

Learning by distance for general practitioners: students' experiences of Goodfellow Unit diplomas

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Abstract

Aim. To examine students' reasons for studying and their learning experiences in the Goodfellow Unit postgraduate distance learning diplomas.

Method. A survey was sent to all students currently enrolled in the Goodfellow Unit diplomas in emergency, sports and geriatric medicine.

Results. The response rate was 63%. Students had enrolled to gain more skills on their present job for personal satisfaction or for personal interest. Students reported

difficulties in fitting study into already busy lives, but general satisfaction with the learning format of videotaped lecture sessions plus written study guides. They also reported having to develop a different method of learning from their undergraduate study methods. Students predicted a number of ways of improving learning outcomes.

Conclusion. Distance learning is a viable option for busy general practitioners, as long as it can be self paced, practical and relevant to the work situation.

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Harden and Laidlaw¹ argue that the need for continuing medical education is well documented, but the challenge is to make sure it is effective. The acronym CRISIS provides the criteria for measurement of effectiveness: convenience, relevance, individualisation, self-assessment, interest, speculation and systematic. For many general practitioners, the first category of convenience is the hardest to meet due to workloads or distance from the provider. The Goodfellow Unit diploma papers in emergency, sports and geriatric medicine were first offered in distance learning mode in 1995, in response to demand for the diplomas from general practitioners who were travelling in excess of two hours every week to attend 30 two-hour seminars. Although formal needs analyses were not undertaken before the diplomas were offered, the Goodfellow Unit's assumptions about their learners included a belief that doctors were highly motivated to learn, would have no obvious gain for studying and were taking the course to develop their sense of professionalism and to do their jobs better.

Little is known about why doctors undertake postgraduate study and how they prefer to learn, although professional motivation and the need to update knowledge and skills in the work environment have been identified as reasons²⁻⁴ both here and in the United States. In addition, New Zealand doctors' preferences for postgraduate courses⁵ over seminars or personal reading have been identified. In New Zealand, Dovey et al⁵ in their survey of general practitioner's opinions of continence care training found that 58% of general practitioners preferred enrolment in postgraduate courses as a method of training over attendance at seminars (38.7%), lectures (12.1%) or obtaining necessary knowledge through reading medical journals (28.6%).

Rowntree⁶ argues that distance learning packages can enable people to learn without being in the presence of a teacher or other learners, to learn where and when they choose and at their own pace, to choose the learning sequence, to assess their own progress and to develop their capacity for independence and self-reliance as a learner. Not all packages will have all features, but successful distance learning packages will have many of these features and will be designed for specific learners, with a specific purpose in mind. Appropriate instructional design is used to promote a teaching:learning relationship with the student, which recognises and builds on previous learning and enables opportunities for feedback and self assessment. Learning opportunities which include possibilities for self direction

have been proposed as appropriate instructional design for general practitioners who have knowledge of the discipline, and a sense of personal responsibility and commitment to learning, but different experiences, backgrounds, proficiencies, and interests.⁷ However, as Lott⁸ points out, many isolated general practitioners suffer from 'distance impairment' which can be seen as an obstacle to lifelong learning. The challenge for the distance educator is to provide CME at a distance which overcomes the obstacles of isolation.

Methods

A course evaluation form was sent to all students (73) who enrolled in the Goodfellow Unit diploma papers. The survey was designed by the principal authors and checked for content and ambiguity by the course coordinators and the administrators for the diploma papers. The survey was based upon questions asked in Massey University's extramural SECAT form, which is designed to evaluate the effectiveness of content, administration and teaching at a distance; the previous evaluation form used for the Goodfellow Unit diploma papers, and previous surveys of the learning needs of isolated/rural general practitioners designed in the Goodfellow Unit.

The questionnaire collected demographic information on where students had trained, how many years it had been since they graduated and their reasons for studying now. It also examined the effectiveness of the content and delivery of course content, the appropriateness of assessment, and students' typical methods of studying. Finally, the survey examined which learning formats students preferred in distance mode. Many of the questions asked students to respond to positive statements on a five point scale from 1 = "strongly agree" to 5 = "strongly disagree".

Students were sent one targeted follow-up letter and a reminder was included in the diploma newsletter. An administrative assistant in the Goodfellow Unit entered the responses into an EXCEL database, and descriptive statistics were obtained for all students and subgroups of each diploma. Responses to open-ended questions were coded separately by the principal investigators and the results compared and discussed.

Results

From the 73 questionnaires sent to students, 46 replies were received: 22 (from 33 enrolled) emergency medicine; fourteen (from 23 enrolled) sports medicine; and ten (from seventeen enrolled) geriatric medicine. A further two questionnaires were returned by the Post Office and a late response was received after the analysis was completed. There was little response to the follow-up letter or the newsletter reminder.

Five to ten years was the most common period of years since graduation (30.4%), followed by more than twenty years (21.7%) and less than five years (19.6%). The remainder was spread evenly between eleven to fifteen and

sixteen to 20 years. The University of Otago School of Medicine was the most frequent site of original medical training (45%), followed by Auckland (21%). Fifteen students (32%) had trained in overseas medical schools.

Primary reasons for enrolling for the Goodfellow diplomas included updating and improving knowledge and skills (54%), a personal interest in the subject studied (22%) and gaining a useful qualification (15%). Students also responded that the following factors had influenced their decision to enrol: needed more skills on present job (76%); personal satisfaction of further study (95%); and personal interest in the topic (86%). Factors which did not influence the decision to enrol were: gaining a qualification (78%), promotion or job opportunities (56%) or salary increase (91%).

In terms of the format, content and quality of the courses, students either strongly agreed (45%) or agreed (38%) with the statement that the "overall quality of the course was high". 31% of students strongly agreed and 57% agreed that the courses had clear learning objectives. 59% of students agreed that the format of videos and folders was easy to use, while 34% strongly agreed. Equal numbers of students (44%) strongly agreed or agreed that the videos and handouts were relevant to the course. Note that three students (6%) neither agreed nor disagreed, and two students (4%) disagreed. It was useful to note that 64% of students agreed that the background readings were useful and relevant, while 15% strongly agreed, 13% were neutral, and 6% disagreed. 53% agreed that the amount of assessment was appropriate, while 55% agreed that the type of assessment was appropriate.

Three to five hours (41.3%) was the most frequent number of hours per week that students spent studying, followed by eight to ten hours (23.9%) and five to eight hours (21.7%). The average number of hours spent studying was approximately seven hours per week. Students studied on average 10.8 occasions per month, with a range from two to 30 occasions.

Students cited a few problems associated with using videos and written materials, which included the following: technical problems (15%) such as quality of the video recordings; understanding the relationship between the video lecture and the supplied readings (11%); learning difficulties (15%) such as difficulty applying techniques without practice opportunities; and lack of opportunity to interact with other students (4%).

Students were asked to describe their usual method of studying the paper. The majority watched videos and took notes (76%), read the folder material and annotated it (65%), read the folder material and took lots of notes (19%), read only (17%), only watched videos (15%), only took notes when revising or writing assignments (4%) or never referred to the study material (4%). Some students responded to more than one method of studying, and the most frequent combination was to watch the videos and read the material and take notes. When students received their package of videos in the mail, 29 (63%) watched them at irregular times, sixteen (34%) watched them at regular study periods, while one person watched them at once.

Students were asked if some other features of open, distance and flexible learning materials would aid learning. Activities, exercises and self-review tasks would help according to 27 students (58%), while a further eight (17%) said they may be helpful. Other useful features included a self paced learning manual (21% yes, 51% maybe), and regular discussion with other students via email or internet chat rooms (29% yes, 42% maybe).

The course lecturers wanted to find out if students used the written materials and the videos when they prepared

their case studies later in the diploma: in fact 76% of students intended to use them. Students stated that they would use the materials and videos for revision, as a guide to best practice and as a reference source.

Course lecturers also wanted to know whether students thought that an examination was a useful assessment method. 79% stated that it was, with reasons given that it helped to assess progress, to consolidate learning and to aid motivation. The remaining 21% who did not consider the exam useful, gave reasons which queried the relevance and validity of multi-choice questions and the appropriateness of the exam to assessing core content.

In terms of revising for the exam, 33 students stated that they re-read study material (76%), 25 stated that they re-read and summarised study notes (54%), and 21 stated that they revised the videos (45%). Given that two-thirds of students had already stated that they read or view and take notes, this is quite an intensive revision method.

Video taped lecture sessions were rated most frequently as "most preferred format", followed by CD Rom plus study guides, audio-tapes plus study guides and then study guides only. Teleconferences plus study guides, email or internet discussion lists plus study guides, and then internet only courses were the least preferred formats.

65% of students stated that they had had to use a different method of study as a post graduate distance student than they had used during their medical training. A third (28%) of the reasons concerned finding time to fit study around work and a family, while a further 22% stated that they needed to have more self motivation and self direction in order to be successful in their study. Other differences included having less interaction with students and tutors (12%), finding distance study a harder or worse method (14%), while 17% found being able to review the lecture tapes a bonus for studying. The remainder considered that there was a different purpose to studying than before.

Discussion

Study design. The survey was primarily designed to evaluate the effectiveness of the diploma programme. The questionnaire was not tested for reliability because of the range of topics covered and the varying question formats required. However, as the questionnaire was based upon previous research on why doctors study, a reliable and established student evaluation format, and was critiqued extensively by general practitioners in the Department of General Practice prior to release, we consider the format to have high content validity. The survey design assumes the accuracy of self-reporting and recall of participants. Curry and Purkis⁹ have provided evidence of the accuracy of self-reporting of doctors regarding educational activities.

Principal findings. Students are enrolling in the diplomas for intrinsic reasons: to improve their knowledge and skills of the topic, because they considered that they needed more skills for their present job, or simply for personal satisfaction. Extrinsic factors such as promotion or financial advancement were unlikely to have influenced their reasons for studying. Most students liked and preferred the package format of videotapes and relevant readings and considered the assessment methods fair and appropriate. Students dedicate an average of five to eight hours per week to study, but at irregular times to fit in with their personal and professional lives. Students had had to develop different methods of study to cope with isolation from other learners and the complexity of a busier life. These results are similar to those of Fox, Mazmanian and Putnam² who found that practising doctor's in the United States reasons for studying were primarily professional motivation. Reasons included

the desire for enhanced competence (24%), the perception that the clinical environment pressed for change (14%), or personal motivations such as career development (8%), financial gain (9%), improving relationships with peers (11%), or responding to new regulations (11%). Similarly, Tracey, Arroll and Richmond³ in their study of changes in CME uptake following re-accreditation in New Zealand found the most important reason for attending CME was awareness of needing an update. Rural doctors were more likely to rank whether the topic looked interesting and then logistical factors (time, location).

The results also parallel the results of McLeod's⁴ analysis of general practitioners' self-perceived needs for continuing medical education in geriatrics. McLeod found that the primary reason (stated by 44.25% of 379 respondents) general practitioners attended CME was to develop, update or extend their knowledge of geriatrics. The primary barrier for all GPs to attending CME was practice responsibilities, followed by the courses being too far away, and then not having time available and the times being unsuitable. Proportionally more rural GPs cited "course too far away" (82.5%) and "practice responsibilities" (71.4%) as barriers to CME. Ranked barriers to distance learning in order for both all GPs and rural GPs were "no experience with distance learning", "no time available" and "practice responsibilities/demands". The preferred learning format for all GPs in order was interactive seminar/workshop, problem solving or case studies and then interactive seminar/workshop weekend. Rural GPs ranked interactive seminars/workshops in the weekend first, but the same preferences. The preferred distance learning methods for all GPs and also for rural GPs were videotapes, self-instruction workbooks and multi-media computer programmes.

The primary concern raised by the survey was the choice of assessment methods, particularly the examination. Although students liked the practical assessments, they queried the relevance of having a multi-choice examination to assess knowledge, understanding and ability to apply core content to their work situations. One response has been to change to a short answer examination method, focussing on application of knowledge. Other concerns include the link between the materials and the practical application, and the difficulties and isolation experienced by students studying for the first time without a class group.

Despite these concerns, the most important finding for the diploma papers is that there is general satisfaction with the current offering of diplomas in emergency, sports and geriatric medicine by distance learning. Furthermore, distance learning is a real and viable method of gaining further knowledge and clinical skills for this group of general practitioners. It is a viable option for busy general practitioners, as long as it can be self paced, practical and relevant to the work situation.

Future Directions. There are opportunities for further development of the study materials using models of instructional design identified as being particularly effective for distance education.⁶ Given that students do the bulk of their study away from their materials in clinical experiential work, Rowntree's 'reflective action guide' model of instructional design would be a good place to start in terms

of further development of materials.⁶ Similarly, Vygotsky's¹⁰ theory that people learn through internalisation of their interaction with others more competent than themselves would provide an appropriate theoretical base for instructional design, given that the training is essentially an apprenticeship between the student, their clinical supervisor and the course coordinator.

Although students identified using the Internet as their least preferred learning format, there are great opportunities for further use of technology to provide more resources (such as images on CD Rom) and greater student contact using Internet chat rooms or email lists. This could reduce general practitioners' isolation, and provide discussion with other colleagues, as well as possibly making the delivery of course materials more cost effective. Anecdotal evidence suggests that only 25% of the general practitioners enrolled in these courses currently use email or the Internet regularly, but recent research suggests that students will use a technology if there is a compelling reason for doing so.¹¹

Although use of technology offers great potential for learners, both staff and students need additional training to fully realize this. Furthermore, use of technology necessitates reconceptualisation of course structures, assessment and roles of lecturers and students, in order to make a successful conversion away from a slightly modified campus based course to an effective flexible learning experience. These courses have succeeded essentially against the odds, but primarily because they are the only way for these doctors to learn, and because the students have not previously used the other available media for flexible learning.

There is undoubtedly a need for distance education for primary health care in New Zealand. The future will see further development of the current diplomas, further research into how best to promote learning at a distance for health professionals, and further marketing of the credibility and the value of the distance learning package for CME.

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