Effectively Using an Online Multidisciplinary Tool to Update Healthcare Mentors: A Comparative Evaluative Study

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Abstract—**This paper presents data comparing two evaluation studies following the implementation of a multiprofessional online mentor update tool designed to meet the learning needs of mentors in clinical healthcare practice. The data presented highlights that there was a positive response from clinicians using the tool during the first evaluation of 643 respondents and that this has remained positive following an increase in use to 1439. The huge resources needed to sustain traditional delivery of the updates, plus the inability of mentors to attend these events, were amongst the main drivers for the development of this tool. Results of the evaluation have identified that the flexibility of the online tool promotes engagement for both mentors and their line managers, and in doing so provides academic staff to alternatively utilize the time saved delivering it. The multiprofessional originality and uniqueness of the package has also promoted users to consider the mentor role from an inter-disciplinary perspective. With the Nursing and Midwifery Council praising the package as an example of innovative good practice, it is intended to promote its use in other regions that provide healthcare education.**

Keywords - Online; Mentor; Mentor update; Multidisciplinary; Interdisciplinary; Multiprofessional; Nursing

I. BACKGROUND

In healthcare education, the term mentor is used to describe the member of staff responsible for supporting students, for facilitating their learning and experiences within the clinical area, and making assessment decisions on their clinical abilities and knowledge. Mentors need to be adequately prepared, understanding the expectations and responsibilities of the role and the needs of their mentees. This paper explores and discusses further collection and analysis of evaluation data following implementation of an online multiprofessional update package for mentors of nursing, midwifery and other healthcare professionals. The package was originally conceived at the University of Huddersfield for use by just three professional groups [1], and has since been designed for use by fourteen professions in total: nurses; midwives; operating department practitioners (ODPs); occupational therapists; physiotherapists; dieticians; podiatrists; audiologists; clinical physiologists; diagnostic radiographers; radiotherapists; social workers; speech and language therapists and paramedics across the nine Higher Education Institutions (HEIs) in the Yorkshire and the Humber Strategic Health Authority [2].

An initial evaluation of the update tool was carried out [3], and this paper takes this process further. The data collection and analysis tools that were used for the prior evaluation are used again, but with a greater number of respondents (n=1439), to determine if the original outcomes are consistent. Finally, a summary of the findings and future plans are presented.

II. WHY IS THIS STUDY IMPORTANT?

The importance of healthcare professionals learning together to provide quality care has been discussed in the literature [4,5]. With increased time pressures on all healthcare professionals internationally, the need to provide education that is flexible to meet the personal and professional priorities of staff is essential. Additionally the use of an on line tool allows for mandatory information to be shared to large groups of individuals in a time efficient manner. Although this paper presents an online multidisciplinary tool focused on meeting the education needs of healthcare mentors, the underpinning developmental principles of the tool can be transferred to a range of learning activities, where it is important that information is transferred to large groups of staff immediately to maintain their knowledge and skills base. The interactivity of the tool provides the user with opportunities for professional development and to learn collaboratively, share ideas, discuss practice and

reflect on their own practice. Additionally tutors can facilitate conversations, offer advice and guidance ensuring that principles of quality are maintained, which is supported by Sims, who maintained that an online learning environment must be interactive and engage the learner in active communication [6].

III. THE NEED FOR AN ALTERNATIVE MENTOR UPDATE PACKAGE

The purpose of the update is not only to provide information, but also to offer a forum for mentors to discuss issues and to ask questions. For nurses and midwives there is a requirement by the Nursing and Midwifery Council (NMC), to update annually in order to be on a 'live' mentor register [7]. For ODPs an update is required within a two-year period as part of their Continuing Professional Development (CPD) cycle [8]. For the other disciplines involved in this project there are currently no specific periodic requirements for an update.

The updates, when delivered 'traditionally' through face-to-face sessions, were found to be resource-intensive, and variable in duration, quality and content, dependent on who delivered them. Added to this was a growing trend of falling attendance due to increased pressures from the clinical workplace. Therefore the time was right to consider an alternative delivery method. As a result, a web-based update tool for healthcare mentors was produced and evaluated. Background information on the development activity, underpinning processes, and initial evaluation, are described in detail in previous publications [1-3].

IV. DATA COLLECTION

Data collection is a continuous process. A questionnaire of both quantitative and qualitative questions is presented to the mentors at the end of the update, asking for responses that evaluate the update activity they have just undertaken; this provides the opportunity for regular analysis to take place [3]. A Likert scale [11] is used to extract data: strongly agree – agree – neutral –disagree – strongly disagree, with space available to add in comments, if required.

V. DATA ANALYSIS

One thousand, four hundred and thirty nine mentors completed the online update over a twelve-month period, more than double the number included in the previous evaluation [3]; Table I shows the demographic of the disciplines. Nurses and midwives, as expected, are still the majority of the professions that are updating; this will be a regular pattern for reasons previously indicated in this paper.

VI. DEVELOPING KNOWLEDGE

The update provided all of the relevant information relating to the mentorship role, as reported by 86% of mentors, with 88% indicating that it helped provide them with the knowledge of where to access further information. In relation to specific sections, positive responses were received from 90% of the users on the generic content (19% Strongly Agree, 71% Agree), 87% on the content in the Sets (scenarios) (18% Strongly Agree, 69% Agree), and 90% on the profession-specific content (20% Strongly Agree, 70% Agree). In consideration as to whether the update had been relevant to their role as a mentor, 92% were in agreement (21% Strongly Agree, 71% Agree).

Table II displays the differences between the original evaluation of 652 respondents compared to the follow up evaluation of 1439 respondents. Interestingly respondents from both groups have continued to agree that the content is relevant to their role thus highlighting that the format and content is meeting the needs of the mentors.

One mentor commented, '*Good update - interaction good as makes you consider all areas. Good to reflect on past experiences whilst having update and relevant learning criteria*', however, a small number of mentors commented that they would have preferred a face-to-face update and

TABLE I. NUMBER OF MENTORS IN EACH DISCIPLINE THAT HAVE COMPLETED THE UPDATE PACKAGE (N= 1439)

Audiology	3	Operating Department Practitioner	46
Clinical Physiology	4	Paramedic	0
Diagnostic Radiography	3	Physiotherapy	18
Dietetics	0	Podiatry	0
Midwifery	82	Radiotherapy	0
Nursing	1272	Social Work	2
Occupational Therapy	9	Speech and Language Therapy	0

TABLE II.   COMPARISON OF MENTORS RESPONSES REGARDING RELEVANCE OF THE CONTENT

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
Overall relevance	21%	19%	71%	72%	7%	8%	1%	1%	0%	1%
Professional content	20%	20%	70%	69%	8%	10%	1%	1%	0%	0%
Sets	18%	16%	69%	69%	11%	13%	1%	1%	0%	0%
Generic content	19%	17%	71%	70%	9%	12%	1%	1%	0%	0%

Key: Unshaded = 652 responses   Shaded = 1439 responses

would prefer the information to be paper based; it is worthwhile noting that there were consistent negative responses from this number of mentors for every question, clearly indicating a dislike for anything computer-based. However the majority reported that they preferred the online version as '*it made me think*' and '*more interactive than sitting listening to a tutor*'; a sentiment echoed by another mentor '*i had to engage a lot more than i do in the attended updates where i don't always concentrate*'.

One aim in developing the package was to move away from the disparate uni-professional nature of traditional updates, and to engender a multiprofessional perspective to the activity. This appears to have been achieved; when asked if the update had improved their understanding of how the mentor role can function in a multiprofessional way, 77% of the mentors felt that it had (20% Strongly Agree, 57% Agree), with only 4% disagreeing (3% Disagree, 1% Strongly Disagree).

VII.   DURATION

One of the main drivers for developing the online update, was to overcome the problem of clinical staff struggling to find time to attend scheduled update activities. However, this same lack of time has been reported in the past as a specific obstacle to nurses undertaking computer-based education in the clinical area [12,13], as has lack of access to computers, and deficiencies in users' IT skills [14-16]. During the first evaluation we identified that the highest majority of mentors took under four hours to complete the package. During the second evaluation we wanted to ascertain whether this was still the case, as we did not want staff to be taking over four hours to

complete the update knowing that many of the mentors were undertaking this in their own time.

When asked 'How long, not including breaks, did the update take you to complete?' the mentors' responses indicated that 50% took less than 2 hours to complete it, and 79% completed it in under 3 hours (Table III); this indicates the duration of the online update is equitable to the traditional update for most users. In contrast, 8% of mentors responded that the update had taken longer than 4 hours; however, it is not an unreasonable assumption that this was due to them accessing multiple areas of content, because students from more than one discipline were placed within their clinical area. This would have traditionally required them to attend multiple update events, each lasting several hours, and as such there appears to be time saved through doing it this way.

When asked '*Were you given time during your working day to complete this update?*' it was interesting to note that 64% of mentors had been given time, which appears to contradict the supposition that mentors had not been able to attend the face-to-face update sessions due to work pressures. It is not unreasonable to surmise, based on some of the qualitative comments, that in direct response to a new system being introduced, line managers had unusually made time available; one mentor stated that this was the '*first time ever that I have been given time…*' Another mentor identified that '*I have just started a new job so had the time made available during working hours as part of induction programme*'. However, not all mentors were afforded time to undertake the package, but due to the nature of the delivery were able to complete it in personal time; one mentor said, '*Because of the shortage of staff on our unit time was not available to allow me to complete this in works time*'. Indeed one mentor; '*found quiet time within night shift to complete*' which would not have been possible to achieve had they been

TABLE III.   TIME TAKEN TO COMPLETE THE UPDATE

Less than 1 hour	6%	5%
1 to 2 hours	44%	43%
2 to 3 hours	29%	28%
3 to 4 hours	13%	15%
4+ hours	8%	8%

Key: Unshaded = 652 responses   Shaded = 1439 responses

expected to undertake the traditional face-to-face session. These comments would support the assertion that finding time is a problem [12,13], but also identify that it can be overcome during certain shift patterns. There were no comments from mentors to indicate that lack of resources or poor personal ability hindered their progress with the update; this contradicts previous findings [14-16].

Respondents did state that they would have found it beneficial to be informed of the approximate time it takes to complete the update, prior to starting it, so that they could plan their time accordingly. They also commented that they would have liked to see a 'timeline' on each page so they knew how much they had completed. These issues are being addressed, with the evaluation data on duration, discussed above, being used to provide guidance on the average length of time it may take to complete the package. A progress indicator is also being introduced; however this is proving more difficult than anticipated due to the 'looping' options available to the mentors as they progress through the package.

VIII. USABILITY

The online package was reported as easy to navigate by 76% of the mentors (21% Strongly Agree; 55% Agree), with a further 15% providing a Neutral response. These figures are comparable, if not slightly improved, over the previous evaluation, as indicated in Table IV. Whilst recognizing that this is a positive outcome for a new tool with an untested design, and despite one mentor commenting that '*I am not the best IT person but find it so easy to use*', the data suggests there is still some room for improvement.

Ease of use featured regularly in the qualitative comments, with mentors indicating that the tool was '*easy to navigate', 'easy to understand and*

follow', 'user-friendly' and 'straightforward to use'. Arguably one parameter from which usability could be determined is how enjoyable the mentors found the experience. 40% of the mentors indicated positively with regard to enjoyment of the activity (7% Strongly Agree; 33% Agree), with 41% staying Neutral in their response; this means that 19% did not enjoy the experience (14% Disagree; 5% Strongly Disagree). It is not possible from this data alone to determine if these mentors' lack of enjoyment is a direct result of this particular package or the new delivery method, nor indeed whether it is the actual experience of updating that they do not find enjoyable. However, when asked if they would, by choice, undertake other activities online following this experience, 83% of the mentors said '*Yes'*. Also, when invited to rate this package in comparison to other updates they have experienced (1 being the lowest and 10 being the highest), 75% valued it 6 or above, with 13% providing a neutral response, Table V.

From the outcome of these two questions it can be surmised that overall the package and its 'new' delivery method were generally well received, suggesting the lack of enjoyment experienced by some may not be specifically related to the tool, but some other, as yet undetermined, factor.

Determining how enjoyable the mentors found

TABLE IV. COMPARISON OF MENTORS' RESPONSES REGARDING EASE OF NAVIGATION

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
652 respondents	18%	55%	17%	8%	2%
1439 respondents	21%	55%	15%	7%	2%

TABLE V. COMPARISON OF MENTORS' RESPONSES REGARDING HOW THEY RATE THE ONLINE PACKAGE, WITH 1 BEING THE LOWEST AND 10 BEING THE HIGHEST

	652 respondents	1439 respondents
1	1%	1%
2	2%	2%
3	4%	3%
4	6%	4%
5	17%	13%
6	9%	12%
7	15%	19%
8	29%	28%
9	14%	11%
10	4%	5%

the package is also important in relation to levels of personal motivation, high levels of which have been identified as essential for success by students on online courses [17].

IX. ACCESSIBILTY

The inability of mentors to attend traditional updates had been cited as one of the main drivers for the initiative to develop this tool and therefore accessibility of the package was an important factor in determining how successful the project had been for mentors. Indeed one of the main drivers for the development of accessibility of the learning tool was the importance of providing quality education and updates for staff who work in rural locations. These staff often found it difficult to leave their place for of work to attend traditional face-to-face updates due to the time taken to travel to locations. Therefore to be able to provide a means of education that ensured they received mandatory information to continue to undertake the mentor role in an effective manner was vital to both the mentor themselves and for the organisation. Through providing online education, the organisation could be assured that staff were provided with a vehicle to access up to date information regarding the mentor role and any professional, local or national guidance/policies/procedures that had been developed in support of the role.

Flexibility and convenience were repeatedly mentioned when mentors were asked what they liked most about the update during both evaluations, particularly being able to undertake it in a place of their choice, usually at home, rather than having to attend a session in a specific location; *'it was convenient for me to do at home because I have childcare issues to think about'; 'I could do it at work and not attend a study day'; 'if I have to attend a day course it is 140 miles round trip'; 'I could sit in my lounge and drink tea!'* This supports the supposition that healthcare professionals in general prefer to undertake computer-based professional education at home [18].

Being able to undertake the update at a time of their own choosing, was also perceived to be beneficial by mentors, *'I could complete it in my own time when convenient for me'; 'able to do online read at your leisure'; 'it could be done when it was convenient to me and my workplace'; 'it was on line so didn't need to go to a lecture and could do it when i wanted'; 'the ability to complete update without attending a teaching session, made it easier to fit in work commitments'*.

In addition, the ability to work at their own rate, as and when practical for each mentor, was identified as advantageous, *'was able to complete at a convenient time and pace'; 'able to complete it at my own speed'; 'I was able to work at my own pace'*, as was the functionality that permits mentors to carry out the update intermittently, returning as and when time permits, *'because the ward has been so busy i have been able to do this in my own time and be able to go back to it from time to time'; 'could log out and complete the course in sections rather than having to complete it in one go'; 'liked the ability to log in and out and not complete the update in one sitting'*.

It was important for us during the second evaluation that respondents remained positive about the update package and that they were continuing to use it. We were concerned that there may have been less enthusiasm about the on line version as time progressed. However this flexibility was appreciated so much, that several mentors already exhibited anxiety at the thought of not using it; *'I wish the updates could always be like this'; 'I would rather do this every year than have to go to a normal update in three years time like they say I have to'; 'Why do we have to do a face to face update every 3 years when this is good enough?'*

X. SUMMARY

'Yes, it exceeded what I thought I needed but in reflection may be it was just what the doctor ordered'.

As indicated by this quote from one of the mentors, the online mentor package has evaluated positively during the evaluation period. Users of the package have found it easy to navigate, whilst also identifying that it has met the learning and information needs required to undertake their mentor role effectively.

The inability of staff to attend updating activities [1,9] appears to have been remedied in

many ways through the online version, with significant numbers undertaking the update in a short period of time. This would appear to not only be due to its flexible access allowing staff to fit it into their schedules [19,20], but also as a result of a visible shift in the line managers' willingness to give time during the working day. It may be that the stimulus of a new approach was the cause of this, but whatever the reason, it contradicts suggestions that staff lack motivation and incentive to attend [21], if provided with the opportunity.

Somewhat surprisingly, staff also stated that they generally enjoyed the experience, and whilst it is unknown whether this also applied to the traditional approach, there is clear evidence that this tool was appreciated, in the main, above previous update experiences. This supports findings that online approaches to learning can provide stimulus and interest for students [22], promoting meaningful learning [23].

The multiprofessional originality and uniqueness of the package has also promoted the professional groups to learn about the mentor role from a perspective beyond their own discipline, and importantly it has provided them with a 'one stop shop' to enhance their knowledge base in mentoring students from more than one profession and one HEI, at one session.

There still appears to be confusion amongst some of the nursing mentors regarding the requirements of the Nursing and Midwifery Council, and whether or not a face-to-face update is still required once in every three-years. This appears to be a misinterpretation of the updated NMC Standards [4], where the information pertaining to 'Continuing Professional Development for Mentors', states that the provision for updating should give mentors the '*opportunity to discuss issues related to mentoring, assessment of competence and fitness for safe and effective practice.*' This in itself would not explain the confusion, but may do so when coupled with reference in the Standard to a triennial review, where each mentor is reviewed every three years, to ensure they continue to meet the requirements to be a mentor. Regardless of why this misinterpretation may have occurred, the situation will need clarification for the future to ensure the mentors understand what is required. There are

several ways for mentors to discuss elements of the role, even when updating online. For this reason, the update package has systems built-in that facilitate both updating as a group, and communicating via a synchronous text-based communication (Chat room); mentors can also discuss issues arising from the update with colleagues back in the workplace. This activity of sharing may enforce learning, and also promote teams of mentors in consistently working together.

It is anticipated that freeing academic staff from the 'burden' of delivering the updates will now enable them to concentrate this time more effectively in providing further support for the mentors within the actual placement environments; thus meeting their identified needs [9, 24].

A limitation of this evaluation is that the majority of the participants are from one discipline, nursing, which may make it difficult to generalize the results. However, this can also be construed as a positive, because for this professional group, annual updating will have been 'the norm' throughout their career; as such they are the group most suited to evaluate this new tool against their previous, traditional, experiences.

However, it is interesting to note the experiences of medical staff mentors' experiences of undertaking mentor learning programmes [25]. It was identified that very few publications exploring mentorship programmes focused on the effect of these programmes for the mentor, but rather discussed the benefits to the mentee. Results highlighted that respondents discussed the increased use of reflection of their own work and values, as well as a development in their approach to relations, patients, colleagues and ethical dilemmas, as a result of undertaking a mentorship course [25]. In our evaluation of the online mentor update tool respondents highlighted that undertaking the tool had heightened their awareness of working as a multidisciplinary team member, as can be seen in Figure 1.

The whole ethos of the mentor role is to improve the experience of the learner, Stenfors-Hayes et. al. suggested that the findings of their study may provide a link between teaching and clinical practice and be a way to support and enhance the teacher role in the field of medicine [25].
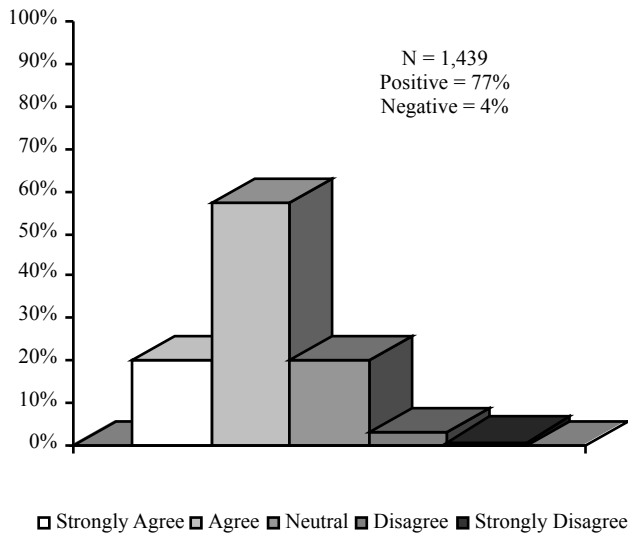
N = 1,439
Positive = 77%
Negative = 4%

□ Strongly Agree □ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Figure 1. "I have an improved understanding of how the mentor role can function in a multiprofessional way"

Indeed in our study respondents claimed that their understanding of the learning needs of students had been enhanced, as exemplified in Figure 2.

XI. CONCLUSION AND FUTURE WORK

The development and implementation of the package has proved successful in meeting the mandatory training needs of mentors in practice. Additionally it has identified the importance of
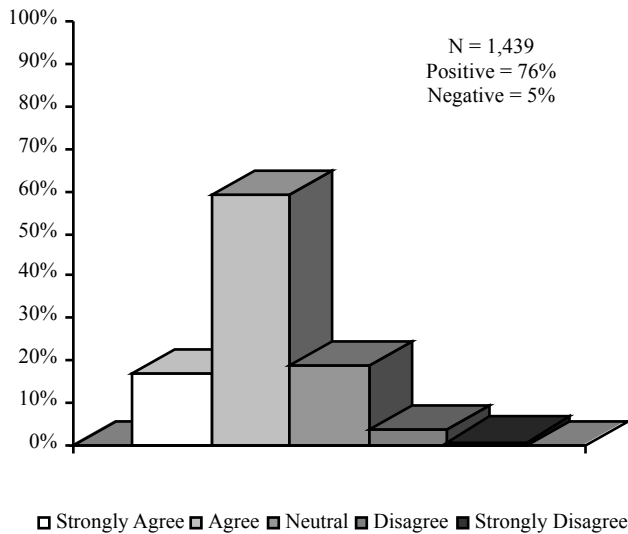

N = 1,439
Positive = 76%
Negative = 5%

□ Strongly Agree □ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Figure 2. "Through this activity my understanding of how to improve the learners' experience has been enhanced"

clinical practitioners learning together and has promoted interdisciplinary learning. The NMC have praised the package as being '*an example of innovative good practice*', and as such it is intended to promote use of it in other regions that provide healthcare education. It is also anticipated that the structure underpinning the tool may be utilized for other subject areas.

Future work includes continual evaluation of the package to ensure the information maintains its relevance and currency; it is anticipated that this will be achieved through delegation of administrative rights to each discipline or institution, allowing self-management of the content.

Further development of the chat tool [2] is also being considered, to introduce video functionality, in order to enhance the interactions between the mentors. However, initial investigations into this suggest there may be problems accessing video via some institution's networks, due to current security settings.

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