



An evaluation of a DVD trigger based assessment of communication and care delivery skills

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Summary This article describes the implementation and evaluation of a novel form of assessment of communication skills and knowledge for all branches of nursing students in a multi-campus UK Midlands university. The assessment took the form of a recorded scenario which was presented on DVD and a series of assessment questions inviting students to consider communicative and care delivery aspects of the events depicted. This 'DVD trigger' assessment yielded theoretically informed, practically relevant answers from the students, over 80% of whom passed. Student reactions to the assessment were elicited via a specially designed questionnaire which indicated broad approval for the assessment and yielded a high degree of internal reliability, and suggested that attitudes to the assessment could be grouped into three major factors. The first factor comprised items relating to the practical aspects of the examination, the second to teaching, learning resources and exam support and the final factor represented the perceived relationship between the

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examination and the skills involved in care delivery and communication in professional practice. This highlights the value of evaluating students' responses to assessment in developing new forms of examination and in harmonising assessments with learning resources, teaching and appropriate preparation for exams. Moreover, we argue that the face validity of assessments is important in ensuring students' engagement with the learning tasks and assessment activities and may contribute to the broader validity of the assessment enterprise in predicting and enhancing skills in subsequent professional practice.

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Background and introduction

The attitudes of students toward the training and assessment they receive is believed to have a profound effect on their level of engagement with their work (Stefani, 1998) yet assessment is often designed and undertaken with relatively little consultation with students. More recently however, a number of authors (e.g. Moni et al., 2002) have argued for more attention to be devoted to students' understanding of assessments and the assessment process, with a view to diversifying assessment away from traditional written examinations and coursework. In order for students to engage fully and productively with assessment tasks it is helpful if the activities involved command the assent of the students (Wen and Tsai, 2006). Accordingly, this paper reports on a study of students' reactions to a novel assessment exercise in nurse education, where they were asked to demonstrate knowledge of communication and care delivery skills in response to pre recorded DVDs of communication events.

Effective communication plays a central role in nursing practice and contributes to positive health outcomes for patients. The ability of nurses to appreciate the impact of communication events in healthcare upon clients, and to demonstrate empathy, has been emphasized, particularly since the 1990s, as the central helping component in therapeutic nurse–patient interactions (Ancel, 2006; Morse et al., 2006). Research on the nurse–client therapeutic relationship underscores the importance of this dimension of nursing practice (Edwards et al., 2006). Clients place considerable importance on this relationship (Forchuk et al., 1998; Forchuk and Reynolds, 2001). Furthermore, the quality of the provider–client relationship is positively associated with better client outcomes (Edwards et al., 2006).

The development of our so-called DVD trigger-based assessment of communication and care delivery skills was a response to these concerns in line with the UK's higher education Quality Assurance Agency (QAA) (2000) emphasis on 'consistent

implementation of rigorous assessment'. Whilst seeking to create a well-designed assessment of communication skills and reliable methods of assessing nursing knowledge within the context of practice we sought to scrutinise students' reactions to the assessment, since badly designed or inappropriate assessments can negatively affect learning and teaching (Quinn, 1995; Minton, 1997).

The assessment in question consisted of structured examination questions 'built around' the 'stimulus' of a short DVD film of a health care event or scenario. This offers a novel format that avoids the elicitation of overly rehearsed or prepared answers; enhances examiner to candidate communication; promotes better division of time by candidates; leads candidates through a series of questions towards deeper issues (such as the development of evidence based rapport building and care delivery analysis); and enables 'more specific marking instructions for the examiners', leading to 'higher-levels of marking reliability than is normally associated with the more open-ended types of examination question' (see Murphy, 1978; 1983).

The requirement for candidates to 'discuss and evaluate' the 'stimulus' material (Murphy, 1983) also lends itself to the kind of skills required in communication and care delivery – that is, being able to interpret verbal and non-verbal information as it happens in a practical sense, rather than simply providing theoretically-driven answers. The project as a whole therefore fits the current emphasis on the assessment of key skills in higher education (e.g. CVCP, 1998; Murphy, 2001) and avoids some of the problems associated with unstructured or informal assessment (Reynolds et al., 1999), the use of workbooks or portfolios (Reed, 1993), as well as the use of OSCEs (Objective Structured Clinical Examinations) to gauge skills according to a checklist (Nicol and Freeth, 1998).

The DVD trigger based assessment

The assessment involved a standard presentation of a care delivery DVD clip to all branches of nursing

students in the Common Foundation Programme (Year 1) already exposed to this format in problem based learning sessions and addressed learning outcomes of relevant modules in developing essential nursing skills of observation, listening, assessment and evaluation of care situations and care planning skills; integration of theoretical concepts concerning professional relationships; the ability to discuss frameworks that facilitate care delivery and management; and the application of theoretical concepts to the practice of nursing.

A set of DVD clips were developed based on scripts created and edited by health communication theme tutors and reviewed by a service users' advisory group. Professional actors were commissioned and each clip lasted between 2 and 4 min. These were scripted to demonstrate a variety of care delivery and communication problems which might be encountered in any healthcare setting.

The assessment consisted of a 75 min short answer written examination in response to a designated DVD clip from the bank of clips. The duration of the clips used in the examination evaluated in this paper was 2 min 59 s for the first sitting and 2 min 7 s for the resit. The first clip involves a nurse, patient and relative who complains about the quality of care. The second clip involves two nurses assisting a young patient who has difficulty communicating her needs. The assessment itself was in two parts with 6 questions in total and elicited the student's self awareness and knowledge about appropriate communication and care delivery skills relevant to module content in terms of outcomes for professional communication and decision-making, focusing in particular on assessment, planning, evaluation and giving feedback. Students were given an opportunity to practice for the examination by facilitated discussion of a sample DVD clip of health care communication and care delivery not used for examination purposes.

To enable the students to reflect on the scenario and think through the relationship between this and what they had been taught about communication skills and the associated nursing practice, the students were examined after being shown TWO presentations of the same DVD clip. This took approximately 15 min as follows: students were advised to view the first clip (allow 5 min) without making notes, reflect on the clip and make brief notes (allow 5 min) and watch a repeat of the clip and take notes (allow 5 min).

In light of this all students were allocated 60 min to answer the following two part examination paper:

Part One

1. Identify THREE elements of poor communication in the clip.
2. Discuss how these could be improved.
3. Provide an account of how ONE theoretical model or framework for communication might help you to develop an appropriate, therapeutic relationship with the client or relative featured in the clip.

Part Two

1. Identify ONE client problem from the clip.
2. Describe TWO appropriate nursing actions to respond to this problem.
3. Outline the rationales for your TWO nursing actions.

In the light of concerns that assessment will elicit the best from students if it is perceived to be fair (Duffield and Spencer, 2002) and deeper learning if it is perceived to be relevant to practice (Sambell et al., 1997) in this paper we will focus on the students' reactions to this assessment.

Method, procedure and analysis

To elicit student evaluations of the assessment, a Likert type questionnaire was developed through focus group discussion ($n = 8$) to engage students familiar with the curriculum content but not subject to examination in proposing items to be included in the questionnaire and provide us with an in-depth understanding of the students' attitudes towards and experience of the DVD trigger clips. Following this, the content and wording of the questionnaire was scrutinised by tutors teaching communication and nursing concepts and practice.

Qualitative information generated from the open ended questions provided an overall understanding of the advantages and disadvantages of the trigger from the students' perspective and whether the triggers used were practice congruent or relevant. A thematic analysis (Braun and Clarke, 2006) of these was conducted to identify the presence of commonalities across the data utilizing Colaizzi (1978) procedural phases. This involved repeatedly reading the data to gain a 'holistic' grasp of the issues and then extracting 'significant statements'. Meanings were formulated from the significant statements and organized into themes by two researchers. The second researcher traced

the process of theme construction from the data to determine the accuracy of the analysis and make refinements to coding. Strategies to ensure the methodological integrity of the study included peer review of the coding by a researcher external to the host institution and active reflection on the research process.

Ethical considerations

Approval for the study of healthy volunteers was granted by University of Nottingham Medical School Ethics Committee. All students gave written informed consent and were reminded of their right to withdraw from the study if they wished to do so.

Results and discussion

Assessment results

Overall, of the 346 students taking the assessment, 278 passed both parts 1 and part 2, yielding an overall success rate of 80.3%.

The DVD evaluation questionnaire: descriptive statistics

The evaluation questionnaire comprised 16 questions designed to evaluate the students' experience of the DVD trigger examination. Content validity of the evaluation questionnaire was established through the detailed examination of the questionnaire by a number of experts. Students were asked to rate their experiences in the assessment against a series of sixteen declarative statements on a scale of 1–5 where 1 represented strong agreement, 3 represented a neutral mid-point on the scale and 5 represented strong disagreement. The statements were worded so that agreement represented a positive attitude towards the assessment. Of the 346 students who completed the assessment, 230 completed evaluation questionnaires, yielding a return rate of 66%. The questions and the results gained are presented in [Table 1](#).

Apart from the question relating to time (no. 9 in [Table 1](#)) responses all fall on the favourable side of the scale, yielding scores between 2 and 3 on the five point Likert scale. The reliability of the questionnaire in the form of internal consistency was assessed by means of Cronbach's alpha. This yielded a coefficient of 0.90, indicating that the items in the questionnaire were highly consistent

with one another, and that, by implication, the questions are all addressing the same issue. This can also be taken to suggest that the questionnaire is likely to be reliable in use to measure student attitudes towards the video trigger examination. The high alpha value also meant that it was appropriate and meaningful to calculate an overall mean, which yielded a value of 2.47 and a standard deviation of 0.56. This implies that overall the students who completed the questionnaire were positive about the video trigger examination in which they had taken part, thus addressing the view that assessments should command the assent and respect of students who take them.

To determine the relationship between the various items on the questionnaire, a factor analysis using Principal Components Analysis (PCA) was used to see if the items on the scale could be grouped into a smaller number of constructs.

Principal Components Analysis revealed the presence of three factors corresponding to three groups of items which appeared to measure different aspects of the students' experience. By convention, these factors were selected because they had eigenvalues greater than 1, or in other words they explained more variance in the data set than the items taken singly. The first factor, corresponding to the first group of items, explained 42% of the variance, with factor 2 accounting for 9% and factor three for 7% of the totals variance in the questionnaire scores. Together these three factors accounted for 58% of the total variance in the data set. The results of the factor analysis are shown in [Table 2](#).

To enable the factors to be clearly seen, factor loading values less than 0.5 have been suppressed. The factors were revealed as a result of a principal components extraction and varimax rotation using SPSS.

The first factor comprises items measuring students' attitudes to the practical aspects of the examination, such as the clarity of the questions and instructions. The second factor corresponds to items measuring the students' attitudes to teaching, learning resources and exam support. The final factor represents the perceived relationship between the examination and the skills involved in care delivery and communication in professional practice. Taken together, these factors represent an insightful and useful overview of attitudes to assessment where the 'hygiene' factors of the examination, academic knowledge, and professional skills are concerned. Thus, the questionnaire exhibits both a high degree of internal consistency and examines attitudes toward three important components of assessment. Therefore

Table 1 Means and Standard deviations (SD) for each question on the student evaluation questionnaire

Question	Mean	SD
1 The assessment method used was appropriate for assessing my knowledge of communication skills	2.41	0.83
2 The assessment method used was appropriate for assessing my knowledge of care delivery skills	2.53	0.89
3 The assessment guidelines were clear	2.51	0.93
4 I had enough preparation for the exam	2.61	1.00
5 The exam instructions were clear	2.22	0.76
6 The exam questions were clear	2.29	0.79
7 The exam questions were pitched at the right level	2.34	0.76
8 I saw the video clip enough times to be able to answer the questions	2.39	0.88
9 I had enough time to answer all of the questions	3.00	1.16
10 The assessment content was relevant to my professional practice	2.31	0.79
11 The assessment content was relevant to my professional practice	2.38	0.88
12 The communication skills teaching I was given helped me to answer the questions	2.33	0.81
13 The care delivery skills teaching I was given helped me to answer the questions	2.40	0.81
14 There were enough available learning resources for revision purposes	2.89	0.94
15 Exam support was appropriate and accessible (i.e. practice for the exam)	2.53	0.93
16 The examination environment was appropriate	2.36	0.89

Responses were scored: 1, agree strongly and 5, disagree strongly.
Based on 230 completed questionnaires.

Table 2 The three key factors in the evaluation questionnaire

Question	Factor 1	Factor 2	Factor 3
1 The assessment method used was appropriate for assessing my knowledge of communication skills			0.82
2 The assessment method used was appropriate for assessing my knowledge of care delivery skills			0.82
3 The assessment guidelines were clear		0.62	
4 I had enough preparation for the exam		0.69	
5 The exam instructions were clear	0.62		
6 The exam questions were clear	0.72		
7 The exam questions were pitched at the right level	0.72		
8 I saw the video clip enough times to be able to answer the questions	0.70		
9 I had enough time to answer all of the questions			
10 The assessment content was relevant to my professional practice			0.59
11 The assessment content was relevant to my professional practice			
12 The communication skills teaching I was given helped me to answer the questions		0.52	
13 The care delivery skills teaching I was given helped me to answer the questions		0.61	
14 There were enough available learning resources for revision purposes		0.67	
15 Exam support was appropriate and accessible (i.e. practice for the exam)		0.76	
16 The examination environment was appropriate	0.54		

it has value as a tool to explore student attitudes to assessment events of this kind in the future.

The DVD evaluation questionnaire: open comments

To further explore students' attitudes toward this assessment, a thematic analysis (Braun and Clarke, 2006; Colaizzi, 1978) was undertaken to identify themes in the own-words comments.

What did you like about this examination?

Three key themes were derived from the comments of 157 students:

1. Exam preparation

Beyond general approval for the way that they were prepared for the exam ($n=18$) student respondents typically noted the value of the mock examination or practice session; prior knowledge of the exam questions; and clear instructions and support. This support and preparation also related

to the taught programme: 'I felt I was well prepared with the knowledge needed to answer the questions, through the lessons prior to the exam'.

2. Practice congruence

Students identified the DVD examination as a good means of improving communication and care delivery skills congruent with practice experience ($n = 38$), not least in terms of the need for quick assessment. For example, one respondent commented: 'It gave me a chance to assess how much I knew in a short length of time which is true to practice'.

3. Difference or novelty

A number of student respondents ($n = 31$) appreciated the 'different approach' or novel format of the assessment. As one put it, 'It was a different way of testing people's progress through the course'. Another commented: 'It made me reflect on my own interpersonal skills probably more than an assignment would have done'.

Thus, two of the themes identified here correspond to the factors identified on the questionnaire. Exam preparation corresponds to factor 2, and practice congruence to factor 3. In addition, the comments reveal an additional issue concerned with their appreciation of a novel approach.

How could this examination be improved?

Five key themes were derived from the comments of 238 students:

1. More exam preparation

While students had reported satisfaction with the amount and level of preparation in the section on what they liked about the examination ($n = 18$), here students requested more ($n = 55$). Typically, students made general requests along the lines of 'More practice/preparation' in care delivery or communication skills ($n = 30$), or specifically further guidance on 'different models' and the application of theories, the rationale for nursing actions and better sequencing of content in that some teaching came too far in advance of or after the examination.

2. More time

Although in the section dealing with what students liked about the examination a number of students approved of its duration and having sufficient preparation time ($n = 10$), in this section the issue of time was referred to negatively ($n = 76$).

Typically, students commented in general terms that they needed 'More time in exam' ($n = 46$).

3. Increased duration/repetition of clip

A number of student respondents requested that the DVD clip used in the examination be shown 'more times' ($n = 10$) with a further 5 respondents suggesting 'at least once more'. Two respondents

felt that the duration of the clip was an issue: 'Having more time to watch the clips'.

4. Better guidelines

Student respondents requested 'clearer' guidelines for the examination questions ($n = 11$), not least in the following terms: 'More explanation about what the examiners wanted, at times the point of the exam was unclear'.

5. More appropriate assessment

A number of student respondents indicated that the examination was more theory than skills based and expressed a preference for a more practice-based or OSCE style assessment ($n = 8$). For example, one respondent noted: 'Would prefer to be assessed in a real situation, showing my communication skills, as my written skills and lack of confidence let me down'.

Once again the comments confirm the factors identified in the questionnaire data but also add new considerations. Theme 1 relates to teaching, corresponding to factor 2 of the factor analysis, whilst themes 2, 3 and 4 relate to the first factor, concerned with aspects of the examination itself. Theme 5 relates most closely to factor 3 concerned with the perceived relationship between the assessment and subsequent practice. Taken together then, these comments suggest means of enhancing the subjective acceptability and authenticity of the assessment exercise.

Discussion

The evaluation activity of the DVD trigger assessment which we have reported upon here shows the value of examining students' attitudes and experiences where assessment is concerned. There are practical suggestions for changes which in their view would constitute improvement, such as more time. Factor analysis has disclosed three components which represent important considerations when assessments are being designed, namely the practical aspects of administering the assessment, the appropriateness of the learning resources to the assessment and the perceived relationship between the assessment and the skills needed in the world beyond the examination itself.

The acceptability of assessments to students seems to enhance their engagement with the assessment activity and may even enhance the validity of the assessment itself (Brown and Baker, 2007). There is a complex relationship between face validity of measures and broader aspects of validity, such as whether the exercise measures the kinds of skills required in practice. Taking the DVD trigger exercise as a whole, the scenarios were

carefully scripted and produced to as to be convincing to experienced practitioners and educators who believed they showed suitable examples of communication and care delivery problems arising in practice. The additional vote of confidence by the students in the questionnaire exercise reported here bodes well. The face validity of a measure in the social sciences is often a precondition of it being a valid measure in the broader sense (Dyson and Brown, 2005). That is, in this case, the fact that practitioners and students felt that the DVD scenarios represented professional practice suggests that the exercise is able to both enhance and predict performance in communication and care in clinical contexts in the future.

The complexity of nursing care in the practice context was demonstrated in the DVD scenarios, and students' ability to interpret what they see and make reasonable deductions about what should happen was therefore assessable. It would seem that in terms of determining whether or not a student can demonstrate their learning and at the same time their ability to apply it to practice, the DVD exam format offers a better option than an essay and may be more consistent than practical assessments where situations and patients may vary in unpredictable ways, making reliable grading difficult. The assessment of the DVD-trigger assessment reported here has shown it to be acceptable and even enjoyable for students and allowed for the grading of students according to their knowledge and ability to apply theory to practice.

Conclusions

Understanding the centrality of communication and care delivery skills in identifying client needs and providing nursing care is fundamental to nursing education. The imperative for educators then is to develop assessments not only students' theoretical knowledge but also their ability to recognise how theory is applied in the context of nursing practice. The development of this kind of hybrid assessment addresses the need identified by Chant et al. (2001); Chant et al. (2002) to develop and make more explicit the teaching and assessment of communication skills in the nursing curriculum within a context of care delivery. We have indicated the value of examining students' experiences of undertaking the assessment in its development and refinement and in determining the kinds of issues which go to make up the experience of assessment.

The fact that students were encouraged to apply what they knew to the problems in hand implies that so-called 'deep learning' was being addressed. That is, learning which involves an intention to understand rather than to merely memorize, and which involves active conceptual analysis which, if carried out thoroughly, results in a deep level of understanding. This approach is believed to result in high quality learning outcomes (Entwistle and Ramsden, 1983; Struyven et al., 2005). The exercise reported here addresses the concern expressed by Darby (2007) that the favorably-evaluated aspects of learning will be the least demanding. Here, a conceptually demanding assessment has elicited broadly favourable evaluations from students.

The questionnaire devised to enable students to evaluate their experience with this assessment has a high degree of internal reliability. It also addresses three factors which are important in exploring assessment experience, namely the practical, 'hygiene' aspects of the examination, the teaching, learning resources and exam support as well as the perceived relationship between the examination and the skills involved in care delivery and communication in professional practice. The overall approval of this conceptually demanding assessment by students is a particularly valuable outcome. This addresses the view that the more successful assessments are those that are perceived to be appropriate and fair by students (Duffield and Spencer, 2002) and is believed to affect the kind of learning strategy adopted. Again, on the understanding that a deeper approach is desirable, an assessment that has a perceived relationship to what is needed in practical contexts after the course is over will foster more effective learning than one which is seen merely as a necessary evil, where learning is geared towards accruing marks (Struyven et al., 2005). Activities which simulate real life contexts where students can perceive the relevance of their academic work to broader situations outside academia is effective in promoting more thorough learning, and students tend to value these more authentic ways of working (Sambell et al., 1997).

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.nedt.2008.08.017.

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