparation and training to ensure a first-class blended-learning approach. It may also be that it is the lack of time for preparation and training which was available that affected participants' wellbeing.

The findings indicate that the impact on participants' wellbeing was mixed. The quantitative data showed a positive impact, although the wellbeing score was below the UK average. The qualitative data appeared to show a negative impact. There are clear implications for policymakers and the university in maintaining staff wellbeing.

Conclusions

Evidently, the pedagogical skills needed to move to effective online learning requires further development. Teacher education programmes will continue on online platforms, requiring a new digital pedagogy. This means enabling teacher educators to manage VLEs to ensure that students engage and that teacher educators develop relationships with their students. They need the confidence and competence to ensure that working in a VLE is not more stressful than working in a traditional classroom setting where their expertise may lie. We need to develop a high-quality digital pedagogy within which the interests of students are central.

It appears that teacher educators need the opportunity to learn relevant skills and different ways of working, and how to apply these within their own subject areas, and with students and colleagues. This will have a positive effect on their confidence and wellbeing. Teacher educators also need to consider the impact of pedagogical change on the wellbeing of their students.

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