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Repurposing Online Continuing Professional Development Courses in Health into New Educational Contexts

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Abstract

E-learning is being used increasingly to deliver continuing professional development in a wide variety of health disciplines and situations. High quality content is available online, both through established courses and through open educational resources. However, educational content that is successful in one context will often not be effective in another, especially if there are significant cultural differences between the two situations. This project is examining the redesign of online courses that are effective in one context for use in another.

Online courses developed by the Public Health Agency of Canada are being used in this research. The Agency has developed nine online continuing professional development modules covering aspects of public-health practice and over 2,200 public-health professionals have successfully completed at least one module.

In this project, a case study approach is being used to examine two examples of adaptation of several of these modules, one at the University of Saskatchewan, Canada, and the other, in the Caribbean under the auspices of the Pan American Health Organization. The first case involves adaptation into a different educational context, but in a similar culture. The second involves similar learners, but in a different culture. The work is being informed by key themes of cultural differences and learning design. The research issues include localisation of content, delivery, authenticity of content, and assessment.

Both organisations studied have persevered in delivery of online courses even though their initial offerings did not fully meet their objectives. The research findings suggest that in repurposing online courses into new environments, the following aspects should be considered:

- Learning objectives of the new educational context;
- Learners' familiarity and comfort with online technology and modalities;
- Technical issues related to Internet access;
- Cultural norms with respect to participation in social situations online; and,
- Appropriate localisation of material.

INTRODUCTION

The need for continuing professional development around the world is significant, particularly in the field of health (Heller *et al.* 2007). E-learning is being used increasingly to deliver education and continuing professional development in a wide variety of disciplines. There are many reasons for this expansion, including:

- Increasing need for regular upgrading of skills and ongoing professional accreditation;

- Need to reach a geographically dispersed audience;
- Need to reach professionals who have significant pressures on their time;
- Need to ensure consistency in educational content; and,
- Ability to offer professional development cost-effectively for both the learner and the offering organisation.

High quality content is available online, both through established courses and through open educational resources (Heller *et al.* 2008; Downes 2007). However, educational content is rarely usable as is in a new context. It may need to fit into a larger curriculum, examples and links may not address local practice, or the instructor may feel a need to modify it in order to gain his/her own mastery of the material. In addition, a successful educational process requires consideration of more than just what is to be taught – it must include how the learner will learn. Development of content becomes a component of an educational process that includes the delivery mechanisms, assessment, and the social elements that are intrinsic to effective learning. For these reasons, courses that are successful in one context are often not effective in another, especially if there are significant cultural differences between the two situations (Westbrook 2006).

This project is examining the redesign of online courses that are effective in one context for use in another. Online courses developed by the Public Health Agency of Canada, an agency of the Government of Canada, are being used in this research. To date, the Agency's Skills Enhancement for Public Health: Skills Online program (<http://www.phac-aspc.gc.ca/skills>) has developed nine online continuing professional development modules covering aspects of public-health practice. Each module is delivered over an eight-week period using the WebCT learning management system with approximately 15 learners and a trained facilitator. Since its launch in May 2002, over 2,200 public-health professionals across Canada have successfully completed at least one module.

In this research project, a case study approach is being used to examine two examples of adaptation of several of these online modules. The work is being informed by key themes of cultural differences and learning design. The goal of the project is to develop approaches that could guide those who are adapting online courses for new contexts.

RESEARCH METHODOLOGY

The research approach being taken is primarily qualitative, through two in-depth case studies. This approach is appropriate to gain insight into the range of issues that affect a topic of interest (Yin 2003), what Stake (1995, p. 3) calls an "instrumental case study".

The following two cases are being studied:

- The University of Saskatchewan has adapted four of the modules as the online component of a blended course in community health and epidemiology, offered as part of its third year medical school curriculum. The course has been offered twice and there are plans to extend it to other applications, particularly for rural and remote learners.
- The Public Health Agency of Canada has delivered its first three modules with no modification to participants from the English-speaking Caribbean through a collaborative agreement with the Pan American Health Organization (PAHO). PAHO is planning to adapt these modules as part of its core strategic training through PAHO's Virtual Campus for Public Health.

The first case involves adaptation into a different educational context, but in a similar culture. The second involves similar learners, but in a different culture.

The research questions that are being addressed are framed by the following issues (Stake 1995, pp. 16-17):

- **Localisation of content:** How is inappropriate or inapplicable content identified? Which tools are used or might be used to assist? How are new examples, links, or references located? How important is use of specific types of language or terminology? What problems occur in replacing examples or language?
- **Delivery:** How comfortable are learners and instructors with use of learning technologies? How easy is it for them to access the course online? What differences in culture are important to consider? How can these be addressed in the adaptation process? How are the social

aspects of learning affected? How are facilitators trained?

- **Authenticity of content:** How can changes be made without affecting the authenticity of the original course? How are issues of intellectual property addressed, both with respect to the original course and to new examples that are added?
- **Assessment:** What formative and/or summative assessment approaches are used? How are they identified and implemented?

Theoretical Frameworks and Tools

The data collected are being analysed with respect to several theoretical frameworks. Adaptation of learning to international audiences needs to consider underlying cultural assumptions that exist (Woodrow 2001). Dunn & Marinetti (2001) describe a framework for adaptation of online courses into different cultural settings based on the characteristics of each culture along the following six dimensions:

- Universalism, rules-based cultures – Particularism, importance of unique circumstances;
- Individualism, personal responsibility – Communitarianism, community responsibility;
- Neutral, objective interactions – Affective, openly expressed emotions;
- Specific, separate personal and professional lives – Diffuse, indirect human transactions;
- Achievement, accomplishment-oriented – Ascription, status-oriented;
- High uncertainty or ambiguity avoidance – Low uncertainty avoidance, comfort with lack of structure.

Placing a society within these dimensions can give guidance to the kind of pedagogical approaches that are likely to be most successful for learners from those societies.

Over the past few years, several online tools have been developed to facilitate adaptation of online content. Learning objects; i.e., learning materials that are developed in small, reusable pieces to facilitate use in a variety of ways, are being used by many educators (e.g. Ruiz *et al.* 2006). However, this approach doesn't address all the issues. For example, there may not be a good fit between available content and the curriculum, or desired content may not be in learning-object form.

A number of tools have also been developed to address issues of learning design (Britain 2004); however, the current tools tend to focus on content and activities rather than cultural issues (e.g. Kravčik & Gašević 2007). Another recent innovation is the use of Wiki technology to edit and re-purpose online content (Parker & Chao 2007). Although this technique is attractive, as a course is modified, the issue of its authenticity also arises. At what point in the modification process does the content no longer carry the authority of the originator? This issue is critical with respect to credentials and intellectual property rights.

PRELIMINARY FINDINGS

University of Saskatchewan, Canada

In 2006, the College of Medicine, University of Saskatchewan, Saskatoon, entered into an arrangement with the Public Health Agency of Canada to utilise its Skills Online modules as a component of the University's third-year medical school course in community health and epidemiology, CHEP 401.6. Four modules, EPI1 Basic Epidemiological Concepts, EPI2 Measurement of Health Status, EPI3 Descriptive Epidemiological Methods, and APP1 Outbreak Investigation and Management, were amalgamated into a single online component of the course delivered using WebCT. Fifty-eight students took the initial implementation in late 2006. A comprehensive evaluation of the online component of this course was prepared by Meducational Skills, Tools & Technology (2007) that included nine interviews, student surveys during and at the end of the course, and a focus group with students.

The results of this initial offering were mixed. The content was assessed as excellent by the instructors. However, a number of problems arose due to a very short time available to prepare the

modifications, train those involved, and assure that all the elements were coordinated. The students reported that the content was appropriate but that it wasn't well enough tailored to their specific needs as medical students. They also believed that there was too much material to cover in the time that was available to them: they had 12 weeks, whereas the four modules were covered in 4 x 8 = 32 weeks when offered to public-health professionals.

A potential benefit of the online component, even though the students are on campus, is increased student time for self-directed learning. Because of the short lead time to prepare the course, it was not possible to determine how beneficial this approach was in 2006. However, this pilot was deemed valuable enough for the online component to be offered again to medical students in 2007, incorporating many of the recommendations from the 2006 evaluation report. One stakeholder quoted in the evaluation report stated (p. 24):

"Great idea to reuse content; it would be interesting to see what the students thought of it; did they learn from the stuff? Did it meet the needs the Instructors had? If it did; let us come up with a better way to do this."

Evaluation of the 2007 course is still underway; however, initial feedback from a student focus group suggests that students found the online component both valuable and an appropriate learning modality. Students liked the ability to link quickly to additional material and to have an alternative learning methodology to their face-to-face lectures. Issues of learning design may be important for this type of educational offering and are being explored.

Based on these experiences, the University of Saskatchewan is continuing to improve the course for its students and is planning other initiatives for students who are not on campus – particularly rural students – for which online delivery will be essential.

Caribbean Nations

Over the past year, the Public Health Agency of Canada has offered three of its Skills Online modules in epidemiology to front-line public-health workers in the Caribbean through a cooperative arrangement with PAHO. The first two modules were delivered to cohorts made up solely of Caribbean participants: EPI1 Basic Epidemiological Concepts three times, and EPI2 Measurement of Health Status once. In addition, one professional from the Caribbean completed EPI2 and EPI3 Descriptive Epidemiologic Methods with Canadian cohorts. All participants had to complete one module successfully before proceeding to the next; i.e., all those who took EPI2 had already completed EPI1 successfully. To date, the modules have used Canadian facilitators, although for the most recent EPI1 offering, a professional from the Caribbean “shadowed” the Canadian facilitator in order to gain experience in the process.

As shown in Table 1, participants have come from 11 countries, 10 of which are members of the Commonwealth. Their professional backgrounds include doctors, nurses, public health inspectors, and nutritionists. Module completion rates have been 64% (29/45) for EPI1, 87% (13/15) for EPI2, and 70% (43/61) overall. The term “Non-completes” includes both those who started a module but did not complete it and those who withdrew.

Table 1. Caribbean Participation by Country

Country	Completed EPI1	Completed EPI2	Completed EPI3	Totals
Anguilla	1	1	-	2
Antigua and Barbuda	2	-	-	2
Bahamas	3	1	-	4
Belize	1	1	-	2
Grenada	1	1	-	2
Guyana	2	2	-	4
Jamaica	2	1	-	3

St. Kitts and Nevis	2	1	-	3
St. Lucia	3	1	-	4
St. Vincent and the Grenadines	2	-	-	2
Trinidad and Tobago	10	4	1	15
Totals (+ Non-completes)	29 (16)	13 (2)	1	43 (18)

Participants were asked to complete an online post-module survey. Fifty-one responses were received from June 2007 to March 2008, made up of 43 responses from people who completed at least one of the modules and 8 who did not. Forty-seven (96% of those who responded to the question) indicated that they found the material “challenging and stimulating”, and 37 (97%) said that they were “able to apply what I learned in the module to my day to day work”. Most took the module for professional development, either to broaden or refresh their knowledge or to learn about an area that was new to them. A number also were interested in the online learning experience itself and some expect to pursue other online learning opportunities.

Because the learners had full-time jobs, time management was critical. Access to the module was quite evenly distributed from “once per week” to “eight times per week or more.” Twenty-six respondents (55%) experienced some kind of technical problem, mostly with Internet access. A number of participants struggled to keep up with the week-to-week pace, although they found it rewarding if they were able to. Facilitators have commented that the learners would find locally-based data easier to work with than the primarily Canadian content that is currently in the modules.

It took some groups considerable time to become comfortable with online discussions, particularly in the first cohort. However, others rapidly became adept at this kind of interaction. For one of the most recent cohorts, the facilitator reported that one participant was close to dropping out of the module in week 7, but was convinced to complete by her fellow learners. In terms of pedagogy, there appeared to be significant differences in expectations between groups, particularly around the role of the facilitator. These findings, which may be related to cultural issues, are currently being explored.

Workplace support was also mixed. Although most participants had some support in the form of discussions, additional materials, or relating the course to their work responsibilities, 11 (38%) reported not receiving support from their supervisors.

Overall, the response has been extremely positive. Of 50 respondents (100%), 41 (83%) “strongly”, said they “would recommend taking the Skills Online modules to other public health professionals” and 48 (96%) reported that they would take another module.

These initial findings suggest that the modules are addressing an important need and the online modality is acceptable to at least some public-health professionals in the Caribbean. The modules could be more successful by addressing several factors:

- Incorporation of more local content whenever possible and appropriate;
- Use of local facilitators when possible (one is currently being trained);
- Awareness of cultural differences that can affect the pedagogical approach chosen;
- Addressing the persistent technical problems that many participants experience;
- Awareness of the time constraints, possible lack of supervisor support and technical issues that might suggest a different pace.

NEXT STEPS

These efforts are a work-in-progress in two distinct ways. First, both organisations discussed above are continuing to learn from each successive offering and are planning to continue offering online modules. In addition, both are contemplating much larger online programs over the coming years that will be informed by the lessons learned.

Second, this research work is also still under way. In-depth interviews are scheduled over the coming months with key stakeholders in both cases – administrators, educators, technical specialists,

facilitators and learners, and these results will be presented in July 2008. Although case studies are not necessarily generalisable, the results will be related back to the theoretical frameworks described above and the rich nature of the research is likely to be valuable to others. The goal is both to illuminate the paths taken in the two cases and to outline possible steps forward in a way that is useful both to those involved in the cases and to others planning similar adaptations.

CONCLUSIONS

Both organisations studied have persevered in delivery of online courses even though the initial offerings did not fully meet the organisations' objectives. They are both continuing to learn from their experiences, and initial indications are that through this iterative approach, many of the initial challenges are being successfully overcome. The commitment by the Public Health Agency of Canada to making its content available has also been important – it is possible that neither organisation adapting these modules would have had the resources to develop them from scratch. Having gained experience with online delivery, they are planning wider online learning initiatives.

The outcomes to date suggest that in repurposing online courses into new environments, the following aspects should be considered:

- Learning objectives of the new educational context;
- Learners' familiarity and comfort with online technology and modalities;
- Technical issues related to Internet access;
- Cultural norms with respect to participation in social situations online; and
- Appropriate localisation of material.

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