The PRACTICE Framework for organising and delivering a learning event for pharmacists' lifelong learning

Abstract

INTRODUCTION: To date, there is no unified model in Great Britain (GB), or globally that provides consistency in planning, delivering and evaluating learning events, that can support pharmacists' lifelong learning. This poses ongoing challenges for quality assurance and standardisation. The aim of this study is to present the development and validation of a framework to support the planning, delivery, and evaluation of learning events.

METHODS: Development and design of the framework was a result of using triangulating methods capturing data from previous studies. Primary validation included face validation and content validation. Secondary validation involved using a think-aloud systematic process. Finally, the framework was trialled in practice by organising, delivering and evaluating a learning event, following its guidelines.

RESULTS: Initially, the PRACTICE framework included 48 statements. The content validity of the framework was 0.90. Think-aloud interventions resulted in changes to the number and clarity of statements, along with their position in the framework. The final PRACTICE framework consists of 51 statements and was successfully trialled in a face-to-face training event.

CONCLUSIONS: The PRACTICE framework is an instrument supported by validation evidence and has been shown to be used effectively. Although the PRACTICE framework was created primarily for pharmacists, validation showed it can also be used for organising training events for other healthcare professionals. Future organisation and delivery of events according to the framework will continue to provide evidence about use in different settings.

Keywords

Pharmacist; Lifelong learning; CPD; Framework; Planning; Delivery; Evaluation, validated tool.

Conflict of interest

The Authors declare that they have no conflicts of interest to disclose.

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Specific Contribution to Literature

No previous framework can be identified that supports the planning, delivery and evaluation of a learning event. Therefore, this study provides a unique and validated framework to support those who organise and deliver learning events.

Introduction

The International Pharmaceutical Federation (FIP) released a quality assurance framework for global pharmacy education in 2014[1]. This framework outlined that quality pharmacy education was underpinned by science, practice and ethics as its foundation, that are supported by five pillars: context, structure, process, outcomes, and impact. Bader et al.[2] in 2017 used elements of the FIP 2014 global quality assurance framework to help analyse the current status of pharmacy education, regulation and practice in Jordan and to propose a way forward.

Whilst the FIP quality assurance framework was predominantly aimed to teach undergraduates at Schools of Pharmacy, Mestrovic et al.[3] in 2015, when describing the quality assurance framework, acknowledged that a significant amount of learning continues to take place after students leave university, and that the framework can be used by pharmacists to help assure them of the quality of the education they are receiving. Indeed, Mestrovic et al.[3] identified that the quality criteria framework can be used by educational providers and learners to assess the quality of Continuing Education (CE) and Continuing Professional Development (CPD) educational activities; the latter is the learning format used in Great Britain (GB). Mestrovic et al.[3] therefore, created 50 yes/no statements measuring quality based on science, practice, ethics, context, structure, process, outcomes and impact, based on the original FIP quality assurance framework.[1]

Complimenting the pillars identified for quality by FIP,[1] in 2012 Farrell et al.[4] identified elements that should be considered when planning a CE intervention, including funding; partnership working; using distance learning expertise and best practices; planning systematically; future planning, and completing a pilot prior to the event. A study conducted by James *et al.*[5] in 2002, looking at CPD development needs of community pharmacists identified that when designing a process to support CPD, individual needs and personal barriers to participation and assessment of learning should be considered, and that facilitation of learning is pivotal to development of staff. In their papers, Farrell et al.[4] and James *et al.*[5] shared reflections from their practice. However, whilst these are important, they do not provide step by step guidelines needed for planning, delivering and evaluating an event on a practical level.

In addition to quality assurance, frameworks also aim to support uniformity, for example, across nations, such as the common training framework (CTF) for hospital pharmacy[6] which was drafted in

2017 to ensure key elements were achieved for education and training provision. The drafted CTF is still under review.

To date, there is no unified model in GB, or globally that provides uniformity in planning, delivering and evaluating learning events, that can support quality assurance, whilst also supporting optimal participation. Creating a framework that can support all aspects of organising, delivering and evaluating an event will help quality assurance, standardisation and global sharing of information to drive forward lifelong learning, using an evidence-based approach to running events. The need for a systematic development of pharmacy professionals is required.[7] Having clear plans in place with strategies for pharmacists' education and training will support pharmacy workforce development.[8]

Although previous frameworks and studies have identified elements that are important in the delivery of learning,[1-3,6] no one has previously created a checklist or framework outlining all the key tasks and considerations needed for the planning and delivery of a successful event. Face-to-face learning is still preferred where possible in GB pharmacists, despite the rise of e-learning.[9] In addition, studies show that previous events used for CE and CPD events were predominantly face-to-face.

The aim of this study is to present the development and validation of a framework to support the planning, delivery and evaluation of learning events for pharmacy professionals.

Methods

A summary of the method used to create and validate the PRACTICE framework is presented in table A.1. Ethics approval was obtained from the University research committee (Ref: 1819 060.1).

In phase 1, a first version of the PRACTICE framework was developed by the researchers based on data from previous studies[9-12] which used a mixed methods triangulation approach with both qualitative and quantitative data to determine the perceptions, experiences, and learning needs of pharmacists when planning, delivering and evaluating learning events. Initially, a set of statements and concepts for inclusion were identified, independently by two researchers, resulting in 48 statements. From these 48 statements 8 themes were created: Planning, Resources, Advertising, Capacity, Topic, Intervention, CPD and Evaluation. Planning, Resources, Advertising, Capacity and Topic were categorised as 'before intervention', CPD and Intervention were categorised as 'intervention,' and Evaluation was categorised as 'after intervention.' These themes formed the word PRACTICE, which became the name for the framework.

After the initial phase of development and design, the methodology used in phase 2, for further developing and validating the PRACTICE framework was based on the methods used by Donyai et al.[13] in 2013, with the addition of one extra stage, namely the pilot testing of the framework in practice. Think aloud interviews were used instead of focus groups and telephone interviews to gain individual insights of experts and allow iterative changes. The validation of the PRACTICE framework used multiple iterative development approaches, seeking to enhance the framework after each iterative step.[14] Therefore, the framework was constantly revised throughout the development and validation process. Whilst the primary focus of its use was pharmacists, validation also utilised other health care professionals to identify whether there was potential for the PRACTICE framework to be used in other professions.

Face validation was obtained by review of the first draft of the framework, aiming to understand whether the framework was a viable concept that could be used in practice[15,16] looking at overall viability, desirability and usability of the framework. Questions were designed to gather feedback on the overall PRACTICE framework, and the individual statements within the framework. A purposive sampling approach was used to identify participants as feedback from all levels of users was required, from organisers through to end users. To enable this, the participants were selected and approached at an education and training development day, because of their current involvement and interest in lifelong learning of pharmacists. Face validation used a range of 20 individuals (12 male, 8 females), including local leaders, training providers and practising pharmacists, which provided a diverse spectrum of experience and knowledge. Not all were registered pharmacists, but all understood pharmacy learning requirements and were actively involved in pharmacist education and training provision. The participants were randomly divided in 4 groups. Each group was given a paper copy of the PRACTICE framework and was asked to answer questions on the paper relating to the framework through written feedback. Questions included asking whether the framework would be used in practice, any benefits or challenges about the framework and amendments needed to any of the statements, if required. In addition, each group was given two themes of the framework and asked to provide written feedback on the questions for these two themes specifically. The event took place on 4 July 2018. Consent was implied by participating in the activity.

Statement validation then took place. The participants included did not attend the development day described above. They were selected because of their involvement in organising pharmacy training

and/or teaching or facilitating training courses for pharmacists or other healthcare professions. Local pharmacy networks were used to recruit pharmacists, who were contacted between September and October 2018. The participants were either approached in person and provided a paper copy of the framework and the instructions or they were contacted via email which included the framework and instructions in attachments. A total of 6 individuals were approached (two male, four female), echoing the study by Donyai et al.[13] For other healthcare professions, a research group specialised in healthcare education research and evaluation was approached, which has members from nursing and allied health professions. During a face-to-face session, the researcher presented the background to the PRACTICE framework and summarised the previously undertaken face validation. Participants were handed paper copies of the framework and were asked to score each item and return the sheets. Six responses were received (one male, five female). This took place on 14th September 2018. Implied consent was given through completion of the activity.

The statement validation method was based on a previous model introduced by Polit and Beck[17] in 2006. Participants were asked to rate each statement of the framework on a scale of 1-4, with 1 being 'not relevant' and 4 being 'highly relevant' in relation to supporting the running of a learning event. In addition, participants were invited to provide additional comments about the framework. Item (statement) content validation index (CVI) was measured. The I/CVI is calculated by dividing the number of experts who provided a score of 3 or 4 for each item by the total number of experts. The recommendation is that 0.78 is the minimum I/CVI for an item to be acknowledged as valid. The S-CVI/Ave, also referred to as the average congruency percentage (ACP), is calculated by dividing the total score from all I/CVI by the number of statements. Polit and Beck[18] recommend that 0.90 is the minimum ACP.

The final step of phase 2 secondary validation utilised a 'think aloud' protocol.[19,20] The aim of this stage was to talk through the PRACTICE framework to ensure clarity of language, ensuring each of the statements was transparent, understandable, and it could be used in practice. In addition, this stage aimed to identify any missing elements or duplications not previously identified. Repeating the process of think aloud and using an iterative approach of updating after each discussion, allows thoughts to be clarified throughout the process, and allows any thoughts that have previously been missed to be verbalised. Using a think aloud differed from the methodology used by Donyai et al.[13] who

used focus groups. The think aloud process was chosen to allow an iterative approach and allow individual contributions.

A pilot was completed with an expert in the think aloud process to pilot the method along with providing face and content validation, and suggestions for initial changes. After this, six additional end users completed the think aloud (three male, three female). The participants were contacts involved in training events and had project planning experience, with 4 being involved in pharmacy education event planning and 2 involved in event planning within healthcare education outside of pharmacy. Using a mixed audience for the think aloud process further supported validation for the PRACTICE framework to be used for pharmacy with potential uses by other professions. All think aloud interviews were conducted face-to-face. These participants had not been involved in any previous validation activity of the framework.

During each think aloud, participants were given a document outlining the aim of the framework and instructions on how to use it. They were also given a paper copy of the latest version of the framework. They were asked to verbally talk through the themes of the framework and give comment on positioning of the statement as part of the overall framework, readability and if anything needed to be added or removed. Throughout each think aloud, the researcher made notes on suggested modifications to the PRACTICE framework, but no audio or video recordings were made. The think aloud process was the final stage of validation of content, building on previous content validity scoring.[20] The think aloud interviews occurred between January and March 2019. Each think aloud session lasted approximately 30 minutes, with time decreasing with each intervention. Implied consent was given through participation in the interview.

Initial statements compared to those used for implementation can be seen in eFigure 1.

Finally, during phase 3, the framework was implemented and tested. A face-to-face event was organised and delivered following the PRACTICE framework to ensure that it was usable to organise and deliver a learning event. During each stage of the process notes were taken, with timescale, to further validate the framework. As per the framework, the topic of the training event was chosen based on pharmacists' need. The topic of 'domestic abuse' was chosen, as suggested as a CPD topic by the General Pharmaceutical Council, the Pharmacy regulator in GB for 2019. Planning for the event started in July 2019. The PRACTICE framework was implemented, with commentary and dates added for activities completed. The researcher completed the PRACTICE framework throughout the organisation

of the event. The event was held on 25th September 2019. At the event, participants were given a paper copy of the presentation to make notes. As per the framework, follow-up material was sent to participants via email on 1st October 2019. The follow-up material included a digital copy of the presentation, along with further local referral information and other support contact details.

The evaluation form for the face-to-face event included 13 questions, mainly open-ended questions, to capture the details required from the statement in the PRACTICE framework regarding the evaluation tool, as seen in efigure 2, such as personal objectives for the event, how practice may change, the most useful and least useful elements and how the event could be improved. Self-reflection was also included in an open-ended question to identify future CPD needs after the event. Likert scale questions were included to capture information about the event. Demographics were also captured.

The researcher was present at the event to welcome the pharmacists and hand out the paper evaluation forms at the beginning of the event to be completed at the end. The participants were verbally informed at the beginning of the event that the data they provided would be used as part of a research project. Implied consent was given through completion of the evaluation form.

Results from the evaluation forms were entered into Microsoft Excel 365, version 2104 (Microsoft Corp.) and tables were produced with the scores of the results, along with points identified from the open-ended responses.

As per the PRACTICE framework, as part of phase 3: implementation and testing a follow-up survey was set up using Microsoft Forms and consisted of 7 questions, including open-ended questions, asking what participants remembered from the event, and exploring implementation into practice, one 5-point Likert Scale question, ranking from not at all to absolutely, about application of learning in practice after the event, and multiple choice questions, asking whether they had received the follow-up email and whether the learning points had supported CPD. The survey also included demographic questions.

A link to the survey was circulated by email to those who provided their contact details on the evaluation form six weeks after the event. The initial survey was sent on 7th November 2019 and a reminder email was sent on 21st November. Implied consent was given when completing the follow-up survey. Data from the follow-up survey were entered into Microsoft Excel 365, version 2104 (Microsoft Corp.) for analysis, along with points identified from the open-ended questions.

Results

During phase 2: face validation, utilising 20 individuals in four groups, when asked whether they would use the complete PRACTICE framework in the future, 3 groups replied positively, and the fourth group did not respond. Benefits of the PRACTICE framework identified during this exercise included supporting the planning of events, standardisation, reducing time and wastage, and being a useful checklist. Suggestions for improvement included adding time scales about when activities should be completed, alongside activities required during the pre-planning stage, and as a result, a GANTT chart was added to the framework, aligning each statement against a suggested time frame for completion in relation to the event.

During statement validation, consisting of 6 pharmacists plus 6 other healthcare colleagues, pharmacists all gave scores of 3 or 4 for 33/46 statements, whereas for other healthcare colleagues this was lower, namely 24/46. Overall, when combining the scores allocated by both groups 19 out of the 46 statements received scores of 3 or 4 from all participants. From statement validation, five statements were calculated to have I/CVI less than 0.78 based on scores given by pharmacists, along with five also having a calculated score of less than 0.78 by other healthcare professionals. When looking at scores combined for pharmacists and other healthcare colleagues, there were still seven statements scoring less than 0.78. comparison scores for all statements that scored less than 0.78 by one or more groups can be seen in table A.2.

The results obtained from pharmacists indicated an ACP of 0.92, whereas an overall ACP of 0.89 was achieved from other healthcare colleagues. When scores were combined, an overall ACP of 0.90 was achieved. All statements were kept for the secondary validation think aloud process as many of the statements already included ‘if applicable’ Meaning they may not be relevant to all situations and were optional statements.

As the think aloud approach employed an iterative approach, after the pilot and each of the further 6 conversations the framework was updated, and the updated version was presented at the next interview. A summary of changes from each think aloud can be seen in table A.3.

The final PRACTICE framework, for testing in practice in phase 3: implementation and testing, including suggested timescales, had 51 statements. Despite the change of order of some of the statements from the original PRACTICE framework, and the removal of the headings in the final

framework, the acronym was decided to be maintained as this reflects the original design and gives the framework an identity.

When planning, delivering, and evaluating an event following the PRACTICE framework, the framework was completed in statement order, with statements being completed in chronological order, except for ‘date set for the event’ and ‘expert speaker identified’, as for this event, the date was set once the expert speaker had been identified. As the framework can be used flexibly, no further change was made to the final framework.

During phase 3: implementation and testing, all 16 attendees from the face-to-face event completed the evaluation form (three male, 13 female). The event itself was overall seen as positive, with key elements of the PRACTICE framework receiving positive results, such as content being pitched appropriately (15 out of 16 giving positive responses), timing of the event (16/16 positive) and handouts/material provided (15/16 positive). When looking at the event overall, all attendees were positive about the speaker and about the ability to ask questions. When looking at the evaluation form itself, to validate this tool, the questions on the evaluation form were rated as an average of 8.3 out of 10 for ease of answering and 8.2 out of 10 for encouraging reflective thinking.

The follow up evaluation from the face-to-face event was conducted six weeks after the training and resulted in 8 responses (three male, five female), therefore giving a 50% response rate (8 out of 16). When asked what they remembered about the course most responses focused on the information they received, showing knowledge was gained from the event. Being more knowledgeable after the event was positive in 5 out of 8 cases. Of the 8 responses, 5 responded that they had used the learning to support their CPD. Three quarters (6 out of 8) responders were positive for being more confident after the event. When asked to describe changes in their practice because of the training, respondents mentioned awareness, updating and sharing information. These responses, although only a few, show that application of learning into practice had started. When describing barriers to implementation of learning, the biggest factor was limited opportunity, as no cases of domestic abuse had been encountered.

In terms of the tool itself, where it was completed, it was completed fully, implying that the length was easy to follow, and the questions were understandable.

No additional changes were made to the framework as a result of the evaluation of the event, but an explanation of use was added. The final framework can be seen in eFigure 2 which contains 51 statements.

Discussion

In order to maintain and improve patient care, pharmacists, along with other healthcare professionals, are required to engage in lifelong learning throughout their career.[21] One of the primary ways in which they engage in learning is through attending or participating in training events. The aim of creating the PRACTICE framework was to support the organisation, delivery and evaluation of learning events. By doing so, the PRACTICE framework can provide guidance for providers and organisers and support uniformity of approach, considering there are multiple providers who organise and deliver learning events, to ensure events are planned with participants in mind and to support application of the learning acquired into practice.

Previously, there was no approach supported by evidence available to organise and deliver a learning event. Providing a structure for learning events to support mandatory requirements or personal interest ensures consistency, quality and supports positive outcomes for patients, with well-trained pharmacists being able to provide public health services more proactively.[22] As seen in previous studies, planning training events prior to their implementation is essential to achieve a successful outcome,[5] especially when activities are designed with application of learning into practice in mind.[23]

Previous studies, as described in the introduction, identified different elements that support learning, but identified a gap. No holistic framework for learning events existed. The PRACTICE framework addresses the issue of quality assurance, raised by Mestrovic *et al*.[3] by providing a consistent approach to planning and delivery. Farrell *et al*.[4] and James *et al*,[5] provided lessons learnt when organising and running events, however, they did not present a breakdown of activities to be completed by an organiser of an event.

Successfully using the completed framework to run a pilot session also showed that it can be used effectively in practice. Although the PRACTICE framework was created primarily for pharmacists, and whilst learning opportunities and experiences may differ between professions, the validation strategy employed provided preliminary evidence that the PRACTICE framework could also be used for organising events for other healthcare professionals. Utilising multiple methods during the validation

process allowed the inclusion of a range of individuals, and allowed different foci at each stage, i.e., overall viability, content relevance, clarity and usability, ensuring robustness of the approach.

During phase 3 implementation and testing, the PRACTICE framework was followed, in chronological order, except for two statements, with actions recorded along the way. As domestic abuse cases are currently rarely referred, as seen in a previous study in the USA,[24] this may explain the low application of learning rate after the event. Regardless, the implementation phase confirmed that the initial phases of the validation processes created a framework that was fit for purpose and achieved the initial aim; to help plan, deliver and evaluate a learning event. Whilst the PRACTICE framework was trialled using a face-to-face intervention, the statements could also be applied for an online event. Having the words 'if applicable' next to many of the statements allows flexibility of usage and allows the user to have confidence that they can adjust the framework to suit their individual needs. Suggested instructions need to be included with the framework, to remind users that the statements are to be used as a guide and may need to be tailored for each individual event to meet the needs. Similarly, the timescales presented in the framework need to be regarded as suggestions.

Future organisation and delivery of events, for pharmacists and other healthcare professionals, according to the framework will continue to support validity of the tool. The PRACTICE framework also needs to be trialled through organising and delivering an online event, to compare results, and needs to be applied by other training providers and healthcare professionals.

Limitations of the study include that the PRACTICE framework was only used in practice once, in one geographical location and by one person, namely the researcher, which may have introduced unconscious researcher bias. Due to the Covid-19 pandemic, most face-to-face training events have been postponed for the foreseeable future. Therefore, the framework has also only been trialled in practice for pharmacists, and for face-to-face delivery. The validation also only occurred by pharmacists and related healthcare professionals located in one geographical location. The validation in this study followed a previous paper,[14] although the think aloud replaced focus groups. However, in hindsight it would be interesting to conduct the content validity exercise again on the final framework.

Conclusions

A framework for the organisation, delivery and evaluation of learning events was developed and underwent validation. The PRACTICE framework will support organisers of learning events to

provide learning experiences for pharmacists and other healthcare professionals, using a validated tool, to support the achievement of learning outcomes, and application of knowledge into practice. The PRACTICE framework provides a systematic but flexible approach to planning, organising and delivering and evaluating a learning event, providing suggested timescales for activities and a check list to ensure all elements have been considered and actioned, if applicable to the event.

The PRACTICE framework, although designed primarily for pharmacists, has been supported by validation evidence by other healthcare professionals. The framework will support achievement of lifelong learning and work towards professionals having an evidence-based experience of learning. When used in practice, the PRACTICE framework was easy to use and follow. For continued validation, future work includes trialling the framework on additional events, by different providers, in different settings and possibly countries.

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