

TWELVE TIPS

Twelve tips for effective short course design

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SUMMARY Short courses are commonly used by physicians to stay up-to-date and acquire new skills for practice. Unfortunately, many short courses are not designed to maximize their impact on practice as they fail to acknowledge how people learn and change. Designers of effective short course planning should pay attention to writing outcomes based objectives; conducting needs assessments; determining the optimal content, resources, speakers and format; preparing ancillary materials (handouts and pre- and post-course assessments); and preparing speakers and evaluation. This paper discusses how each of the components of the curriculum design can be used to enhance the learning experience and obtain the desired course outcomes.

Introduction

Short courses are one of the most common ways physicians stay up-to-date and acquire new skills for practice. The aim for most short courses is to achieve an impact—an improvement or change in some form of previous practice (Moon, 1999). Achieving an impact is difficult. Indeed controversy exists about whether short courses are an effective change agent and what makes them effective in medical practice (Davis *et al.*, 1995, 1999, 2003; Greiner & Knebel, 2003).

Short courses are a challenging vehicle for change. ‘Short courses are characterized by being only a few days [or less] long, people coming together who don’t know one another into a period of concentrated learning, and a variety of activities’ (Moon, 1999, p. 9). The ‘teaching itself is dominated by intuition and tradition, which do not always hold up when submitted to empirical verification’ (Greiner & Knebel, 2003, p. 11). Even the design is flawed by an over reliance on short meetings of planning committees whose primary task is to identify topics and speakers who can fill a day long program.

There is a body of knowledge originating out of what we know about physician and adult learning and change that can be helpful in designing short courses that will have impact. For example, we know that in naturalistic settings, people learn gradually and in stages (Fox, 1989). New learning involves awareness, consideration of the new idea and its merit, testing the new idea, and then adoption and even adaptation (Prochaska *et al.*, 1992; Rogers, 1995). Reflection is an integral component of the change process (Fox *et al.*, 1989) and it is reflection that helps to shift surface learning of new information into deeper learning and understanding (Moon, 1999). Effective course design strategies use multiple

and active (not passive) teaching and learning strategies in combination with enabling and reinforcing techniques (vs. those that facilitate or transmit information) (Davis *et al.*, 1995, 1999, 2003). When needs analyses are done to establish the focus on the gap between current and desired practice, outcomes are more likely to accrue (Davis *et al.*, 1995).

The purpose of this paper is to discuss how short courses can be designed to obtain two outcomes: (1) demonstrable learning and skill development at the end of the course and (2) change and improvement in practice. The focus will be on short courses of one-and-a-half to two days duration which concentrate on one aspect of medicine. These strategies are not intended to guide the development of ‘pot pourri’ or ‘advances in . . .’ types of courses in which a series of speakers appear and disappear off a podium presenting a diverse set of topics. While the tips are presented in a linear fashion, the process of short course design should be seen as an iterative one in which each step (or tip) should inform and affect other steps or other offerings of the same course.

Tip 1

Assess the clinical problem.

General needs assessments are required to establish the initial need for the short course and begin the design work. While the need may be generated by a new approach to care meriting attention, new research findings, or media generated content, it should be verified through an examination of objective evidence obtained through local or regional quality improvement studies or government health studies (Kern *et al.*, 1998). Where such data do not exist, techniques such as questionnaires and focus groups can be used as well as interviews with key informants to gain a general understanding of professional practice. Strategies such as the Delphi technique, task analysis, critical incident surveys, and examinations of errors in practice can also be helpful (Dunn *et al.*, 1985). This assessment should be sufficiently focused to determine whether there is a ‘real’ population-based need for the course, the potential of a short course strategy to influence change, and the marketability of the course.

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Tip 2

Determine learning outcomes.

The analysis of the general needs assessment should lead naturally into a list of key ideas and concerns. At this point, it is appropriate to begin to identify the learning outcomes or the end points to be achieved by participants (Harden *et al.*, 1999) outcomes based objectives. These are generally written, ‘by the end of the course, participants are expected to be able to . . .’. They need to be realistic given the time likely to be available for the educational experience, your assessment of the gap between current and desired practice, and the resources you have available. If possible, they should be measurable. Well written outcomes will provide the road map for the content, the teaching strategies you will use, and the pre- and post-course material and assessments that will be needed. This will make the curriculum explicit for learners and teachers so they will both know from the outset about the expectations and potential gain from the course (Harden *et al.*, 1999; Houlden & Collier, 2001).

Tip 3

Use evidence-based medicine to develop content.

The evidence base on which the educational program is developed should be defensible. Where randomized control trial evidence exists to support a clinical practice guideline, that information should be incorporated into the educational program. Better outcomes can be achieved when educational programs are based on evidence of clinical effectiveness (Grol & Grimshaw, 2003).

Tip 4

Identify resources.

Resources for the course should include a consideration of the teachers, physical space needed, equipment, materials, and print or web-based materials that might exist to support the educational objectives. For example, if there are limited numbers of teachers available to teach or facilitate the course; small group teaching, while desirable, may not be possible. If competence can only be gained with practice involving equipment and/or disposable materials, these need to be procured. Similarly, standardized patients may be needed to enhance communication skills. Patient education materials may be a helpful adjunct for many courses. When patient materials are an integral part of the educational strategy, copies of them (or a web url where they can be downloaded) should be provided.

Tip 5

Select teaching strategies for active learning.

The selection of teaching strategies should be guided by the learning outcomes, the content of the program, the background of the anticipated participants and the resources (teachers, learning aids and materials) available. Every attempt should be made to use a variety of active learning strategies. For example, discussion groups that use problems or cases as the base for the discourse will engage learners.

Role playing allows people to try out a new method for counselling or history taking. If the range of clinical experience, knowledge, and practice of participants varies greatly, it may be appropriate to divide course participants into groups based on their work and knowledge. In our experience, participants are comfortable being assigned to groups (Ward *et al.*, 1999; Lockyer *et al.*, 2002). In large groups, there are a number of techniques available to ensure active learning such as asking participants to work in groups of two or three or having participants respond to questions using different coloured voting cards (Steinert & Snell, 1999).

Tip 6

Select teaching strategies that foster reflection.

Reflective exercises within courses allow individuals to explore their experiences and knowledge leading to new understanding. Synthesis of old information and concepts are merged or replaced by new ideas. While needs assessment (tip 8) and commitment to change (tip 10) facilitate reflection, discussion with others helps the practitioner focus on the new knowledge against the template of his/her own experiences. Cases can be helpful in establishing similarities to one’s own practice. Discussion can be a useful way to help participants find their way to solutions to barriers; generally others in the group will have confronted the same situation and come up with an answer.

Tip 7

Use passive strategies sparingly to ensure a common knowledge base.

Passive strategies can be helpful in ensuring that all participants hear the key messages. This can be initiated by circulating articles or copies of clinical practice guidelines prior to the course. Generally, the material should be relatively short and related to the objectives or it won’t be read. During the course, ‘mini lectures’ can summarize the key messages, provide concrete information and ensure that participants have a common base for their discussions and other work. Ideally this will serve to either summarize learning from an interactive activity or set the stage for a subsequent interactive exercise. Towards the end of the course, it is often helpful to provide an evidence-based summary of key learning points.

Tip 8

Create an individualized needs or pre-course assessment.

The general needs assessment (tip 1) is designed to set the stage for overall course planning. However, this is rarely sufficient to identify and fine tune the teaching activities for the group who actually attends the program. The addition of a registrant specific assessment, sent 3–4 weeks prior to the beginning of the course, enables participants to reflect on their work and their learning prior to the course. This is most easily done by taking an ABC approach (attitudes, behaviours, and cognitive knowledge) to the clinical area and asking between 10 and 20 questions (Ward *et al.*, 2001;

Lockyer *et al.*, 2002). For attitudes, one can ask questions about physician perception of personal efficacy with treatment or patient likelihood of compliance. Behaviours can be elicited by having participants abstract data from patient records or by asking how often they believe they do specific clinical tasks. Cognitive knowledge can be assessed through multiple choice questions. All items in the assessment should relate to course objectives. Ideally, the questions should focus the physician's attention on his/her current practices, build up a discomfort with current approaches where appropriate, and help the physician begin to visualize new approaches or at least be ready to consider alternatives. The teacher should use the data to emphasize or de-emphasize key content. The results of the needs assessment can be presented at the beginning of the program to identify communal gaps in or to divide participants into subgroups, for small group work, to uniquely address specific needs.

Tip 9

Prepare teachers.

Teacher preparation is a critical element to course success. Teachers must review course objectives, needs assessment data, learning strategies, and course content prior to an educational session in order to visualize the course and anticipate questions. They also understand the rationale for the course's design. Both process (i.e. how to teach and run the educational session) and content may be equally important parts of teacher preparation.

Tip 10

Commitment to change and evaluation.

The end of the course can be a very rushed experience as everyone prepares for a hasty exit. It is crucial that time is managed so that there is an opportunity for participants to take a few minutes to reflect on what they have learned and how they will use this information in their workplace as well as to provide feedback to guide further iterations of the course and teacher improvement. Asking for 'commitment to change' (CTC) statements is increasingly being used with short courses (Pereles *et al.*, 1997; Lockyer *et al.*, 2001). With CTC, participants are asked to identify the things they intend to do with the information and skills obtained using a duplicate (i.e. two part) form. This way participants have one form and course organizers can collect the other copy to use as part of the post-course evaluation. Participants need to be instructed to identify specific measurable changes (i.e. 'I will do a mini mental state examination on my elderly patients when I suspect dementia', vs. 'I will screen for dementia more often'). The end of course evaluation should also query whether the learning objectives were met, teacher skill, and content clarity as this will inform future revisions to the course and guide teacher improvement.

Tip 11

Provide a 2–3 month post-course reflective exercise.

Two or three months after the course's conclusion, it is appropriate to re-contact participants, thereby extending the

life of the course and the chance for participants to reflect on the content (Ward *et al.*, 1999, 2001; Lockyer *et al.*, 2001, 2002). This may also be an opportunity to send out additional information (e.g. new guidelines or a pertinent article). The post-course assessment may take an open ended approach to questions to facilitate reflection related to content and skills learned and used since the course, barriers encountered in applying the new knowledge in the workplace, and intended further learning. This line of questioning will help learners think about their progress since the course as well as to help them set goals for the future. It may be equally appropriate to repeat the pre-course assessment to examine changes since the course. Timing is important here as too little time may mean the physician has not had a chance to practice the new approach with an appropriate patient or group of patients. Too much time may limit the learner's ability to recall the salient aspects of the course and its application in practice. When commitment to change statements are collected, it is appropriate to return these (or a copy of the form) and ask physicians to indicate whether they were able to make the changes and whether difficulties were encountered.

Tip 12

Use data in an iterative way.

Planning a course in this way generates data at several strategic points which can be used to refine the course *in situ* or revise the course entirely. For example, the individualized needs assessment data (tip 8) will confirm impressions about baseline knowledge, skills and practices of participants. The CTC statements (tip 10) enable a correlation between the course's objectives and content and the intentions that people have when they finish the course. The end of course evaluation (tip 10) will establish whether the teacher was able to deliver the course as well as difficulties which participants had with the content, environment or resources. The 2–3 month post course follow-up on the CTC statements (tip 11) provides information about the participant's success in integrating the new knowledge and skills into their practices. All of this data can be used iteratively to improve upon the course objectives, course content and design, directions for teachers, and even the assessment tools themselves.

Discussion

These tips for course design beg the question of feasibility and participant likely compliance. Certainly, not every course can be designed in this manner. However, for a short course to truly impact on physician practice and patient outcome, it does have to follow conventional approaches to curriculum design (Kern *et al.*, 1998) and be longitudinal (Davis *et al.*, 1995, 1999, 2003). It also has to be a patient issue worthy of that amount of attention. Our work shows that 80–90% of physicians will complete the pre-course assessment and submit it prior to the course (Ward *et al.*, 1999, 2001; Lockyer *et al.*, 2001, 2002). Similar numbers will complete CTC forms at the end of the course. At the 2–3 month post course assessment, 50–70% of physicians will provide data (Lockyer *et al.*, 1997, 2002; Ward *et al.*, 1999, 2001).

Further, physicians will adopt the changes they intend to adopt (Pereles *et al.*, 1997; Lockyer *et al.*, 2001) and the changes will correlate with the content of the course (Lockyer *et al.*, 2001).

By beginning with the pre-course planning and ending 2–3 months later with a post-course exercise, course designers can create a structure which will enhance the potential for deep rather than surface learning and the reflection needed for change to occur. Data collected in the process of doing pre- and post-course activities can be used to demonstrate that learning and skill development has occurred.

Practice points

- It is possible to design courses that incorporate deep learning if one uses teaching strategies that incorporate reflection.
- Writing outcomes based objectives can guide the overall planning and assessment of a short course.
- Short course development should include needs assessment, outcomes based objectives, preparation of handout and pre- and post-course reflection and assessment material, speaker preparation, and course evaluation.
- Reflection can be facilitated with pre-course needs assessments, the appropriate selection of teaching strategies such as case based discussion, participant commitment to change statements, and post-course assessment.

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