Title: Student-centred discussion as an on-line vicarious learning resource for educators in speech and language therapy

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Abstract:

This paper describes a methodology for capturing students’ learning experiences for use as an on-line vicarious learning resource in the domain of speech and language therapy. This work forms part of a 3-year project which aims to add and evaluate vicarious learning resources to an established on-line learning resource called PATSy ([www.patsy.ac.uk](http://www.patsy.ac.uk) – Cox and Lum, 2004). Vicarious learning relates to the notion that students benefit from access to the learning experiences of others learning (Chi et. al. 2001; Cox et. al. 1999; Laurillard, 1993; McKendree et. al. 1998). To capture students’ learning experience, a set of focussed questions, known as task-directed discussions (TDDs) were developed to elicit student-student and tutor-student discussions which focussed on key issues in clinical reasoning. The TDDs addressed specific learning difficulties experienced by student informants who used PATSy to assess a “virtual patient” in the domain of speech and language therapy. Video recordings were made of student-student and tutor-student discussions using trainee and expert speech and language therapists as informants. The TDDs were then edited using video-editing software © Pinnacle Studio (Pinnacle Systems Inc.) and student-student dialogues were matched with tutor-student discussions for content. The resulting video clips were incorporated into the PATSy database. A study to evaluate the effectiveness of student-student dialogues and tutor-led dialogues as a vicarious learning resource is currently underway.

Extended summary

This paper reports work carried out as a part of a research project, *Vicarious Learning and Case-based Teaching of Clinical Reasoning Skills* funded under the UK
It has long been recognised that individuals can learn “vicariously”. In other words, people can learn through being given access to the learning experiences of others (Bandura, 1977; Cox, McKendree, Tobin, Lee & Mayes, 1999; Lee, Dineen, McKendree & Mayes, 1999). A traditional example would be a “Master Class” in music. Modern technologies are particularly well-suited to delivering vicarious learning resources since they enable us to capture, store and retrieve the records and outputs of real learning episodes (Cox, McKendree, Tobin, Lee and Mayes, 1999; Lee, Dineen, McKendree & Mayes, 1999; McKendree, Stenning, Mayes, Lee & Cox, 1998).

The purpose of this paper is to describe a methodology for collecting “vicarious learning” resources. These vicarious learning resources are in the form of re-usable video-clips of students discussing clinical reasoning issues with other students or with a tutor. The video-clips have been added to an established on-line learning resource, known as PATSy (www.patsy.ac.uk - Cox and Lum, 2004). PATSy is a web-based multi-media database that makes “virtual patients” available to trainees, clinicians and researchers in various clinical professions and cognate academic disciplines. It is used by more than 30 UK university departments.

In the first phase of this project, a study was conducted to identify learning difficulties encountered by trainee speech and language therapists as they used PATSy to assess a previously unseen case. The findings of this study identified a range of learning difficulties including; a limited ability to generate well-formed hypotheses, poor testing strategies, and difficulty in drawing appropriate conclusions from the test data (Cox, 2005; Cox et al., 2005). The difficulties identified were used to inform the design and collection of vicarious learning resources which could be incorporated into the PATSy database. Focussed questions, known as task-directed discussions or TDDs (Skehan, 1998) were developed to elicit naturalistic dialogues between pairs of students or between a student and tutor. The rationale for using task-directed discussions was based on the argument that students’ learning experiences can be made explicit through dialogue (Lee, et. al., 1999; McKendree et al., 1998) and that access to student-centred dialogues may be particularly effective in a professional learning context (Cox et. al., 1999).

Trainee and expert speech and language therapists were recruited as informants and instructed to discuss a series of TDDs, examples of which are listed in (1) to (3) below.

(1) When coming up with a working diagnosis which of the following would you find most useful?
   a. generating multiple explanations
   b. introspecting about your own speech and language skills
   c. using a theoretical model

(2) When choosing an assessment, decide which of the following are most important in your decision and explain why you think they are important;
   a. length of test
   b. communication area examined
   c. knowledge of normal performance

(3) How do you determine the severity of impairment in a particular aspect of speech or language?
The aim of the TDDs was to encourage students to explore key concepts in clinical reasoning. For instance, TDD (1) aimed to elicit a discussion about the relative usefulness of heuristics for generating clinical hypotheses. TDD (2) required students to rank a list of criteria for selecting test data. TDD 3 aimed at encouraging students to apply statistical principles to the context of speech and language therapy. Video recordings were made of the informants’ discussions. These were then edited using the video-editing software package © Pinnacle Studio (Pinnacle Systems Inc) and compressed using © AVS Video Tools Video Converter (On-line Media Technologies Ltd). This process resulted in a set of video clips of student-student and student-tutor dialogues which were matched for discussion content. The video-clips were incorporated into PATSy as a vicarious learning resource for use and re-use by future students. A study to investigate the effectiveness of these vicarious learning resources on clinical reasoning is currently underway. This constitutes the final phase of the project.

The concepts embodied in the students’ discussions relate to general reasoning principles, such as hypothesis generation, hypothesis testing, and evaluating evidence. Thus the method employed here can be readily extended beyond the domain of speech and language therapy education.

References:

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