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## Preparing to teach online before and during emergency pandemic teaching: Staff perceptions and future directions

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### ABSTRACT

Online teaching, using internet-based resources with students at a distance, could be described as an innovation when compared to the traditional in-person teaching carried out by universities. This makes Rogers' diffusion of innovations theory useful for examining the factors that enable this mode of teaching to be used, including staff development. Teaching online requires different techniques to teaching campus-based courses to provide good student engagement. Transition to online teaching can be a daunting experience if development of online teaching skills and knowledge is poor, or absent. This study aimed to investigate practices and perceptions of efficacy in staff development, utilising staff survey replies to suggest future provision of staff training, in terms of Rogers' theory. The study objectives were to elucidate from staff what training was received prior to their transition to online teaching, their opinions on its effectiveness, other specific training they consider necessary and timeliness of current provision. Two groups were surveyed. The pre-COVID-19 group (22 staff), mostly innovators, taught online distance master's students in a UK medical school Graduate School. The COVID-19 emergency teaching group (27 staff) normally taught in-person master's courses and could be considered Rogers' late majority adopters. Thematic analysis of comments revealed that for both cohorts training was hit and miss, with some feeling adequately trained and others struggling with the new mode. Clear knowledge of who to ask for help, with education technologists as innovation champions, provided confidence in teaching, as did the availability of exemplars of good practice. Barriers to teaching confidence came from lack of support and time for training. Future training provision with technologists acting as innovation champions and support from them and early adopters as mentors is suggested, with staff working relationally together.

**Keywords:** staff development, online teaching, innovation champions, education technologists, mentors

### Introduction

Online teaching has developed as an education innovation over the years since the internet became a universal means of communication (Volery & Lord, 2000). Teaching online requires different techniques to ensure student engagement compared to teaching face-to-face, so staff development is essential (Salmon, 2005). Online distance learning (ODL) differs from the emergency teaching the majority of higher education institutions (HEIs) were obliged to carry out during the COVID-19 pandemic, particularly in how quickly emergency courses were designed and pivoted to online modes (Hodges et al., 2020). However, ODL and emergency online courses have commonalities in their pedagogy, in that students need to interact with learning materials delivered at a distance, as well as collaborating with other students and staff in flexible ways online, often at differing times (Gillett-Swan, 2017). Online materials that are delivered asynchronously need to engage students; collaboration and authenticity of learning activities need to be considered in their design, to provide both learning and social contact (Bennett & Lockyer, 2004; Ally, 2008). This online learning differs from the campus-based education where students and staff are able to communicate in person using verbal and non-verbal cues, though often through a more passive approach using lectures (Petronzi & Petronzi 2020). Both HEIs and their university teaching staff should see the necessity of staff development for online learning and teaching activities, though provision of timely and useful staff training with time for engagement does not always occur at optimum levels (Clapp et al., 2019). HEIs are more likely to invest in technology rather than the training to use it (Laurillard 2008, cited by Cramp, 2013). Many studies show that new online teachers receive their development in various ways: courses online (Donnelly, 2013), informal sessions with education technologists (Dempster, Benfield, & Francis, 2013); the presence of mentors (Barczyk et al., 2011) and even communities of practice involving whole online teaching and learning communities (Cochrane et al., 2013; Peacock & DePlacido, 2018). Lack of training can be a significant barrier to staff abilities for teaching online (Panda & Mishra, 2007).

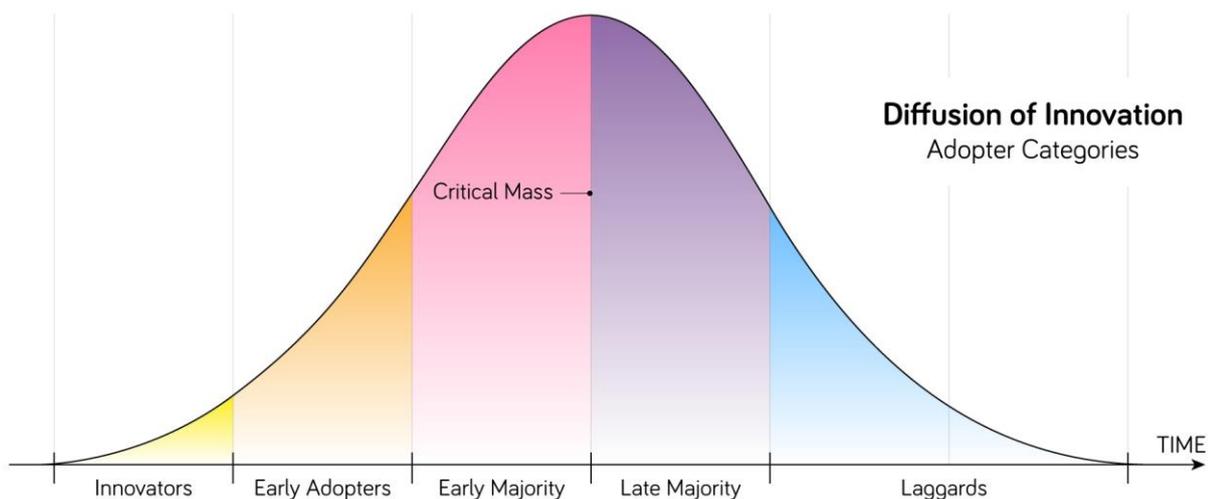
The study described in this paper aimed to discover the perceptions of staff around their development in both technology use and pedagogy for online teaching. These staff members had gained experience in an online mode, as either teachers in online distance learning programmes prior to COVID-19, or for emergency teaching during the pandemic. The second aim was to utilise these perceptions to suggest how staff development should proceed in the future.

The research questions were:

1. How adequate did staff believe the substance and timeliness of their training to be in technology use and online pedagogy to prepare them for practice?
2. Reflecting on their practice of teaching online, what did staff feel would be of additional benefit in their initial introductory training?
3. From the results of questions 1 and 2, how can we improve staff development for online teaching and learning?

As an education innovation, online learning and teaching can be considered in terms of Everett Rogers' diffusion of innovations (DoI) theory (Rogers, 2003). This has been used previously to theorise the use of technology in education, including for training the different categories of technology adopters (Sahin, 2006). Rogers' theory defines diffusion as "the process in which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003, p5). In this study, the innovation is online learning and teaching, the members of the social system are university teaching staff, and the social system is the HEI. The categories of innovation adopters, and typical proportions in the community are shown in figure 1.

Figure1 Diffusion of innovations adopter categories (Reynolds 2019, adapted from Rogers 1995, used with permission)



Early adopters tend to be opinion leaders, whose use of an innovation decreases uncertainty and provides confidence for later adopters (Kimberley & Suvandzheva, 2021). Early majorities tend to think about the pros and cons of an innovation before using it (Rogers, 2003), and the late majority start off as sceptics but often adopt the innovation due to peer pressure. Without organisational leadership on innovations, particularly radical ones, innovations tend to be adopted more slowly (Rogers, 2003). DoI theory may, however, oversimplify innovation diffusion with the reality being more complex (Rogers, 2003). This study uses DoI to discuss how staff training in online teaching can be improved, in the context of training already received by cohorts of staff in various adopter categories.

## Methods

The Graduate School in Newcastle University's Faculty of Medical Sciences (FMSGs) provides several programmes, both as ODL and as campus-based courses. For the purposes of this paper, ODL is defined as courses where all resources are online, with students and staff interacting either synchronously or asynchronously, at a distance from the HEI. One of the programmes, the longest-running ODL course, was considered by the university to be ground-breaking as a new innovation in teaching when it started up nearly twenty years ago. The FMSGs campus-based programmes use the more traditional lecture and seminar-based approaches, but had to rapidly transfer their courses online as emergency teaching during the COVID-19 pandemic. A retrospective study into staff development for online teaching with participants from long-standing online programmes was carried out pre-COVID-19. Following the arrival of the COVID-19 pandemic, additional information was sought from participants who taught on campus-based programmes, after moving their courses online in emergency teaching. The participants in the respective studies were module leaders on the ODL and campus-based programmes. Retrospective studies have been used in education research previously (Pancucci, 2008). The researcher and author is an online lecturer in FMSGs, with an interest in staff development; the aim of the study was to inform future directions for training.

Both surveys sought free text responses, rather than the more usual quantitative-type questions using a Likert scale because of the richer data produced, and were treated as qualitative research for this study. Ideally, interviews would have been conducted with each cohort (Paradis et al., 2016) but the survey reached a greater number of staff than would be available for the researcher to interview, particularly in the case of the second cohort.

Following ethical approval (1806/2017), teachers on the ODL programmes were surveyed pre-COVID-19 via an emailed link to an anonymous online questionnaire built in Survey Monkey®, using the semi-structured questions detailed below. This was repeated for staff conducting emergency teaching during the pandemic, with slightly different questions. Full participant information on the study was given at the start of both questionnaires, and survey completion was considered as consent for their responses to be used in the study.

The first questionnaire was piloted with two of the researcher's colleagues who taught on one of the online master's programmes. After editing, the questionnaire opened between July and December 2018 for all staff on the email list for the online programmes, teaching on all three of the entirely online programmes. The survey was advertised by email and also by the faculty newsletter, and consisted of these questions:

- What was your motivation to teach online?
- What technology training did you receive and was it timely?
- What pedagogy training did you receive and was it timely?
- What do you wish you had known before you started teaching online?

For the second cohort, ethical approval was again received (9167/2020): staff teaching on the normally campus-based master's programmes were emailed the second questionnaire link. The second questionnaire was not piloted due to researcher satisfaction with the wording of the questions, but more importantly due to staff (potential participants and the researcher) time available. Questions were:

- Have you taught online before?
- What help have you received from others to put your course online?
- What resources did you turn to for help both inside and outside the university?
- What do you wish you had known before the move online?

The questions for the second cohort were informed by wanting to know any past history which would inform experience and knowledge of teaching online. It also elucidated any help received from the faculty technology team (FMSTEL) and the central university Learning and Teaching Development Service (LTDS); what resources were used (an online development course was available throughout the university); and reflection on development. The questionnaire was purposely kept short (4 questions) because the lack of staff time available for the extra work of completing others' research questionnaires might add to the general level of stress for this staff group.

The following process was used in thematic analysis (guided by Nowell et al., 2017):

- Uploading survey comment data to NVivo (QSR, 2016)
- Familiarisation with the data
- Generating initial codes
- Searching for patterns within codes to generate themes
- Reviewing themes
- Reporting (this paper)

The themes were: help from FMSTEL, help from LTDS, administrative support, institutional understanding, complete lack of support, 'unhelpful' support, training relevancy, more advanced training, chance, accessibility, pedagogy training, technology training, time for work and timeliness of training. The ODL staff comments were also interrogated for their motivation to teach online. On reviewing these themes, they were divided into the following overall categories for the purposes of this paper: technology training, pedagogy training and timing of training, with motivation to teach online for cohort 1.

Any limitations of the analysis could have been mitigated had there been other researchers to triangulate codes. Also, the author being an experienced online teacher may have brought bias to the analysis. The themes are discussed in depth in the results section, and are used in the discussion to formulate suggestions for future staff development for teaching online. The findings may not be generalisable but may be transferable to other HEIs in similar situations (Firestone, 1993).

## Results

Staff comments are recorded with the identifiers '1S' plus number for the first cohort, and '2S' plus number for the second cohort.

## Cohort I

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Of the 32 staff involved in teaching ODL courses, there were 22 responses, a 69% response rate. Of these, 17 taught online only and 5 taught blended courses as well.

### *Motivation for teaching online*

Motivation for teaching online was an expansion of their teaching abilities, the flexibility ODL afforded them, improvement of education due to the greater student engagement in ODL as well as enabling their courses to reach a wider audience: literally world-wide. Some were innovators, teaching on the first online programme in FMSGs, and many followed as early adopters. However, some staff were 'press-ganged' with courses having to be put online following grant authority stipulations and for convenience: these staff could be referred to as 'early adopters' within the *timeframe* of online programme development, or late majority compared to the original online staff, though there were no complaints regarding any enforced moves online.

A typical comment on improving accessibility for the wider student population was:

I believe it allows students to engage in a wider range of courses, particularly clinicians who struggle to be released from their clinical workload.....we must remain up to date in practice.....online learning allows this. It also allows a rainbow of students to come together who wouldn't ordinarily have the chance to engage with each other, fostering positive peer learning. (1S12)

### *Technology training*

Training in the use of the technology such as the virtual learning environment (VLE) and online classrooms was not universal with 6 (27%) receiving no training, 11 (50%) having received training, and 13 (59%) describing themselves as self-trained (some in addition to official training). One staff member commented: "I received one-to-one coaching from university staff about how to update the module and navigate the system, but have learnt a lot through using the system myself". (1S5). Another said: "Mostly self-trained with good support from the online learning team [FMSTEL]". (1S7).

One participant saw the FMSTEL team as mentors:

Luckily for me I had brilliant mentors available to me who put the course together online in the way I wanted it presented.....They taught me as we went along, not formally but until I had a better understanding of how to navigate most programmes myself as at first even the IT language used was foreign to me. (1S8)

Workshops were a starting point for technology use for some: "I attended university workshops.....I learned then by playing around with the systems after the workshops." (1S17).

### *Pedagogy training*

Fewer teachers received formal staff development for pedagogical knowledge, with only 7 (32%) receiving training; 12 (55%) did not receive any training and 5 (23%) trained themselves, some in addition to receiving training in pedagogy. One had formerly worked for the Open University, as well as gaining a master's degree in education, commenting: "I think I have an advantage through my work with the Open University where there is a lot of training on the pedagogy of online and distance learning. I also did a master's in education funded by the OU which included modules on online learning". (1S2).

Knowledge was more likely to be gained by informal means, and more than one person made comments about how they self-taught themselves. "The (small!) amount of knowledge I have of online pedagogy I have gained mainly informally by talking to colleagues." (1S10). "I started looking into the theory after having developed the materials. So, it was not really evidence-informed but luckily aligned well". (1S14).

Workshops and other university online resources were also used, but less so:

I attended a workshop and module leader also advised. I also did some reading around myself and have used the university's online resources. However, I found them myself and signposting to resources at an early stage would have been useful. (1S17)

Staff wished they had known how much time it took to develop and teach online courses, and a desire for help from 'experts' was obvious, with the comments: "Tips from anyone who has successfully transitioned from novice to expert would be welcome." (1S4); "I think it would have been very helpful to have talked to people who had experience of running online courses about how best to engage students and in particular how to encourage group work." (1S10). They found the support from FMSTEL invaluable, though some staff did not know who to ask for help.

### *Timing of training*

Of the 21 staff who responded to this question, only 3 staff (14%) said the training in both technology and pedagogy was timely, whereas 5 staff (24%) thought training was not timely. However, 6 staff (29%) found technology training was timely but only 1 staff member (5%) thought pedagogy training was timely. Some of the comments were: "I would have liked to have been trained before the course went online" (1S8), and "I have only had any formal training in the past few months - but began delivering online

teaching over 3 years ago.” (1S21). Their opinions of training were generally very good, though one commentator said: “Really helpful. Would have been good to practice on my own module rather than mock scenarios though”.

## Cohort 2

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The response rate to the survey was 37%, with 27 out of a possible 73 module leaders and lecturers teaching on face-to-face courses moving to emergency online teaching responding. Of these staff, 20 had no experience of teaching online, 1 had previous experience and 6 had used blended learning in their teaching previously. These staff, except for the single one with previous experience, could be described as late adopters.

### *Technology training*

There were several ways these staff gained knowledge of the technology used in the FMSGs, with the most common being informal advice from other staff as well as more official training from FMSTEL and LTDS. Typical comments were: “TEL team and LTDS provided a range of meetings and good level of support for asynchronous lectures” (2S14); “I received a generic offer from FMSTEL but didn't take it up in the end. There were useful conversations between the module leaders” (2S3); “... informal advice from some other lecturers.” (2S10). However, 9 respondents received no help at all, but did not say whether they had sought help or not. University resources were used by all but 5 staff members. This included the cross-university staff development for online teaching course which also provided information on online pedagogy, ‘Flexible Learning 2020’. Some people said they “just worked things out for myself” (2S7), (2S27).

### *Pedagogy training*

Whilst some staff felt that the Flexible learning 2020 course, available from June 2020, and occasional contact with FMSTEL was enough, others would have liked more training on pedagogy, as one commented wishing they had more knowledge of student interaction: “I wish there had been more emphasis on the social and interactive aspects of teaching and less on content of lectures.” (2S7). Also, it was interesting to see how some staff thought learning increased in emergency teaching: “That some aspects are better than on-campus teaching, such as critical appraisal seminars where students seem to contribute more readily.” (2S20).

Staff were keen to know how others developed their online resources as one commented: “I would like to see practical examples of people using some of the more imaginative and creative ways to use Zoom/ Teams, deliver material” (2S6). Another would have liked examples: “Would be good to have some detailed examples - perhaps videos.” (2S8).

### *Time*

Time was a perennial problem, with one staff member commenting: “Everything was pretty straightforward in the end, but was quite time-consuming. Without doubt, the most irritating and time-consuming function was adding and editing the transcript.” (2S26). Several staff members commented on the time it took to develop their resources and run their course.

## Comparing cohorts

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Despite the differences between routine ODL development and teaching and emergency teaching, the results for each group were fairly similar. The ‘press-ganged’ staff in cohort one, as well as all the staff in cohort 2, taught online out of necessity. Both cohorts said they self-trained; both the cohorts had various online courses eventually available to them. They also had informal sessions with FMSTEL, as well as more formal workshops or online course training. Use of mentors, whether they were other colleagues or FMSTEL members were mentioned by both cohorts. The wish for more examples, particularly those provided by staff who had already experience of online teaching was mentioned. These elements are considered further in the discussion below.

## Discussion

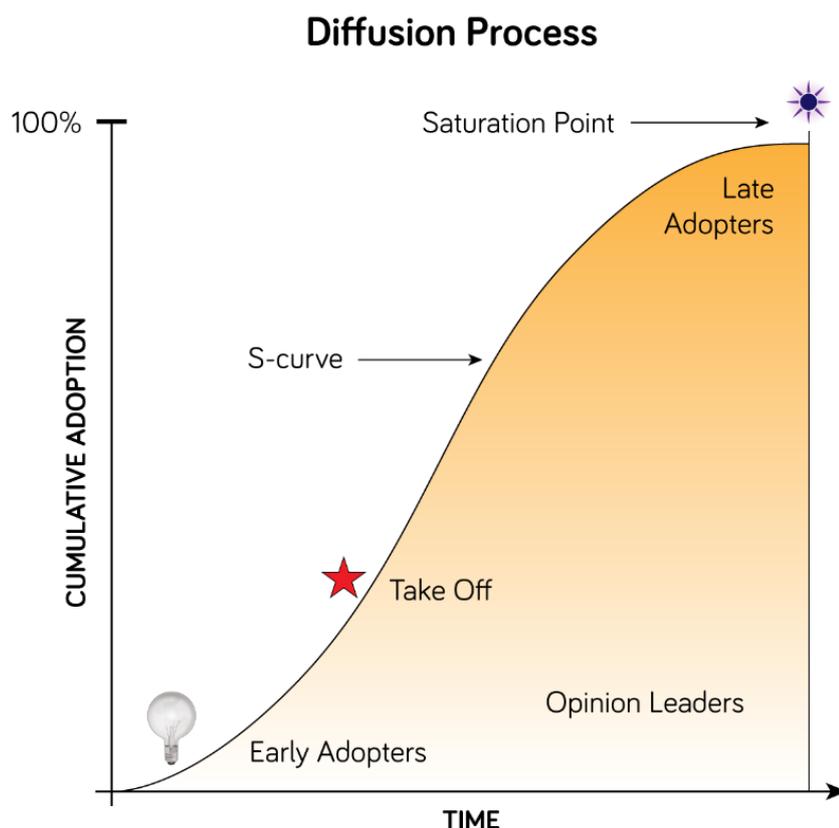
The situations of the two cohorts surveyed for this study are very different, though, despite the differences with ODL teaching, emergency teaching is still teaching online even though a rough and ready version, requiring both technological and pedagogical skills (Ferri, Grifoni and Guzzo, 2020). Staff require access to resources, whether they are online materials or people involved in both formal and informal staff development for their training (Hamill, 2020). The same is true for ODL courses; lack of training can be a very real barrier for the ability and confidence of staff to teach online (Muilenburg & Berge, 2001; Clapp, 2021). Hence, for both groups of staff, their development was important, even if over-looked for some.

In terms of diffusion of innovations, some of the first cohort surveyed were truly innovators and early adopters as they worked on the online programmes, one of which started in 2002, long before the rest of the university considered putting courses online. This group led opinions on online teaching, helping it succeed, concurring with Kimberley & Suvandzhieva (2021). However, some of the first cohort were press-ganged module leaders, making them late adopters. With ‘time’, over a period of nearly 20 years before the second cohort (the late majority) adopted the innovation of online teaching out of necessity, rather than voluntarily, saturation of

the innovation was reached very quickly. This is important because the communication of the innovation needs to reach the whole community for universal uptake, and any innovation requires users to be trained to operate it for success. Other sources of advice are the 'innovation champions' who influence others in a positive way about the innovation (Rogers, 2003, p414). In this study, the FMSTEL and the university LTDS team acted as innovation champions, demonstrating to staff the advantages of online learning and teaching, as well as providing training in its use.

The DoI is useful to examine the results in this study because it not only shows the social change associated with moving to online teaching, it also helps us to understand how communication of the innovation use can be utilised as training in the future. The use of diffusion research tends to have a bias towards positive considerations of the innovation (Rogers, 2003), but in the case of emergency teaching there is no choice whether to use the innovation or not, negating this aspect. The process of diffusion is illustrated in figure 2.

Figure 2: Diffusion process of an innovation within a community (Reynolds, (2019), adapted from Rogers (1995), used with permission).



The first, pre-Covid, cohort used their desire to improve accessibility to education for clinical staff, who otherwise would not have access to courses which could improve their working practices, to innovate with ODL. According to Rogers (2003, p4), an innovation is adopted by early adopters if it is "compatible with beliefs and past experiences of individuals in a social system", which online teaching clearly is for clinicians as honorary teaching staff, believing access to master's level education is important for other clinicians. The second cohort were forced by the COVID-19 pandemic to teach online, but for this group the adoption curve seen in figure 1 was extremely steep due to the compulsory move online.

The first cohort perceived timeliness of training in technology use and online pedagogy was not always optimal. However, when they did receive training, they found it to be of high quality. In particular, members of the FMSTEL team helped with staff development, mostly on a one-to-one basis. We can consider the FMSTEL team as innovation champions; these are often innovators or early adopters who have gained experience in the use of an innovation and see the benefits. They are happy to communicate the benefits to others to improve the uptake of the innovation. For example, one commentator described the team as "brilliant mentors", receiving a great deal of help from the e-learning technologists and e-learning academics who were then part of the team, on an informal basis. Once the innovation champions have trained staff in the use of the innovation, there can be much less contact as the staff have greater confidence in their own abilities: a form of relational working (Edwards, 2007). There were also staff who self-trained, but nearly a quarter to one third of staff reported receiving no training on technology or pedagogy for online teaching. This is common amongst online teachers in HEIs (Cramp, 2013). Staff need to be supported in the development

of their online teaching skills (Peacock & DePlacido, 2018), so it is essential that good signposting to resources as well as other staff for support are available.

Of the second cohort, 33% did not use training resources at all, although they may not have tried to. Instead, some staff ran their usual campus-based lecture as a synchronous online session. There are many ways to employ online teaching methods (University of Edinburgh, 2016). However, if this was the case, staff failed to take advantage of the affordances of online teaching to produce the constructivist learning which engages students so well (Bryant & Bates, 2015). This was apparent from staff who had engaged students with asynchronous resources prior to synchronous sessions, finding their engagement better than in previous face-to-face classes, concurring with results on flipped classrooms reviewed by O'Flaherty and Phillips (2015). For example, this was demonstrated by comments from the lecturer running resources and sessions on critical appraisal. Staff who said they lacked training may have had a communication breakdown as resources and training was certainly available, though signposting to them is sometimes problematic. The university LTDS provided an online course in June 2020 ('Flexible Learning 2020'), and FMSTEL team had been on hand to provide advice all through the pandemic. Several staff said they would like more training on pedagogy, suggesting that technology training was adequate, and/or technology use had been intuitive.

It was noteworthy that colleagues were an informal source of online teaching knowledge for both cohorts, concurring with Kimberley & Suvandzheva (2021) whose early adopters provided professional development for the late adopters. It would have been useful to know where early adopters had received training prior to the pandemic, whether it was from other institutions, workshops or one-to-one training from LTDS or FMSTEL, or yet other colleagues. Some of the first cohort were involved in providing knowledge for the second cohort, able to impart this knowledge by interaction with their less experienced colleagues in online meetings due to working from home becoming the norm. This is a case of professional learning leading to the individuals in the community providing a good online teaching experience for students, mediated by other individuals in that community (experienced staff), via agentic action (Edwards, 2007).

Both cohorts described a wish for "help from the experts"; in this Graduate School, FMSTEL are ideally placed to provide this help, working as innovation champions. Previous research showed innovation champions to be useful for e-learning (Gachago et al., 2017). However, the timing and spread of FMSTEL help could be problematic if too many staff wish to receive support at the same time, such as just before the start of a semester. This has been planned for by having 'TEL leads' throughout the faculty, who are the 'go-between' groups of teaching staff in schools and institutes, and the FMSTEL team to enable planning of support, a strategy previously used in other HEIs (Sharpe, Benfield & Francis, 2006). However, communication could improve: staff need time to read emails and TEL leads need access to email lists to ascertain staff training needs and wants. Despite these problems, involving whole institutions such as this faculty is seen as a good way to utilise champions to diffuse the innovation (Charlesworth & Murphy, 2016).

Staff in both cohorts would have liked more examples of actual teaching online, and tips from others with experience of running courses. The Flexible Learning 2020 course aimed to provide staff with some exemplars of successful teaching, and the university has a website dedicated to case studies of successful education, but these may not be well enough signposted, and staff may find exemplars more specific to their specialism to be more useful. Northcote et al. (2015) developed a website to provide practical tips and resources for development for staff as 'just-in-time' training. They do not say how this is communicated to staff which would be useful knowledge for other institutions.

The results of the study show how staff development can be improved in certain ways. In light of these findings, it is apparent that 'just-in-time' training due to constraints on staff time provides a way forward. However, collaboration provides a greater sum of its component parts and in developing courses it has been shown staff working with educational technologists will not only design engaging courses, they will also undergo substantial professional learning (Brown et al., 2013). Improved communication of availability of the human resources, FMSTEL as the innovation champions and 'early adopters' for advice on the practicalities of teaching online, would all be useful to roll-out training in both pedagogy and technology use. Finally, it would be useful to have a 'one-stop-shop' such as a website containing case studies specific to the faculty as well as links to other courses and resources, including who to ask for help.

### Study limitations

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Surveying staff was a way to gain information rapidly. The second cohort the staff had little time available to participate, making the questionnaire a good compromise, despite interviews producing richer data (Paradis et al., 2016). It was apparent that staff were comfortable speaking their minds, and in the case of the second cohort, some used participation as a cathartic process to blow off steam about the additional work the move online had caused them. Moving online may have affected which of the staff were willing to participate in the surveys, with those who were dissatisfied with their training and the move online more likely to answer the questionnaires to complain which could in turn skew the results. However, enough staff replying seemed to be satisfied with aspects of their training for this not to be the case.

## Conclusion

The results of this study have shown that some staff found the move online challenging, for both ODL and emergency teaching. Training in online pedagogy and technology use was not necessarily timely, or even present. Staff moving to online teaching feel they would benefit from greater access to experts and examples of good online teaching practice. Some staff have shown how willing they are to train themselves. In order to improve staff development for online teaching in this institution, communication of the availability of FMSTEL as a resource, and signposting to online resources needs to improve. Some practice points developed from this research include the following:

- Time should be set aside for training, course development, running and updating
- Improved communication on resources available for staff development
- FMSTEL and experienced staff to act as mentors and innovation champions for less experienced staff to enable online teaching
- Training, whether formal e.g., workshops, or informal with mentors/FMSTEL team should be timely and situated
- Exemplars should be provided for staff to see what courses and different technology use could look like
- A dedicated website for resources and case studies including information on who can be approached for help should be available.

It has been useful to utilise Rogers' (2003) diffusion of innovations as a theory to investigate the use of online learning and teaching, showing how the use of innovation champions can benefit staff challenged to take up new modes of teaching. Interaction between members of the online teaching community (early adopters) and less experienced later adopting staff will provide development in order to improve the student experience. This study may be of use to other institutions involved in staff development for online teaching.

## Biography

Alison Clapp, formerly a practising veterinary surgeon, is an e-learning lecturer in Newcastle University Faculty of Medical Sciences Graduate School, teaching online courses on ageing. She also provides training for other staff preparing to teach online.

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