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The Development of an Instrument for Assessing Community-Based Education of Undergraduate Students of Community and Health Sciences at the University of the Western Cape

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ABSTRACT **Context:** *In Community-Based Education (CBE) students are expected to develop problem solving, communication and critical thinking capabilities. Assessment provides an opportunity for students to improve these skills, it helps them to gain increased motivation, high achievement, it reduces anxiety over grading, and it improves communication between learners and teachers. The aim of this study was to develop a common instrument for assessing undergraduate students of Health Sciences in their placements for CBE.*
Objectives: *(1) Identify the skill requirements of students in CBE; (2) Develop a common instrument for assessing undergraduate students in Health Sciences.*
Methods: *The study was based in the Faculty of Community and Health Sciences at the University of the Western Cape. Existing documents relevant to the assessment of CBE were collected and analyzed to provide background information. Focus group discussions were held with lecturers from various departments, key persons from the departments and students were audiotaped and later the data analyzed into emerging themes. This was followed with a workshop by relevant experts in CBE, to identify the essential items to be included in the proposed assessment tool. The instrument was piloted with two departments in various community settings.*
Results: *The participants identified knowledge, transferable skills, professionalism and attitudes as important elements for assessment. The instrument piloted was very comprehensive and suitable for use by students of any profession in a range of communities.*
Conclusion: *It is recommended that the instrument can be used to assess students in any learning experience based in a community setting.*

KEYWORDS *Assessment, community-based education, undergraduate students, interprofessional, communication, leadership.*

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Introduction

Current trends in Community-Based Education (CBE) reflect efforts directed towards improving the quality of instruction, enhancing the relevance of curricula in meeting community needs and utilization of the community as an environment for learning (WHO, 1987). Theoretically, education becomes a community responsibility, involving all citizens, requiring radically different learning methodology, with the textbook becoming supplementary reading while the environment provides the main resources for the learner.

In the context of CBE, students are expected to develop a range of problem solving, communication and critical thinking capabilities. Assessment provides an opportunity for students to improve these skills and they gain other benefits such as, increased motivation and high achievement, reduced anxiety over grading and improved communication between learners and teachers (Faisal & Nell, 1999).

Often CBE curricula are developed without parallel arrangements for assessing the students (Shipengrover & James, 1999), with assessment arrangement often coming as an after thought. If the content is not clearly defined initially, it is logical to expect difficulties in what to assess (Mpofu, 1999). The assessment of students in community settings is problematic partly because of the difficulty in controlling the field conditions (Hamad, 1991). Students are usually posted in different community sites with dissimilar environments and problems, expected to carry out similar activities, and are required to achieve the same objectives. When students carry out the same CBE activities and are marked differently using different instruments, they are likely to develop negative attitudes towards the subject. Furthermore, if the criteria for rating student performance are not explicit and objective, the subjective results could lead to accusations of gender, racial, or ethnic discrimination which can lead to loss of morale and loss of interest in CBE (Salvia & Ysseldyke, 1995).

In the Faculty of Community and Health Sciences (FCHS) at the University of the Western Cape (UWC), CBE was adopted with a focus on problem-based learning (PBL) and a primary health care (PHC) orientation. Both areas of focus require inter-professional collaboration. The FCHS includes ten professional programmes (Dietetics, Human Ecology, Sport, Recreation and Exercise Science, Nursing, Occupational Therapy, Physiotherapy, Psychology, Social Work, School of Public Health and School of Natural Medicine). FCHS has an enrollment of 2500 students with approximately 2000 in undergraduate programmes. The departments conduct CBE in selected sites within the surrounding communities and the students are assessed differently. Hence, there is a need to establish explicit criteria for a standard instrument for measurement that may contribute equally to an interprofessional assessment tool for community-based learning activities.

Method

Documents of existing assessment procedures and background information related to CBE were gathered from all the departments within the FCHS. Two focus group discussions (FGD) were conducted at one-week intervals in the context of pre-arranged topic guides. The participants included one lecturer each from the departments of Physiotherapy, Occupational Therapy, Nursing, Social Work, the School of Public Health, the Dean of the Faculty, the lecturer responsible for the faculty's interprofessional core courses which include CBE, and two postgraduate students from the department of Physiotherapy. The audio-taped information emerging from each FGD was transcribed and commented upon by each participant.

In the first FGD, participants were asked to describe their experiences in CBE and to express their views and opinions about having a common instrument for assessing students of FCHS. In the second FGD, participants were asked what they thought should be assessed in CBE and how to assess it.

The transcripts from focus group discussions were analyzed using the thematic content analysis, which according to Massey *et al*. (1998), is a useful way of coherently organizing interview material. Thematic categorizations and classifications were based on the outline proposed by Miles and Huberman (1994) which began by organizing the data in terms of codes. Codes are tags or labels assigned to particular units of text (e.g. words, phrases, sentences, paragraphs) that represent some theoretical construct.

The workshop process involved using data from the FGDs and analysis of documents, plus components of assessment of CBE from literature reviewed, leading to the design and development of the assessment instrument.

Therefore, the development of the instrument went through a process of synthesis of various viewpoints and opinions by way of triangulation of data sources (from documents, focus group discussions and the workshop, as well member checks and evaluation and feedback as shown in the summary in Figure 1.

The draft instrument was piloted with students at the end of the community blocks of two departments: Dietetics and Occupational Therapy and some phrasing was modified.

Results

Six existing assessment instruments from the departments of Physiotherapy, Occupational Therapy, Social Work, Human Ecology, Dietetics, and Nursing were analyzed for content. The departments assessed knowledge, attitudes, and professionalism, but some departments did not have explicit criteria for assessing them. No department assessed leadership skills and two departments assessed team and project work. Each department designed its own academic

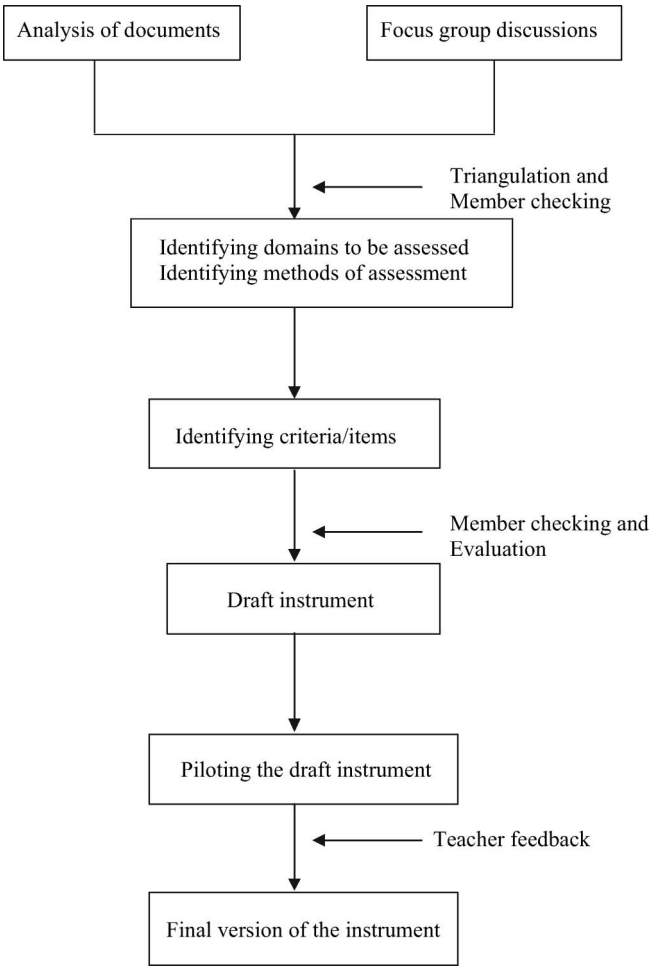

Figure 1. Summary of the stages in the development of the instrument.

and fieldwork programmes with different timetables and each had varying ideas of why they did it. All the departments carry out the community-based education in their third and fourth years of study.

The views and specific responses from the FGDs were grouped under one of the five themes that emerged from the data as illustrated in Table 1.

All participants acknowledged the specific place that CBE occupies within their own disciplines and that there was a common concern with how each of the disciplines could become more relevant to the community.

The participants identified four main domains of learning: knowledge, skills, attitudes, and professionalism. Their view was that these domains provide the students with the flexibility, awareness and attitude to learning thought to be necessary to meet CBE and future health care needs. There were some perceived problems to do with the implementation of the new instrument.

Table 1. Themes and specific responses that emerged from the data

Undertaking and support for common assessment focus	''... what would be similar for all of us would be to have our input into the instrument.... we talk about the 5p's... the problem- oriented skills,... place,... process of functioning of the community,... personality and... professionalism''. ''... assessment should lead to a relationship developing between the students and the supervisor. This relationship should be built on trust through setting mutual objectives and harmonious instruction''.
Perceived objectives of CBE	To gain an understanding of community lifestyles To assess the needs of the communities To provide professional services To improve the communities' knowledge about health related issues
The main facets to be assessed	Knowledge Transferable skills Attitudes Professionalism
A variety of methods to assess CBE	Observation Diaries/Journals Reports Snapshots Case/Project presentations Reflections through literature review Peer assessment
Careful consideration of the common assessment needs	''... assessment in the community may give the teachers the fear that their weaknesses in the classroom will be exposed''. The participants acknowledged the limitations of each method of assessment, which included bias as a result of personal experience, beliefs and prejudice. Nevertheless, it was seen as an appropriate way to assess the students in such settings.

The issue of including discipline-specific skills featured prominently in the FGDs and pilot feedback.

Description of the Final Instrument

The final version of the instrument (see Appendix I) contains 64 items, which refer to facets of learning: knowledge (18 items), transferable skills (35 items), attitudes (4 items), and professionalism (6 items). Each item was responded to on a five point scale (1 – 5) for 3rd year or lower and (2 – 6) for 4th year,

with 1 = shows no understanding at all, 2 = poor and needs more input, 3 = pass, 4 = average, 5 = very good, and 6 = excellent and insightful.

Discussion

The acknowledgement of a common instrument for assessing various disciplines of students illustrates a positive move towards interprofessional collaboration. Lee and Sheppard (1998) contend that interprofessional learning is essential as it addresses some of the important elements of the teaching/learning process such as the curriculum, the learning environment and students' attitudes and perceptions toward the community. This is consistent with one of the World Health Organization aims of CBE, which is to understand the diversity of roles and functions within the health care team and to develop team-working skills (WHO, 1987). In the third and fourth years of study, students acquire professional identities as a means of defining their lives and the power of individual professional cultures (Parsell & Bligh, 1999). Leonard (1998) contends that the final year of study is the stage when students demonstrate a deeper understanding of community issues.

The fact that some departments (Psychology, Sports Recreation and Exercise Science) did not contribute any input into the development of the instrument, nor give feedback where other departments had already participated, could be construed as an aspect of prejudice or it could be due to time constraints. However, as one of the participants observed:

> "... before this can work effectively ... the idea must first be accepted by teachers and supervisors so that they are not only aware of it but understand why a common assessment is done".

On identifying skills, the participants did not ignore the broader implications of communication, but they particularly stressed report writing and oral presentations. Report writing was seen as a process for providing opportunities to develop ideas (Wetherell & Mullins, 1996). The opportunity to present material to peers and the community significantly enhances students' motivation and commitment to CBE (Magzoub, 1994). Erwin (1995, p. 52) identifies some of these skill requirements in his survey of 37 major corporations and 36 small firms in the UK, as he found that the skills identified as important for graduation were:

> "... communicate clearly and accurately, communicate effectively orally, work cooperatively, work alone, accept criticism, understand own strengths and limitations ... among others, besides subject specific skills".

The assessment of attitudes reflects the participants' concern for a need to cultivate positive relationships between the various disciplines and to develop an educational climate that fosters trust and respect between learners and the community. As Boud (1995) points out, great care must be exercised in the selection and implementation of assessments, otherwise they can have counter-productive results. According to the participants, consideration of variations in students' needs, interests, and learning styles particularly with respect to cultural diversity are also important. This is consistent with Shipengrover & James' (1999) model of assessment of CBE where the process of learning should be assessed as well.

The documents revealed similarities between the various disciplines' activities carried out in CBE. Since there was an overlap of activities and objectives in CBE, clearly a common instrument would have a significant advantage of ensuring that students of each profession could be assessed by precisely the same standards.

According to Parsell and Bligh (1999), the common barriers to integration range from a fear of dilution of professional identity, differences in professional routines, to requirements in regulations and norms of professional education. Others might see the common assessment system as an attempt to intrude on the professional identities of the various disciplines.

Given the difficulties, which may be associated with assessment in inter-professional education, the participants noted that any efforts to strengthen the common assessment will require initiatives and support at all institutional levels and especially within individual departments where there is freedom and opportunity to re-direct learning and teaching.

Although the previous instruments assessed the same domains in their own ways, the new instrument has a number of strengths over the previous assessment instruments.

- Its ability to measure objectively that all students were assessed in each discipline by precisely the same standards.
- It has included reflective writing which is not only a way for students to demonstrate their knowledge, but also a means by which they can learn to develop ideas.
- The supervisor, community member, and student have a place to give their comments on the community placement. This provides the stakeholders with an opportunity to express their critical thinking about the running of the program and to develop ideas for its improvement.
- It is not expected that the students will be assessed in all the aspects/skills in every placement, but that the supervisor will identify those skills/aspects, which are relevant to the specific placement area. The final score is calculated as a percentage of the total score of the criteria/items assessed in relation to the total possible scores.

Recommendations

Recommendations are divided into the following two parts:

(1) Successful implementation of the instrument:
- There must be institutional organizational structures to assist the staff to take ownership of such a common instrument and develop it further.
- Capacity development of the assessors is recommended especially if peer assessment should be included.
- Any institution with similar community-based programmes could use the instrument once it has been validated.

(2) Future research:
- As this was mainly a qualitative study, for further refinement of the instrument it would be necessary to conduct validity and reliability studies using a broader sample of participants.
- A further study to compare students' and staffs' perceptions of an interprofessional assessment instrument could be carried out.

Conclusion

The new instrument, which has been developed after a long process involving a number of professions can begin to address the basic problem of the old assessment system which was fragmented and had a high degree of subjectivity, where interpretation, ambiguity, and shades of meaning were not considered to be of importance. Various educators of professions participated fully in the development of the instrument. They could thus be seen to have allegiance to and ownership of the new interprofessional assessment system for CBE. This was a positive move and one that the students will value.

Acknowledgement

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Appendix I

ASSESSMENT GUIDELINES FOR COMMUNITY-BASED EDUCATION

DEPARTMENT .....
NAME OF STUDENT .....
STUDENT NUMBER ..... LEVEL .....
SUPERVISOR .....
COMMUNITY PLACEMENT .....
DATE .....

This form is to record your assessment of the student's performance during the community placement. You should assess bearing in mind the quality of the items listed under the methods of assessment. You are going to assess each item on 1 – 6 scale. Use scale 1 – 5 for 3rd year or lower, and scale 2 – 6 for 4th years, where: 1 = shows no understanding at all; 2 = poor and needs more input; 3 = pass; 4 = average; 5 = very good; 6 = excellent and insightful.

	ASPECTS/SKILLS TO BE ASSESSED	METHODS OF ASSESSING	RATING 1	2	3	4	5	6
1	Knowledge	(i) A report of an activity undertaken Knowledge of the community and how it functions Knowledge of community resources Knowledge of working with peers and community members Knowledge of Health services and how they function Knowledge of situation analysis Depth and maturity of expression of activity undertaken Logical development of the report Conclusions drawn (ii) Written assignment on relevant topic Knowledge of topic in relation to the community Knowledge of factors in relation to the problem Logical development of the argument Conclusions drawn (iii) Reflection through literature review Critical review of article read						

(*continued overleaf*)

(*continued*)

	ASPECTS/SKILLS TO BE ASSESSED	METHODS OF ASSESSING	RATING 1	2	3	4	5	6
		Knowledge relevant to the topic Relevant data sources Correct references given Appropriate selection of literature Variety of literature /data sources						
2	SKILLS							
	(a) Communication	(i) Short oral presentation using a poster Correct and relevant information Information presented in a logical manner Self confidence and manner of speaking Design and quality of poster (ii) Oral presentation to fellow students or community Correct and relevant information Information presented in a logical manner Use of visual aids Self confidence and manner of speaking (iii) Keeping a journal Journal available and well kept Essential learning activities systematically registered Objectives clearly stated Data is informative iv assessing degree to which objectives were met Any relevant information which can improve community experience Any teaching sessions attended						
	(b) Group Work	Observation Has knowledge of where and when to work in groups						

(*continued overleaf*)

(*continued*)

	ASPECTS/SKILLS TO BE ASSESSED	METHODS OF ASSESSING	RATING 1	2	3	4	5	6
		Understands role of each member of the group						
		Responds appropriately and sensitively to individual feelings and behavior of group members						
		Gives suggestions and thoughts useful to the group						
		Able to evaluate self						
		Able to reflect on their performance in the group and on effectiveness of the group						
		Process of how the group works						
		Product of group work						
	(c) Project Implementation	Group report of the activity						
		How project was planned						
		How project was carried out						
		How time was allocated						
		How problems were overcome						
		Nature of the group dynamics						
		Comment on own performance						
		How project was evaluated						
	(d) Leadership	Observation						
		Leads others in group discussion						
		Regular work schedule						
		Finds creative ways of solving problems						
		Able to work unsupervised						
		Procedure for reporting back to other members of the group						
		Accepts own strengths and limitations						
3	Attitudes	Observation						
		Attitudes towards community work						
		Physical presence in community activities						
		Individual contribution in community activities						
		Accepts criticism and change from peers and community members						

(*continued overleaf*)

(*continued*)

	ASPECTS/SKILLS TO BE ASSESSED	METHODS OF ASSESSING	RATING 1	2	3	4	5	6
4	Professionalism	Observation Professional appearance Punctuality Time management Observes ethical issues Attendance at community placement Self discipline						

Report from:

(i) Academic member .....Signature.....
(ii) Community member .....Signature.....
(iii) Service provider.....Signature.....
(iv) Student .....Signature.....