

A Critique Of The First Two Teaching Cycles Of A New History Of Medicine Student Selected Component

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Abstract

The paper reviews the first two cycles of delivering a new Student Selected Component (SSC) for an undergraduate medical course. It uses current medical education theory to discuss parts of the design, delivery, and evaluation of the History of Modern Medicine SSC at Hull York Medical School (HYMS) in the United Kingdom. The content of the paper is supported by actual reflective diary excerpts from the author. This aims to show the value of such reflection in generating possible improvements to an undergraduate course as well as to the teacher's professional practice.

INTRODUCTION

The first published lectures on Medical History were in 1860.¹ More recently, the General Medical Council's Tomorrow's Doctors² did much to bring more "humane" approaches to medical training, and with it the medical humanities. January and April 2010 saw the first two deliveries of my Student Selected Component (SSC) at Hull York Medical School (HYMS) entitled "An introduction into the History of Modern Medicine". This paper aims to critique segments of the design, delivery, and evaluation of the first two cycles of the module. It will include sections of my reflective journal and link to modern good Medical Education practice to determine if successful revision of the SSC has started to take place. The use of reflection and points raised in the critique will be of potential interest and use to professionals involved in delivering medical humanity subjects to undergraduate medical degrees. Due to this being a study of the author's reflective journal, Hull York Medical School did not require any ethical committee submission of the project plan.

DESIGN

The first step in creating the module was to produce a list of aims and learning outcomes. This permits constructive alignment.³⁻⁴ The original aims and objectives are seen in Appendix 1. These should follow the "SMART" acronym: specific, measurable, achievable, realistic, and time bound.⁵

On closer inspection, further work was necessary to ensure that the aims and objectives were measurable and time

bound. An experience described later suggests one outcome was not specific enough. In terms of the levels of cognition aimed for, the outcomes perform strongly by incorporating several levels of Bloom's taxonomy of the cognitive domain.

⁵ These range from the lower level of "knowledge" to "analyse" and "formulate" for which higher education courses should aim. They complied with the Quality Assurance Agency's four recognised domains in higher education: knowledge and

Figure 1

Extract 1.

"The start of the lecture was slightly affected by a late arrival of one member... I later noted that such a characteristic is part of the assessment sheet at HYMS... Consequently, on reflection I will incorporate a notification of appropriate behaviour during the module in the first session as well as incorporate professional behaviour within a learning outcome. If such lateness reoccurred despite this then it will form part of the assessment of professional behaviour".

understanding, generic skills, cognitive skills, and subject specific skills.⁶ However, a fifth domain has been described in Medical Education. This regards that of attitudes and professional development. Such a domain was not originally included.⁶ This was noted on reflection when a lecture was delayed due to the late arrival of a particular student (see Extract 1). Due to the above, the aims and learning outcomes have developed (see Appendix 2). The objective regarding professional behaviour relates specifically to demonstrating the abilities to be punctual, work within a team, and provide a supportive learning environment to teaching sessions. This

now links with other SSCs such that repeated poor performances in this regard may constitute a failure to proceed into a subsequent year group. All of these aims and objectives are now discussed at the introductory session.

The planning of the teaching sessions has developed. Originally they were teacher focussed lectures due to familiarity with such a technique. Reflection on the first round of teaching revealed that some students seemed disinterested (see Extract 2) and direct experience of the negativity of passive learning had been witnessed with attention dropping off early in the session. The students needed to pay attention so that information could be placed into short-term memory and then synthesised into long-term memory.⁷ Consequently, the second series of teaching incorporated the engaged form of lecture⁸ when the principles of reflection, sharing, and discussion were incorporated into the session and are detailed further below.

Figure 2

Extract 2

"I remembered the faces of a group earlier in the year... once the lecture was over, some of the students could not wait to run out of the door. Therefore, when writing the presentation I consciously kept it shorter and included sections in it that required audience participation. No more yawning, but more talking and learning".

DELIVERY

Figure 3

Extract 3

"...there was some distance in between everybody due to the unmovable giant table in the centre of the room... I could not avoid being slightly in the way of the projector for a couple of students due to the dynamics of the room... once student numbers are known I should ask for a room where moveable chairs are available and there is no restriction caused by a table. This would help because it will be useful to be able to move students for discussion purposes".

Resources, technology, and space are important factors when delivering teaching. Initially, the room given had all the appropriate equipment and was easily located. There was a difficulty with the projector at first but this experience led to Information Technology staff being present to set up equipment for colleagues. A journal entry (see Extract 3) shows that the format of the room was not ideal for all students to see the presentation. This could have limited their learning. The same feedback highlighted that if an engaged lecture was to be proposed then the working environment needed prior organising. Suggestions from the literature included organising the student seats into a horseshoe shape for quick and easy movement of students.⁹This has been successfully introduced.

Figure 4

Extract 4

"The biggest variety in [questionnaire] responses was regarding the venue... Half either "disagreed" or "strongly disagreed" that the venue was appropriate. I am not too surprised at this as I myself had hoped to be able to get access to other venues... perhaps the disagreeing respondents were the students who had to travel the furthest such as from Hull to York and that was what they meant by the venue. I will trial using the York Medical Society rooms if available as they have artefacts there which allow the students to experience some Medical History in the flesh".

Incorporating teaching and learning activities also aided interaction. This characteristic is proposed to be important for two reasons. Firstly, students' attention and recall is strongest at the beginning and end of a lecture but dips in between.¹⁰ Recall, it has been suggested, can be improved by changing the format of a lecture part way through.

¹⁰⁻¹²Secondly, by interspersing teacher exposition with student activities, students are able to develop social dimensions of learning with others from task or problem-focussed group work.⁸ With such learning, students can share and transfer knowledge between themselves.¹³ This could be in the form of any number of activities and exercises¹⁴ although I ultimately used brain storming, group round, and asked for a short presentation from each student. This provided feedback on how well the students understood

certain ideas or concepts and has been described as classroom assessment techniques (CATS).¹⁴

EVALUATION

Evaluation is "the process of obtaining information about a course or programme of teaching for subsequent judgement and decision making".¹⁵ The first cycle of teaching had one attempt at evaluation. This was in the form of the preset on-line questionnaire that HYMS uses for each SSC. It has eight questions and results from students are returned anonymously. The response rate was 53% for the first cycle of teaching. This highlighted that, of the responders, students were highly satisfied with the course but an area of potential improvement was the venue. My reflection on this (see Extract 4) led to my decision to attempt to timetable at least one teaching session at a local medical society within future SSCs.

However, was this the correct action to take from a single questionnaire? Perhaps the problem with "venue" was not the actual room or building used but in which city it was. HYMS is a medical school where teaching is split between Universities in two separate cities that are 35 miles apart from each other; there may have been a desire for more teaching at Hull. Furthermore, there may have been responder bias from an inadequate response rate. An adequate minimum threshold for adequate questionnaire response rates has never been agreed, with suggested estimates ranging between 40 and 80%.¹⁶⁻¹⁸ Moreover, it has been purported that evaluation questions concerning satisfaction to stem items are not as worthwhile to those at higher points in Kirkpatrick's level of evaluation.

¹⁹Consequently, the first set of direct evaluation was not as strong as it could have been and may have led to an unwanted change.

Figure 5

Extract 5

"In terms of improvement, consideration of using certain sessions earlier in the module as well as teleconferencing and putting the group in a circle for discussion were the main points... in fact the end of the session involved sorting out timetabling the tutorial later in the module and it was agreed to trial teleconferencing".

The use of students' evaluation has changed and the future will see further variation. Regarding the questionnaire itself, a new version is being created to include if and why learning had or had not taken place as well as professional practice, research, and attitudes. It will include open-ended questions and an opportunity for "any other comments." This is because students may have differing areas of importance for their learning than those felt by myself or HYMS; different learners have different experiences of the same set of teaching and so should be allowed to generate their own different feedback. In addition, the questionnaires may be distributed in the final teaching session to help raise responder rates and reduce bias. However, student evaluation is no longer generated from just the questionnaire. A group round was tried in the last of the recent set of teaching (see Extract 5). This allowed the students to bring forward items that were relevant to them. The latter point demonstrates how the initial questionnaire itself did not go further into finding the crux of the venue

problem as well as the benefits of using more than one evaluation system as suggested by Morrison.²⁰ Furthermore, considering that much literature exists regarding students' dissatisfaction with institutions not responding to their evaluation data,²¹ or "closing the loop" of evaluation, this open meeting also allowed my acknowledgment, appreciation, and discussion of their evaluation.

Figure 6

Extract 6

"I have been alarmed at the lack of knowledge of how to reference by the majority of the students. Mixing referencing styles, typo's, and indeed no referencing has been seen... However, it is also the reliance on internet sources that has caught my attention... [when I was a Medical History undergraduate student] I was disciplined in getting books and journals from the library, ensuring the photocopy card did not get too bent... and crawling around in the dark in the basement for historical journals and blowing off the cobwebs. This was part of the enjoyable experience of Medical History".

The assessment has contributed to evaluation. Students are asked to complete an essay on Medical History. Following the first set of essays I realised that a large cohort of the group had not learnt how to reference or use resources accurately and appropriately (see Extract 6). As a result of this I made changes to the learning outcomes and incorporated a hyperlink to the University of York referencing guide webpage in both a lecture and resource pack. Furthermore, as part of a small student presentation early in the teaching I will observe and discuss their access, use, and referencing of resources. This, therefore, will act as a form of CAT.

A further area of evaluation can occur from peer observation of teaching (POT). In the first teaching cycle, email correspondence between some of the faculty occurred with regard discussion of problems and ideas. This peer support was not structured and there was no POT. Within the second cycle of teaching I used POT for one of my sessions. The observer was a lecturer on the course who also works in the Medical Education Unit at HYMS. I specifically asked for observations on the presenting style and methods of engagement with the group. This was provided in written form and in a feedback session following the teaching. Their observations together with my reflection on this activity were used (see Extract 7). These led me to alter some slides and consider further engagement activities. However, considering that the opinions of evaluators differ regarding what constitutes good medical education methods, several evaluations using different peer observers are needed to achieve reliability. In addition, it is important that I also

participate as a peer-observer at other parts of the course. This is not only for witnessing alternative teaching methods and of how a student group learn but for learning about how to peer-observe effectively. If the latter can be done then I would be able to help better tailor future POT of the SSC.²²

Figure 7

Extract 7

"Arrangements were duly made and the timings went well. Several insightful comments were made about the number of slides, layout of presentation, scattergun technique, and the late arrival of a student... Perhaps I had expected more comments (positive or negative) from such a process to those that were obtained, but each person has different experiences to bring and ways of communicating this".

CONCLUSION

The SSC has developed throughout its first year but much is still needed to be done. Student learning and teaching is ever changing and the SSC needs to keep up with modern theories and technologies. The thoughts and opinion of students, peers, and the medical school will act as stimulants to improvements. Contemporary research, led by this author, has recently been completed into the exact provision of Medical History SSCs at UK medical schools to help staff involved in all such SSCs to potentially learn from each other on a national level.²³ However, if such revisions of the SSC are to be successful then it is only through reflection of this data that this will be possible. This has been the first time that I have consciously used a reflective diary to help with the reflective process and it has been a beneficial experience not only for the future delivery of this SSC but also for my overall professional development. I will start to use reflective practice in both my medical work and General Practice teaching and hopefully improved patient care will result, the ultimate aim of Kirkpatrick.¹⁹

Glossary

Brainstorming: A technique for activating the students' knowledge or current understanding of an issue or theme. The lecturer invites answers to a question or problem from the audience and writes them, without comment, on a board or overhead. After a short period the lecturer reviews the list of "answers" with the group. The answers can be used to provide material for the next part of the lecture or to give students an idea of where they are before they move on. By writing answers in a way that can be seen by everyone in the audience, you allow the students to learn from each other.¹⁴

Buzz groups: These consist of groups of two to five students working for a few minutes on a question, problem or exercise. At the end of the buzz group session, the lecturer can either continue with the lecture or check the results of the exercise by asking one or two groups to present their views.¹⁴

Blackboard: A common area between applications and users in which mutually useful information is stored in a virtual learning environment standard form that all can access on-line.

Group round: In this method each student has a brief time to say something in turn round the group.¹²

Horseshoe group: This method allows you to alternate between the lecture and discussion formats. Groups are arranged around tables, with each group in a horseshoe formation with the open end facing the front. Lecturers can thus formally talk from the board for a time before switching to presenting a group task.⁹

APPENDIX 1. THE ORIGINAL AIMS AND LEARNING OUTCOMES

Aims

- 1) Provide an introduction into how to conduct research in the history of modern medicine.
- 2) Provide a series of lectures on components of important and interesting subjects in the history of modern medicine. This will include discussions around notable names, procedures and discoveries predominantly from the nineteenth and twentieth centuries.
- 3) The SSC will allow students to research a topic of interest to them and develop their writing skills in the history of medicine.

Learning outcomes

- 1) Demonstrate an awareness of the different resources for studying the history of medicine.
- 2) Have knowledge of some of the important people, discoveries and apply this to how and why we practice modern medicine today.
- 3) Demonstrate the ability to create a research topic.
- 4) Analyse both primary and secondary materials.
- 5) Formulate a clear, concise, and properly referenced essay.

APPENDIX 2. THE DEVELOPED AIMS AND LEARNING OUTCOMES FOLLOWING THE FIRST CYCLE OF THE

Aims

- 1) Provide an introduction into how to conduct research in the history of modern medicine.
- 2) Generate interacted learning sessions using a variety of modern good medical education theory and techniques components of important and interesting subjects in the history of modern medicine. This will include discussions and critiques around notable names, procedures and discoveries predominantly from the nineteenth and twentieth centuries.
- 3) The SSC will allow students to research a topic of interest to them and develop their writing and research skills in the history of medicine.
- 4) Allow development of adult learning techniques and professional development.

Learning outcomes

- 1) Demonstrate an awareness and ability to critique different resources for studying the History of medicine.
- 2) Have knowledge of some of the significant people and medical discoveries from the nineteenth century to today and apply this to how and why we practice modern medicine today.
- 3) Create a research topic and implement a strategy to undertake appropriate research and writing by the end of the SSC.
- 4) Have an ability to analyse both primary and secondary materials and demonstrate this in written and presented

work.

- 5) Formulate a clear, concise, and properly referenced essay that uses a range of resource media by the end of the SSC.
- 6) Demonstrate professional behaviour with other students and tutors at all times. This includes punctuality and attendance at all teaching sessions, teamwork, and providing a supportive process to the running of all teaching.

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