

**T Varga-Atkins and H Cooper E-learning for interprofessional education**

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## **Developing e-learning for interprofessional education**

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### **Summary**

An evidence-based, interprofessional educational course involving first-year undergraduate students studying medicine, nursing, physiotherapy and occupational therapy has been piloted at the University of Liverpool. Part of the content was developed in an online format. To capture the development process and the e-learning writing experience, a focus group was arranged for the content writers. The session was audio-recorded and tapes were transcribed. All the data were subjected to thematic analysis. Twenty-three sub-themes were identified in the 72 comments. These were grouped under six themes, corresponding to the developmental stages of e-learning. The highest number of comments fell under the theme of preparation, followed by content development, evaluation, general design and structure, and finally delivery. Team working contributed to the success of the writing process, reflecting the theme of working interprofessionally.

### **Introduction**

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An evidence-based, interprofessional educational course involving first-year undergraduate students studying medicine, nursing, physiotherapy and occupational therapy has been piloted at the University of Liverpool.<sup>1,2</sup> The development of the intervention and its evaluation were guided by Campbell's phased approach and complexity theory.<sup>3</sup> The intervention involved a number of key developments, including a staff-training programme, generic e-learning materials, student workbooks and students' team working skills workshops. The Quality Assurance Agency's benchmark statements for health- and social-care curricula were used to identify five topics for e-learning: health promotion, health- and social-care ethics, health- and social-care structure and policies, communication skills and professional practice.<sup>4</sup> A planning group consisting of academic and clinical experts in each of the topic areas was established, with funding to support their work. The aim of developing the

materials was to provide a 'virtual curriculum' for all educators and students, thereby connecting existing curricula to an interprofessional framework, as well as providing 24-hour access for students to the materials.

### **Methods**

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Each of the five Level 1 e-learning materials was assigned to an academic leader and a contract writer, who was given the task of writing the content. The e-learning materials were designed in collaboration with the eLearning Place Project, which provided the learning technology support. The content was developed in an online format using CourseMaker, the content management tool used in the eLearning Place Project. A multimedia developer assisted discussions about how the content could be made interactive and where it could be enhanced with multimedia.

To capture the development process and the e-learning writing experience, a focus group was arranged for the content writers. Participation was voluntary. Out of the six participants invited, four attended and contributed to the session. The session was audio-recorded with the

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**Table 1** Focus group themes on the e-learning development process

	No. of comments
<i>General</i>	
Relevance to interprofessional education	3
Best practice guide format	2
Loneliness	2
Ownership	2
Team aspect	2
Subtotal	11
<i>Planning and preparation</i>	
Briefing/training	11
Collaborative process	7
Context of use	4
Team and roles	4
Subtotal	26
<i>Design and structure</i>	
Navigation	3
General	2
Aims and objectives	1
Subtotal	6
<i>Content development</i>	
Writing process	5
Multimedia	4
Chunking	2
Image library	2
Resources	2
Copyright	1
Editing	1
Subtotal	17
<i>Delivery</i>	
Delivery	1
Subtotal	1
<i>Evaluation</i>	
General	5
Formalize	3
Importance	3
Subtotal	11
<i>Total</i>	72

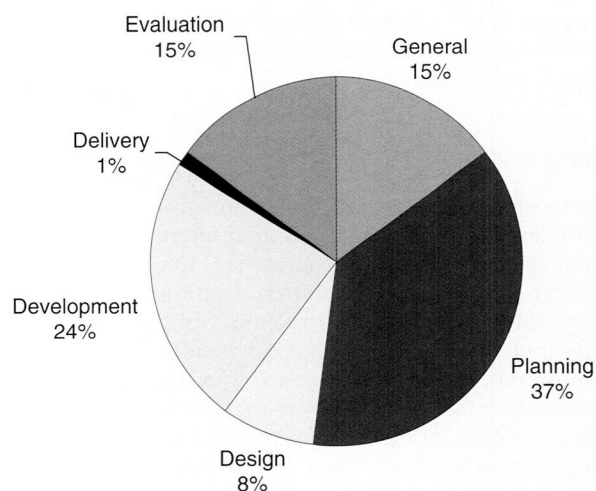
informants' permission and tapes were transcribed. All the data were subjected to thematic analysis, identifying recurring and contradictory themes and sub-themes. Comments were grouped under themes that reflected the process of e-learning delivery.

## Results

Twenty-three sub-themes were identified in the 72 comments (Table 1). These were grouped under six main themes, corresponding to the developmental stages of e-learning. The highest number of comments fell under the theme of preparation, followed by content development, evaluation, general, design and structure, and finally delivery (Figure 1).

### General

E-learning writers related to their content in a positive way, with strong feelings of ownership and palpable pride.



**Figure 1** Comments about the six main themes ( $n=72$ )

'[I am] very proud of it' [subject C]. This feeling of ownership could be contradictory at times. Writers can realize the need for change in the writing but can be '... a bit reluctant to eliminate parts' [B].

Another shared experience between the participants related to a feeling of loneliness during the writing process, which they overcame through collaborating with others: '... it wasn't until I set aside time and started working with [C] that I actually enjoyed it more...' [B].

### Planning and preparation

#### *Briefing/starting out*

Participants suggested that, at the briefing stage, a writing strategy should be developed to include the process of work. An important element of the briefing process was being aware of the capabilities of e-learning as well as the resources available for content development (e.g. IT and multimedia capabilities of local personnel and systems). These facilities could be demonstrated to the writers, broadening their scope. Writers also noted that first-hand e-learning experience is essential before starting out: '... It wasn't until I was part-way through [the writing] that I realized that ... people don't want to just sit there' [B]. Having this first-hand experience will inspire writers 'to become more interactive' [B] and reconsider the teaching and learning approach.

#### *Collaboration and team roles*

Focus group participants described the e-learning development in terms of partnership and collaboration: '... people working together sounds important' [A]. A good e-learning team is multifaceted, including members with academic expertise, technical expertise and an e-learning advisor (a creative person) who can identify where content can be enhanced by multimedia and spot creative opportunities for making content more suitable for online delivery. Participants stressed the importance of this

'creative' input to be present at 'the planning stage and that would make it a more efficient and effective process for everybody' [B].

### Context of use

Writers needed to 'actually know how [the e-learning materials] fit into the curriculum of interprofessional education' [A]. This need was perhaps sharper when the writing process was separate from learning delivery. Knowledge of the learning/teaching context will also determine the way materials are written to their audience. For instance, the language has to be 'exacting' [C] and self-explanatory for modules where there is no tutor support present, while for tutor-supported courses, the language can be more flexible as there is a tutor present who can provide explanations and guidance.

### Design and structure

The value of 'planning your course structure' [C] before starting writing was emphasized by writers. Writing 'what learning outcomes you decide to achieve ... and articulating them before [the start]' [B] will help with building the course structure. Learners should get to the required content in 'no more than three clicks' [D], so designing a good navigation strategy was very important.

### Content development

Focus group participants reflected on what advice they would give to people at the stage of content development. Breaking up content into manageable portions made it manageable for students. In addition, learners view the text on a monitor, so content should be broken up into short pages, otherwise 'people will be put off by scrolling' [D]. Participants agreed that multimedia techniques were a powerful way of enhancing text. The sound files 'provided a human voice to that material ... it made people stop and listen' [A] and not just rush through the text. Using images can capture a thousand words, one writer commented. She found some good photographs illustrating children in the Bosnian war and 'they were very powerful' [B].

To ensure that these multimedia opportunities were utilized, writers needed the involvement of multimedia developers: 'my experience is delivering the information in a particular pedagogic style and that is new to me, multimedia' [B]. The collaboration ensured that content was not just using 'multimedia for multimedia's sake' [D] and at the same time was bringing in the 'creative' [B] flair needed to look at content and see if 'it could be enhanced in any way.' [D]. This collaboration may reduce the amount of time and effort of content writing. One writer related that having an imaginary conversation 'as if the student were there' [A] helped him include the interactions and reactions the student would (and should) have when learning from the material: 'if I am writing too much, perhaps you would have a conversation with somebody about what would I want them to think about

at that stage. So it made myself stop and think of something interactive...' [A].

### Delivery

The content writers of the interprofessional education modules were not necessarily involved in facilitating the delivery of the modules. This stressed that when writing content, authors need to be fully informed about how the materials will be integrated into the student curriculums to help them with the writing process.

### Evaluation

Participants stressed the importance of the evaluation stage. Feedback about how the course is received by learners and longer-term plans about the course and its development need to be filtered back to writers so that it can inform their (re)writing. This will also help reduce the feeling of isolation that writers may experience. Piloting the course 'prior to actually giving [the materials] to students as part of their courses', having a reader who can be 'more critical' [A], and evaluating the materials at 'granular' level (e.g. down to each component or multimedia element) were recommended for good evaluation practice.

### Discussion

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The large number of comments made about preparing for e-learning development indicates the importance of this stage to the participants. Comments suggested that good awareness of multimedia capabilities, prior experience of e-learning, and having a clear understanding of the context in which materials will be used were essential requirements, alongside an understanding of differences in e-learning pedagogy. Team roles and collaboration from the start appear to contribute to the success of the writing process, reflecting the theme of working interprofessionally.

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