

# Can breastfeeding support be taught online? An evaluation of a training package for student health visitors

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## Abstract

This paper presents an evaluation of an online learning package which was developed to support student health visitors' learning about health promotion in infant feeding and how best to support parents in the community. Increasingly online learning is used in combination with traditional classroom based teaching and experience in practice within nursing education. In order to meet the needs of students who live across the South West region, innovative ways have been developed at the University of the West of England, Bristol, to deliver high quality, evidence based education. Study participants (n= 66) were enrolled on a specialist community public health nursing course and were part of a cohort which studied at two geographically distant venues in the South West of England. Quantitative and qualitative data were collected using an online survey. Findings were that students had the skills and ability to use the online programme, and enjoyed working at home at a self-directed time and pace. Expectations of online learning packages are high in terms of professional presentation and technological quality. While students accepted the concept of online learning, some considered that this was not an appropriate method to deliver training about breastfeeding. This evaluation suggests that the majority of students accept online learning as part of a blended learning package, even for practice-based subjects such as breastfeeding promotion and support.

Key words: Health visiting, nursing, health promotion, infant feeding, online learning

## Introduction

Over the last decade, there has been a rapid development of Information and Communication Technologies, paralleled by the development of the web and web culture. The challenge for Higher Education Institutions (HEIs) has been in using online learning to develop new processes for teaching, learning and assessment in order to enhance the quality and flexibility of provision, meet student expectations and improve access to learning for students whilst they are off campus (HEFCE 2009). A model of blended learning is seen to best support the delivery of continuing professional development for NHS staff as this facilitates learning which is situated within the workplace and enhances collaboration with the Higher Education sector (Waite et al 2008). Some exploration has taken place into the barriers and facilitators to nurse educators adopting online learning (Petit dit Dariel et al 2012) but in general the use of ICTs and online learning within nursing has been underexplored (Moule et al 2010).

Online learning for student specialist community public health nurses (SCPHNs) is an area of particular interest, due to the rapid increase in numbers of health visitors in training since 2011. The Health Visitor Implementation Plan (DH 2011) aimed to increase the health visiting workforce by 4,200 by 2015 and this has led to major changes in the training provided by HEIs throughout the country. The University of the West of England hosts the SCPHN training programme for the South West of England, and is the largest provider of health visitor training in the UK. Since 2011 over 800 SCPHN students have enrolled at UWE and attend the university at two geographically distant sites. The drivers for extending online learning within HEIs such as flexible working, better home/life balance and the using advanced technology in all areas of life (Hammersley et al 2013) apply equally to SCPHN students. For ecological reasons reducing travel is also desirable. Sustainability is a key part of UWE's strategy in working with communities and partners within the local and regional economy and this was therefore a consideration when planning the delivery of the SCPHN training across the South West region.

Studies are now emerging which explore online learning for SCPHN students and Appleton et al (2014) have developed online resources to help student health visitors in identifying attachment difficulties within the early postnatal period. At UWE the decision was made to deliver an information package about infant feeding as an online resource. The online package was designed to deliver the theoretical aspects of infant feeding in tandem with practical experience and face to face teaching which health visiting students accessed via their practice teacher. In their clinical practice students consolidated the online learning by completing practical observations and developing skills in positioning and attachment and hand expressing, as well as generally in supporting mothers and babies. In addition to learning from practice teachers, the majority of employing organisations provided training for their staff which students were required to attend. This usually consisted of a one or two day, face to face training, based upon UNICEF Baby Friendly Initiative (BFI) standards, which was led by a specialist infant feeding practitioner. This combination of e-learning plus supervision in practice is recommended for high quality learning and hence improved patient care (DH 2011).

Infant feeding is a central part of the health visitor's public health work with children and families which has the potential to influence lifelong health (DH 2009). The contributors to this project brought different skills and expertise to devising and implementing the online package. LC, who took the lead on project management, has experience in infant feeding practice and research (Condon et al 2003, Condon & Ingram 2011, Condon et al 2013, Condon & Salmon 2014). JM as SCPHN programme leader supported the inclusion of the package within the curriculum and contribute from a management and practice perspective. SM provided the technical expertise to create the online package. This was designed to be easy for the learner to use and was composed of nine dynamic e-learning modules created using Adobe® Presenter and made available through the UWE's Learning Management System Blackboard. Each module consisted of interactive video lectures, supported by quizzes and multimedia content that were designed to allow learners to integrate and apply their new knowledge (Clark and Mayer, 2011). The content closely followed the BFI model with sections on the theory and practice of supporting breastfeeding, formula feeding and supporting parents in informed decision making.

## **Aims and objectives**

Aim- to evaluate student satisfaction with an online learning package developed to support student health visitors' learning about health promotion in infant feeding and how best to support parents in the community.

### **Objectives**

- To identify the perceived benefits of online learning for students
- To identify the perceived challenges of online learning for students
- To determine whether students consider an online learning package is an acceptable mode of delivery for didactic information about breastfeeding management

## **Methods**

Survey methodology was used to evaluate student satisfaction with the online learning package using a multi-item self-administered online questionnaire which captured quantitative and qualitative data. Surveys involve systematic questioning to yield data which aims to be representative of the population being researched (Sapsford 1999). Findings are considered reliable if the sample is representative of the study population and the data obtained are standardised (May 1997). There is no scope for participants to introduce new ideas within a survey as the questions are pre-set by the researcher, but an opportunity can be offered for non-standardised response by giving space for free text comments. The survey was designed to be easily completed and consisted of 25 questions with space for free text comments. Survey questions were focused on attitudes to online learning and satisfaction with the online package.

The sampling frame was one cohort of students enrolled on the SCPHN course at the University of the West of England (n= 84). Participants came from across the South West region and were taught at one of two centres which were geographically distant. The cohort included school nurses, some of whom chose to complete the breastfeeding online package because they considered this knowledge would potentially be useful in their health promotion work in schools. Students were invited to participate by an email which explained why the evaluation is being carried out, that participation is voluntary and that individual responses will remain confidential. Consent was assumed by participants completing the survey. Students began studying the online breastfeeding module in September 2011 and survey data were collected in April 2012.

## **Ethics**

A university ethics committee approved this project. The survey was conducted on the KwikSurvey website, which is password protected. Electronic copies of data were stored in pass-word protected computer folders and all hard copies of data stored in a locked cabinet accessible only to the researchers.

## Findings

Following three email reminders a 70% response rate was achieved. The sample was almost completely female, with the majority of participants in their 30s and 40s, and included a small number of school nurses. Almost half of the sample were qualified as children's nurses, and a third as adult nurses. Over 80% of the sample had previous experience in supporting breastfeeding, but it was not apparent from the survey whether this was in a professional or peer support capacity. Of those who had children (75%) only 6% had not breastfed, a much higher rate than in the general population (Health and Social Care Information Centre 2012). However, free text comments suggested a variety of breastfeeding experiences ranging from early cessation to successful continued breastfeeding.

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### Demographic details of participants

<b>Total number of respondents</b>		66
<b>SCPHN pathway</b>	Health visitor	59 (89%)
	School nurse	7 (11%)
<b>Sex</b>	Male	1 (1.5%)
	Female	64 (98.5%)
<b>Age</b>	21-28	15 (23%)
	29-38	23 (35%)
	39-48	23 (35%)
	49-58	5 (7%)
<b>Previous qualifications:</b>	RN (Child)	31 (48%)
	RN (Adult)	22 (34%)
	Registered midwife	11 (17%)
	RN (Learning Difficulties)	1 (1%)
<b>Previous experience of supporting breastfeeding</b>	No	17 (17%)
<b>Personal experience of breastfeeding</b>	I breastfed my own children	44 (69%)
	I did not breastfeed my own children	4 (6%)
	I do not have children	16 (25%)

Survey questions were focused on attitude to online learning and satisfaction with the online package. Students' attitudes to online learning were predominantly neutral with

45% of students neither pleased/not pleased at the inclusion of online learning as part of the SCPHN course, and 50% equally unconcerned whether breastfeeding was studied online. Students felt that they had the skills to use the package (81%) and liked studying at a self-selected time and place (76%) and at their own pace (64%). 97% of students used the package at home, and 64% agreed that working online helped them to manage their work/life balance. Despite agreeing to these positive benefits of online learning, only 54% stated that they enjoyed studying online, with 32% being neutral (neither enjoyed or didn't enjoy studying online). Just under half of all participants considered that they learnt a lot about infant feeding from the package, with 52% agreeing that the online learning complemented learning about breastfeeding in practice.

## Survey Responses

Attitude to online learning			
I was content to study online as part of the SCPHN course	Yes		27 (42%)
	No		9 (14%)
	Neither yes or no		29 (45%)
I was content to study breastfeeding online	Yes		16 (24%)
	No		17 (26%)
	Neither yes or no		33 (50%)
I have previous experience of online learning	Yes		41 (62%)
	No		25 (38%)
Using the online package			
I accessed the package	At work		2 (3%)
	At home		62 (97%)
I found the software easy to use	Yes		23 (36%)
	No		22 (34%)
	Neither yes or no		19 (30%)
My IT skills were sufficient to use the package	Yes		53 (81%)
	No		4 (6%)
	Neither yes or no		8 (12%)
There was enough support for problems	I had no problems		19 (30%)
	Yes		26 (41%)
	No		19 (30%)
Potential benefits of learning online			
I could study at a time and place convenient to me	Yes		48 (76%)
	No		8 (12%)
	Neither yes or no		7 (11%)

I could work at my own pace	Yes	42 (64%)
	No	12 (18%)
	Neither yes or no	11 (17%)
Learning online helped me manage my work/life balance	Yes	42 (64%)
	No	15 (23%)
	Neither yes or no	9 (14%)
Satisfaction with the online package		
I enjoy studying online	Yes	35 (54%)
	No	9 (14%)
	Neither yes or no	21 (32%)
I am learning a lot about infant feeding from this package	Yes	31 (48%)
	No	12 (19%)
	Neither yes or no	21 (33%)
Online learning about breastfeeding complements my learning in practice	Yes	33 (52%)
	No	9 (14%)
	Neither yes or no	22 (34%)

Free text comments added some depth to the quantitative findings. Positive statements about the content of the package were concerned with the relevance and easy availability of the information.

Positive free text comments about the online package

*'New, interesting information that you can read at your own pace.'*  
(Participant ID177)

*'Easy to follow, visual, broken down into small sections'*  
(Participant ID980)

*'It is good to have something to refer to and to refresh existing knowledge'*  
(Participant ID629)

*'[You] can go over the sessions several times and go back if something comes up in placement you're not sure about'*  
(Participant ID 612)

Negative comments were primarily related to initial teething problems with the package which adversely affected students learning, the most significant of these being sound quality. Some students had experience of other online learning, such as Open University courses, and rightly had very high standards for online learning which were not met by this pilot resource. A minority did not like the mode of learning or considered the subject unsuitable for online learning.

Negative free text comments about the online package

*'Minor technical problems to start with'*  
(Participant ID980)

*'In theory, it is a good idea. I think the gremlins killed it though'*  
(Participant ID 615)

*'As it is supposed to be a professional learning aid perhaps it needed to be voiced a little more professionally, i.e. no background noises!!'*  
(Participant ID122)

*'Personally [I] like to read information rather than listen'*  
(Participant ID626)

Several students who had previously completed the traditional classroom based UNICEF BFI course suggested that this should be delivered in place of the online learning, as they considered face to face learning superior. Some general comments hinted at the particular challenges of using an online package to deliver breastfeeding training; personal adverse experience could influence views on promotion of breastfeeding. This did not appear to be linked to attitudes to the online learning package itself but merits further exploration using a qualitative research approach.

At the end of the SCPHN postgraduate course a UNICEF BFI style assessment was carried out with health visiting students. Taking a randomly selected sample of 31 students, results were that while students generally received high scores (over 70% responding correctly to most questions) but the 80% pass rate required by UNICEF BFI was not consistently achieved. This is disappointing as, in addition to the online training, students were learning about infant feeding in practice and many also took courses offered locally by breastfeeding specialists. In view of the requirement that health visitors promote breastfeeding with all mothers ante-natally and offer support post-natally (DH 2009), this demonstrates that more attention needs to be given to

educating health visitors to effectively support mothers in breastfeeding their babies for as long as they wish.

### **Discussion**

This research contributes to the literature concerning nurses' use of online learning, an area that is growing in both HEIs and in the commercial sector. A meta-analysis of online learning conducted in the USA (Means et al 2009) suggests that student outcomes are improved when elements of online and face-to face instruction are blended, however the authors caution that other factors may contribute to this finding apart from the media by which training is delivered. With specific reference to online learning among student nurses the field of evaluation has been steadily growing (Kenny 2002, Ali et al 2004, Sit et al 2005) and it is apparent that the use of online learning is being used innovatively in post-graduate health visiting education (Appleton 2014). While Kenny (2002) highlighted that computer confidence influences online learning, it is striking that in this study most participants considered they had the computer skills required to study online; many were experienced in this type of learning and some actively enjoyed it. It seems that online learning is an expected part of post-graduate education and students are unfazed by its inclusion. A major learning point from this study was that expectations of advanced technology are high; even in a pilot study a less than professional finish is off-putting and impedes learning.

It is undeniable that health visitors require high quality, evidence based training in infant feeding, and that a programme based upon UNICEF BFI offers one of the best evidenced way of providing this (Dyson et al 2010, Ingram et al 2011). The Healthy Child Programme (DH 2009) emphasises the importance of breastfeeding as a public health priority, and the Health Visiting and Midwifery Partnership model (DH 2012) suggests time points at which practitioners should promote breastfeeding and discuss safe infant feeding with parents. The evidence base for the benefits of breastfeeding and the contribution of timely weaning to optimal infant and maternal health is well established (WHO 2003). Similarly the interventions which are effective in promoting breastfeeding are recognised and supported by research (Dyson et al 2005, Renfrew et al 2005, Renfrew et al 2006, Renfrew et al 2012). As the evidence-base for promoting breastfeeding is so well established there is therefore potential to incorporate this into a blended learning package.

Online learning fits in well with students' work-life balance and contributes to the sustainability agenda by reducing travel. This study showed that the majority of students accepted that the theory of infant feeding could legitimately be taught within an online package. However, the effectiveness of the package in contributing to effective learning in promoting effective breastfeeding is not known. This study assessed student satisfaction with the package rather than how well it prepared students to support parents. In view of the results at the end of year assessment, which would not quite have reached BFI standards in all categories, this would be an important evaluation to carry out. The area of combining e-learning with supervision in practice is recognised as important but currently insufficiently developed (DH 2011).



This study has several limitations which need to be taken into account when considering the results. Firstly the survey methodology provided data which gave an overall view of students perspectives of the online package but which did not present an in-depth insight. This is particularly important in the area of breastfeeding promotion which may be a sensitive area for some students, many of whom were mothers. In the case of training future health visitors, it may be that attitudes are important in conveying the information, and this may not have been tested sufficiently within this design. Secondly although students were asked to sign to state that they had followed this course, the extent to which the online course was completed or how much time was spent on it was not monitored. This means that students may have relied on existing knowledge, and not engaged with the new learning. Finally, the results of the UNICEF BFI style assessment should be interpreted very cautiously, as other factors may have contributed to this outcome in addition to the online training.

**Conclusion:** Community public health nurses promote the wellbeing of children and families by delivering an evidence-based programme of support, starting in pregnancy and continuing throughout childhood (DH 2009) and this online package contributes to student learning around healthy nutrition. This evaluation suggests that online learning can be effectively incorporated into a blended learning package, even for practice-based subjects such as breastfeeding promotion and support. ICT can contribute to the delivery of the Unicef Baby Friendly training in breastfeeding management, which has important implications for other Higher Education establishments delivering this training.

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