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Title - Development of an elearning programme to improve knowledge of interprofessional education in undergraduate healthcare students

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Abstract - Evidence has highlighted the importance of interprofessional education in relation to the promotion of collaborative team working and the ultimate reduction in communication errors amongst healthcare professionals. The establishment of interprofessional education in undergraduate healthcare programmes prepares students for interprofessional collaboration, which is vital to the delivery of safe patient care. Using a logic model approach an interprofessional education e-learning programme was developed and made available to healthcare professional students to undertake during their clinical practice experiences. This paper describes how a logic model process was used to develop and implement this interprofessional education elearning programme for use by undergraduate healthcare students.

Introduction

The World Health Organisation (WHO) (2010) stated that “interprofessional education (IPE) occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes”. IPE is not a new educational phenomenon within healthcare. Its origins can be traced back to the early 1900's to India's Mission hospitals. One of the most notable pioneers of IPE is recognised as Dr Martin Cherkasky who developed primary care interprofessional teams in New York in 1948 (Cherkasky, 1949). In the decades that have followed this IPE has continued to gain recognition internationally as one of the most effective methods that can improve healthcare delivery (Varghese et al, 2012).

A number of barriers have been identified to the implementation of IPE such as the different standards and professional requirements of professions, University timetabling and access to professionals (Patel et al, 2016). However, public inquiries across the United Kingdom (UK) that relate to failing standards of patient care have indicated that there is often a failure of communication between health care professionals and agencies to share their knowledge of concern (Frances, 2013; RQIA, 2005; DOH, 2006). These inquiries have prompted a renewed focus on the need for effective interprofessional relationships and training and a call for commissioning, Governmental, professional and healthcare bodies to support IPE development in the UK. This paper intends to discuss the development of a clinical practice IPE e-learning programme, for use by all undergraduate healthcare professional students to help develop their interprofessional knowledge.

Background

There are many advocates for the inclusion of IPE for healthcare students. Owen et al (2015) highlighted the importance of IPE as it aims to reduce errors in communication and promote understanding of inter-disciplinary team working. The WHO (2010) Framework for Action on Interprofessional Education and Collaborative Practice concluded that after “almost 50 years of inquiry, there is now sufficient evidence to indicate that IPE enables effective collaborative practices which in turn optimizes health-services, strengthens health systems and improves health outcomes”. Morton (2016) conducted a small-scale study that facilitated a joint training session for health visitor, school nurse and social work students, on community placements working with children and their families. The findings from this study have indicated that the

“opportunity to integrate students’ education at such a formative stage of their careers can only be of a benefit to the long-term care of families” (Morton, 2016). The WHO Study Group on Interprofessional Education and Collaborative Practice conducted a study which included results from 42 countries on information and insight about their respective IPE programmes (WHO, 2010). The results indicated that IPE involves students from a broad range of disciplines including allied health, medicine, midwifery, nursing and social work. It also reported that some of the health policy benefits they experienced after the implementation of IPE were better access to quality health-care, enhanced work place practices, improved patient outcomes and safety.

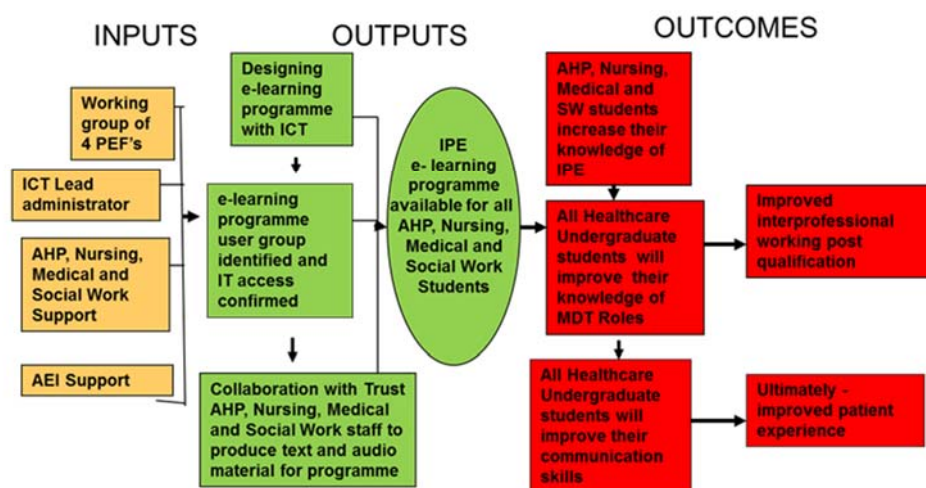
With the knowledge that the implementation of IPE improved patient outcomes, a practice education team in a Health and Social Care Trust identified an opportunity to develop and improve IPE training in clinical practice. However, the large and diverse healthcare student population led to facilitation issues with regards to the delivery of this training as IPE had traditionally been delivered via face-to-face instruction. Other educational delivery approaches had to be considered to ensure maximum uptake of the training.

ELearning or online learning has become more widely recognised for all avenues of education delivery as it creates flexibility in learning and can facilitate larger student numbers (McColgan and Rice 2012, McCutcheon 2014). This form of learning combines autonomy and self-sufficiency with the interdependence of its participants, making education accessible to all on a seemingly boundless scale (Garrison, 2017). A number of reviews have concluded that elearning is now comparable to conventional face to face teaching methods in terms of knowledge transfer and student performance (Cook et al 2010, Rowe et al 2012, McCutcheon et al 2015). With these attributes in

mind the practice education team focused their attention on the development of an elearning IPE training approach.

In order to ensure that the development process of this IPE training project was comprehensive the team decided to utilize a logic model approach. A logic model presents a programme’s logic or rationale and is designed to efficiently communicate the elements of a programme that make it work. These elements are typically classified as inputs, outputs, and outcomes (MacPhee, 2009). These elements can be visually displayed in a number of ways, but the Wisconsin model design is intended to show the connections or flow between the key elements (Taylor-Powell et al, 1996). This logic model has been successfully applied in the development of other elearning training programmes (McCutcheon and Lohan, 2017) to help visualise the stages of an educational programme.

SITUATION: To enhance and develop IPE knowledge amongst healthcare undergraduate student groups



(Figure 1)

Inputs: Collaborative working

A working group of four Practice Education Facilitators (PEF's) was established in February 2015, initially in order to explore potential opportunities and learning activities that might be pursued and to propose a timeline for the developmental process. This is captured in the Inputs section of the Logic Model (Fig 1). The working group recognised that collaboration with a wide range of staff was important to ensure the success of the project. The three local higher education institutes (HEIs) and key allied health professionals (AHP) were contacted and informed via email about the project and this was met with positive responses from all involved. Hayes et al (2011) recommends that logic models are developed collaboratively, with key stakeholders, as the process of developing the model creates shared understanding and expectations of the vision, activities, roles and responsibilities. This is particularly helpful in a complex environment where programmes are working towards long term outcomes with high levels of uncertainty (Reynolds and Sutherland, 2013).

The need for collaboration with an online technician was vital to the successful development of a programme that was easily accessible and fit for purpose. McCutcheon (2014) indicated that "strong partnerships" with computer scientists is necessary to develop successful elearning programmes. With this in mind an Information Communications Technology (ICT) Lead Administrator in the Health and Social Care Trust was contacted and asked to participate in the development of the elearning training programme.

Outputs: IPE training programme

The following professionals (Fig 2) provided direct support to the programme in the form of audio role descriptions, patient case scenarios, images of their service in practice and sample questions for assessment purposes.

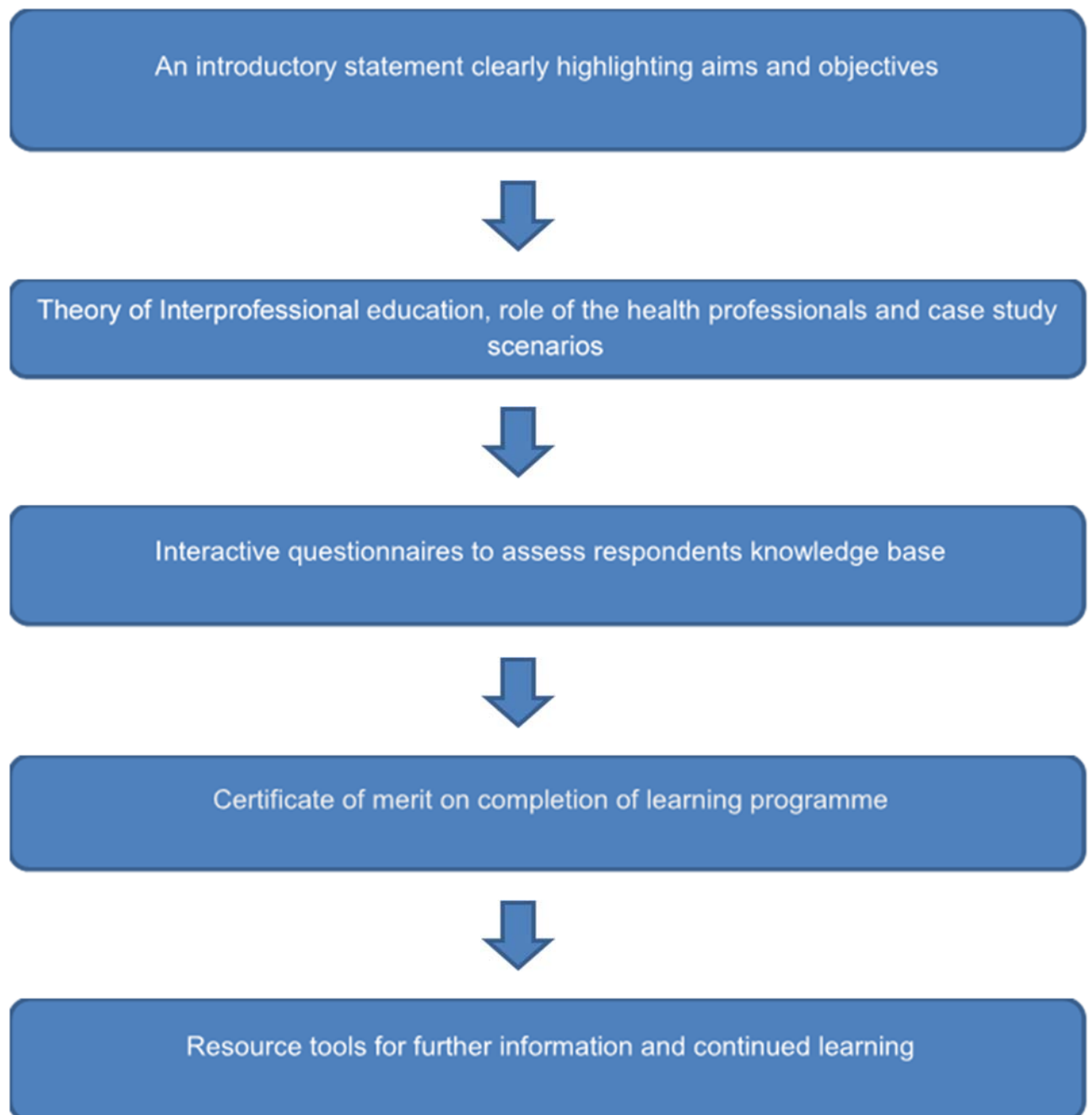


(Figure 2)

This collaborative approach led to the creation of five interactive patient case scenarios which directed individual students to explore each professional's role in the patients care and how working together improves the patient's journey. Following completion of the programme online resources are available for the students to explore IPE further in 'real life' patients scenarios either individually or as a group.

A draft proposal for the creation of an IPE e-learning programme was sent to an ICT Lead Administrator in the Trust in March 2015. The proposal described how the

programme activity would be accessible through the Health and Social Care Trust intranet hub webpage to enable ease of access and would include the following key components:



(Table 1)

This process of designing the IT architecture for the e-learning programme was created over the period of June 2015 to August 2016. Some of the reasons behind this protracted period of time were due to AHP and IT availability to assist with the project.

Outcomes: Student engagement and evaluation

By early October 2016 the IPE e-learning programme had been completed and uploaded to the Health and Social Care Trust intranet for a short period of review and testing. This was carried out by PEF's and convenience selected student groups. The elearning programme subsequently went live on the intranet on the 24th of October 2016. Every undergraduate healthcare student in clinical practice in the Health and Social Care Trust was encouraged to complete the elearning IPE programme however it was not a mandatory requirement due to student IT access constraints.

On completion of the programme the student is awarded a certificate, however prior to receiving this a standard online survey monkey evaluation must be completed. As the programme is linked to the individual students IT account the evaluation is not anonymous.

One Hundred respondents have successfully completed the programme and reviewed their experience as mostly positive, with comments such as:

- The course itself is a wonderful idea and is showcasing the professions currently included very well, and gives students from any professional pathway a more holistic view of a patients healthcare journey and the different roles each professional group play
- Thank you for all the hard work that has been put into get this course to where it's at, at the moment-its greatly appreciated even if you don't hear it that often

The overall negative feedback received, referred to the length of the programme, at one hour, as being too long.

It is proposed that the IPE elearning activity will continue in its present format for approximately one year, after which its overall effectiveness will be evaluated through the use of a follow up questionnaire, which will attempt to ascertain if the training had an impact on their interprofessional knowledge. The development of the evaluation process is an essential component of the planning stage of programming. Effective evaluation must include not only the measurement of outcomes but also the examination of processes involved (Dykeman et al, 2003).

Conclusion

Using a logic model approach the Health and Social Care Trust Practice education team created an elearning IPE programme that has enabled all undergraduate healthcare students the opportunity to undertake IPE training during their clinical placements within said trust. Collaborative partnership working and ICT support were also key to the success of the development of the programme.

During the initial six-month 'going live' period of the programme, 100 respondents completed and evaluated their experience. This group and future respondent's evaluations of the IPE elearning programme will be the subject of follow up articles that will explore in detail their engagement with the programme and how it has influenced their current practice in relation to interprofessional working.

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