

ADDRESSING THE NURSE'S NEED FOR PERSONALISED TUITION IN A DISTANCE OFFERING OF INTRODUCTORY SERVICE STATISTICS

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Statistics anxiety, and the need for face-to-face tuition and personal contact have challenged those delivering a core unit in statistics, entirely in the distance mode, to nurses. Explication was also part of the rationale for video-taping lectures. The overwhelmingly positive reaction by students to this new resource prompted an investigation exploring how the videos had influenced the students' feelings, allowing them some confidence to tackle the subject matter. Some results of the investigation are given.

PROFILE OF THE MODERN NURSE

The modern nurse has a very different role to that traditionally recognised. Now, particularly in the hospital setting, the nurse is the manager of patient care. All the activities and processes (physiotherapy, surgery, X-ray, etc) endured by the patient, whilst provided by other professions, are coordinated centrally by the nursing staff (Hay, 1996). The nurse, then, is a competent multi-skilled team-leader, accustomed to exuding confidence and assertiveness.

In Australia, quite recently in some states, nurse training has moved from a completely hospital based procedure to being set largely in a university. For a registered nurse, who may be at the height of her (or his) career, there is pressure to update to a Bachelor degree. Some are resentful. Most are female and many already juggle families with shiftwork. Taking on study complicates their lives much further.

PREPARATION FOR NEW CLIENTELE IN STATISTICS UNIT

One study option for an employed nurse is to enrol with a distance provider such as Central Queensland University (CQU). The generic traditional introductory statistics unit offered by the Department of Mathematics and Computing was due to be included as core for the nurses in 1993 (with no residential school component).

The impending delivery of this generic unit to nursing students was cause for concern. At the time, a major study (Godden, 1992) had recently been completed drawing on worldwide (English) literature on mathematical under-preparedness. As well, it was known that nurses are amongst the students who often arrive at university with poor mathematics backgrounds and many are maths anxious. Bridging (developmental)

programs in a number of Australian institutions assist nurses with drug dose calculations (e.g., Gillies, 1992). Also, anecdotal information in the Department was that nurses make particularly demanding students. It was anticipated that the word “statistics” could well be equated by them to “mathematics”. Thus these very capable confident professionals would be plunged into quite a foreign environment.

Empathy for these nurses entering statistics provided impetus to attempt to preempt expected problems, or at least be prepared to alleviate some. The benchmarking conducted included a search for resources for health science students, especially those suitable for the distance mode. A review of the literature showed little published work specifically on teaching statistics to nurses. Some of the general information which was useful focused on using humour (e.g., Schacht and Stewart, 1990) and other techniques to reduce statistics anxiety (e.g., Bartz et al, 1981; Dillon, 1988).

UNIT EVOLUTION

The experience of the first offering to nurses confirmed that a separate unit specifically for health science students was essential. The evolution of the new unit has included: the move to fewer topics, the selecting of a new Australian textbook written for nurses (Martin and Pierce, 1994), and the development of material more relevant to nurses.

In response to pleas, workshops were provided in various localities. Students were very appreciative of the face-to-face explanations line-by-line, but the Department was unable to continue providing this resource. Workshops were in any case inequitable, as many students living in more isolated locations (or overseas) simply could not attend. Access was also an issue for Audiographics communications. Indications, from internal (informal) audits of the nursing programs and their units, strengthened the notion that nurses prefer face-to-face tutoring as a learning style.

Apart from physically wanting to be shown how to work through a problem, the students still needed desperately to make personal contact - as shown by the frequency of individual's phonecalls (some students rang nearly every day!). Part of each conversation was spent attempting to reduce their anxiety level. Often, extra tuition was sought in their home town or city.

INTRODUCTION OF VIDEOS

A further solution was needed. Explication appeared to be the most useful feature on which to focus, in the style of the usual workshop sessions conducted with internal (on campus, trainee nursing) students; however, the difficulty was to transfer this type of student experience to the distance mode. Fortunately, CQU is multi-campus with video-taping facilities in the large lecture theatres. The quick solution therefore was to copy the lectures and distribute the tapes to the distance students once available. Edited videos have since been sold along with the textbook to the students.

INVESTIGATION OF RATIONALE BEHIND REACTION TO VIDEOS

The reaction to the inclusion of the videos as a required learning resource has been phenomenally positive, as illustrated by the following spontaneous student comments.

“The videos are really good for all of us down here - didn’t need to ask for help like other years’ [students] have.”

[Videos are] “the best thing since sliced bread - wish I had it in all my subjects - just the best.”

“Explains things so well - Although can’t ask the questions yourself, the other students in the room ask the questions anyway, even if they seem dumb questions sometimes - couldn’t ask for better.”

Since the introduction of the videos, the number and frequency of calls to both the lecturer and the Faculty of Health Science, for assistance and to complain about the requirement to take the unit, has reduced considerably. Expectations about the unit appear to have changed. The question begged to be asked: “why?”

Feedback so far was by self-selection on non-compulsory unit evaluation forms and in an anecdotal manner directly to the lecturer over the phone. An investigation was therefore conducted late in 1997, with an objective outsider surveying a small but representative sample ($n = 26$) of students from previous semesters. Open-ended telephone interviews, in which students were encouraged to expand on their responses, confirmed that the reaction was indeed positive. The students surveyed agreed unanimously that the (video) tapes were a good idea.

In exploring the data, the preference was for a loosely styled version of an open coding technique (e.g., Strauss 1997) aiming to capitalise on the richness of the descriptions by the students about their experiences. Some of the trends and issues so far explored follow.

There was a strong sense of identity by individual students for the student-group “nurses”, as described largely at the commencement of this paper. This was particularly vivid as far as “nurses studying statistics” was concerned. For more than half of the students who were struggling, the perception was that the tapes were the resource which clinched their understanding. These students emphatically agreed with the sentiment expressed in the following statement (made earlier by a student, and reproduced in the survey): “The tapes made the subject a whole lot easier. When I was just about to throw the book away, I’d turn on the tape and the penny would drop.”

The reported initial level of anxiety was divided almost evenly between apprehension and extremely high anxiety. A few, though, had studied statistics previously. For almost all, a positive change to a state of comfort was felt over the duration of the unit. (There were two students for whom the anxiety was unable to be shaken noticeably.) All who felt their anxiety had reduced, attributed the change to the videos, most of them very adamantly. Some of those most vocal in their support of the videos felt that it was the whole resource package (including textbook, study guide, tapes, and telephone contact with lecturer) which was important.

From the tapes, each and every student felt they knew the lecturer well enough to be able to phone them for assistance. Many mentioned having a face with which to fit the name. For some, the sense of isolation was reduced as they felt part of a class.

Hearing the names of symbols enunciated, and having the solution to a problem demonstrated, were the most valued more tangible features. “Talking” the students through line by line, not making assumptions about their prior knowledge, and dealing with the basics at a slow pace, allowed the students to have examples and processes from the textbook and study guide de-mystified. Some, to their surprise, even felt enjoyment and were motivated to continue learning more on the subject.

CONCLUSION

Whilst it is not possible to generalise these results widely, it does appear that such a resource may be useful in other service units where under-preparedness and anxiety are a major problem, or where the visual aspect of demonstrating techniques is valuable. The “personal touch” seems to have reduced the perceived need for face-to-face tuition. This

unit is still evolving in approach and content. A distance version of the activity-based statistics learning approach (Gnanadesikan et al, 1997) is a definite aim. These nursing students, having struggled to come to terms with such a foreign field, do see that statistics is of enormous use both in their profession and generally.

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