

TWELVE TIPS

Twelve tips for using a computerised interactive audience response system

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SUMMARY *The role of the lecture in medical education has recently been called into question. Adults learn more effectively through active learning therefore where is the place for the traditional lecture? This paper describes the use of a computerised audience response system to transform large group teaching sessions into active learning experiences, thereby securing a future for the lecture format. We pass on our tips, gleaned from our varied experiences using the system, for the successful design and running of such interactive sessions.*

Introduction

Lectures have long been employed as a method of teaching in medical education. They have been seen as an efficient means of imparting large amounts of information to large groups of students, thereby making seemingly effective use of lecturers' limited time. More recently, however, their effectiveness has been questioned. Traditionally, the audience assumes a purely passive role and, under these circumstances, the audience's concentration falls off after 20 to 30 minutes with most people only able to recall around three facts from an hour long lecture. In Dundee, however, we feel there is still a place for well-designed and executed large group teaching. One technique we have employed is to make lectures a more active experience for the audience, promoting the more efficient acquisition and retention of knowledge through active learning. We have achieved this by using a computerised interactive audience response system. This paper provides practical tips on using such a system in order that you might benefit from our experience.

The system

The system we use operates using the IML Question Wizard interactive software. Questions are generated and embedded as objects in a PowerPoint presentation. The audience is given a question stem and up to nine answer options. They are then asked to vote on their preferred option(s) using handsets which work on an infra-red signal. Voting is anonymous. Receivers are set up at the front of the lecture theatre to pick up the signals from the handsets and relay them to the computer. The results are then displayed immediately on screen and are open to discussion between the lecturer and audience members.

The system has been used widely in Dundee in a large variety of settings and with different student groups, from undergraduate medical students through to workshops for

General Medical Practitioners. This has given us a great deal of experience in using the system, and awareness of its advantages and disadvantages and the potential pitfalls.

Designing your presentation

As previously stated, the system runs embedded in a PowerPoint presentation. When designing an interactive presentation, therefore, you should follow the general rules for PowerPoint, for example with regard to colour schemes and font type and size. (Crosby, 1994, Holzl, 1997). There are some features specific to the interactive system, however, which you should consider when preparing your presentation. The first of these relate to design of the questions themselves.

Bear in mind the principles of good slide design (Laidlaw, 1987). The main requirement is legibility. This applies to question design too. Keep your question stem and answer options short and simple in order that the audience can read them easily and respond quickly.

Tip 1

Keep questions short to optimise legibility.

The second point also relates to the legibility and clarity of the projected image. The interactive software allows you to include up to nine possible responses to your question. In our experience, however, if more than five options are given, the screen becomes difficult to read and, when it comes to displaying the results, cluttered and difficult to interpret.

Tip 2

Have no more than five answer options.

It is also advisable not to make your questions too complex. If you present your audience with too much information and expect them to read and digest it then make an immediate decision, either the response

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rate will drop as they are put off by such a daunting task, or the presentation has to be slowed considerably to allow time to meaningfully complete the task and the natural momentum is lost. Neither of these situations is ideal as the aim of using such a system is to create a non-threatening environment which encourages the participation of all audience members, and for the session to be active and fun.

Tip 3

Do not make your questions overly complex.

The system gives the choice of several voting options. These range from a single choice to more complex staged voting or ranking of choices. Again, it is usually best to choose the simpler options, allowing no more than two choices. Anything more complex requires considerable explanation by the lecturer, leads to confusion amongst the audience, reducing the number of valid responses, and becomes cluttered and almost impossible to interpret when the results are displayed on screen.

Tip 4

Keep voting straightforward.

Invariably, once the presentation is underway the audience quickly becomes involved and much discussion is stimulated as their responses to the questions are displayed. When preparing your presentation, therefore, you must build in time for such discussion.

Tip 5

Allow time for discussion when designing your presentation.

Finally, with regard to design, it is best not to ask too many questions in one session. Vary your presentation with other slides, after all you have all the features of PowerPoint available to you. If you present your audience with a series of one question after another this soon becomes tedious and their enthusiasm will fall away. Use your questions sparingly, saving them for the points you most want to emphasise, in order that they have maximum impact.

Tip 6

Do not ask too many questions—use them sparingly to highlight the points you most want to emphasise.

Running your interactive presentation

There are also specific considerations to be taken into account when running interactive presentations.

In Dundee we have successfully used the interactive system in many different locations. There are some technical issues to bear in mind, however, with regard to venue. For example, the handsets and receivers work on infra-red signals and we have found that

certain types of lighting can interfere with the signal. It is advisable, therefore, to try out the system in the proposed venue in order that any such problems can be identified and rectified before the teaching session begins.

Tip 7

Check out your proposed location in order to identify any potential technical problems.

Related to the above is the time required to actually set up the system. It takes some time to connect all the various components and lay out the handsets, this obviously varying with the size of venue and audience. It is advisable to allow at least 30 minutes to one hour to set up the system and ensure all the components are working before your audience arrives.

Tip 8

Allow plenty time to set up and try out the system before the session begins.

The interactive system is simple to use but does require initial practice to familiarise yourself with it and to co-ordinate the timing for a smooth-running presentation. It is advisable, therefore, to rehearse your presentation several times, especially the first few times that you use the system, until you are confident with it. The system allows you to run a simulated presentation in order to do this.

Tip 9

Rehearse your presentation to ensure that it will run smoothly.

You will also have to brief your audience on what is expected of them. Unless they register their response at the appropriate time and press the corresponding button on the handset only once, their response will not be recorded. Clear instruction should be provided before the session begins in order that the maximum number of valid responses to each question is registered.

Tip 10

Provide clear instruction to your audience.

One of the most striking features of the interactive presentations we have run is the enthusiastic discussion prompted by using this format. The anonymous nature of the responses creates an informal, non-threatening environment and this encourages free-flowing debate between the audience and presenter. You should encourage such discussion as it greatly enhances the benefits of such sessions for the audience.

Tip 11

Encourage active discussion with your audience.

Our final tip is not to overuse such a system. As with any novel teaching method, overuse will lead to over-familiarity with it and the potential impact of such teaching sessions will be lessened. Choose your interactive sessions wisely, ensuring that the subject matter lends itself well to such an approach.

Tip 12

Do not overuse the system.

If you follow the above practical advice, gained from our varied experiences using such an interactive system, you will gain the benefits of a powerful teaching tool which can turn large group teaching sessions into a truly interactive, and fun, experience for both you and your audience.

(IML Question Wizard produced by IML Ltd, 8 London Road, Liphook, Hampshire GU30 7AN)

Notes on contributor

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