

THE FOSTERING OF COMPETENCE THROUGH AN AUTHENTIC INTEGRATED ASSESSMENT STRATEGY FOR WOUND CARE IN NURSING

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ABSTRACT

In 2005 the third-year facilitators of the generic degree in nursing embarked on an action research initiative within a service learning pedagogy to revitalise the nursing process related to wound care. As a result of the action research a unique wound care project unfolded. This project embraced an integrated assessment approach in order to assess the competence related to wound care and to develop health care practitioners with generic- and field-specific competencies. Action research as mode of delivery for this project created an opportunity for producing Mode 2 knowledge where all participants contributed to the production of knowledge relevant to the wound care context.

Keywords: Integrated assessment, wound care, action research, competence, Mode 2 knowledge.

1. INTRODUCTION

In 1997 political changes in South Africa influenced the School of Nursing at the University of the Free State to embark on a new Problem-Based Learning and Community-Based Education curriculum for the generic degree. The rationale was to facilitate educational transformation in nursing for the purposes of serving a diverse society and to bring about an emerging change in the educational system and its legislation. This curriculum was developed in accordance with the requirements set by the South African Qualifications Authority (SAQA) and the National Qualifications framework (NQF) to contribute to the full development of each learner (SAQA Act No. 58 of 1995; Vasuthevan & Viljoen, 2003:4).

In 2000, within this new curriculum, the third-year facilitators of the generic degree started with an innovative process of development within a service learning pedagogy to revitalise the nursing process related to wound care. This process of development became more rigorous and led to a fully fledged action research initiative in 2005. The aim of this article is to describe the action research process followed to develop a wound care practitioner with generic- and field-specific competencies. The main purpose of the action research process was to transform a traditionally isolated clinical wound dressing competency test into a comprehensive wound care project with an authentic approach to assessment. This approach utilises integrated assessment to demonstrate competence of complex tasks that cover a broad spectrum of outcomes related to wound care (Killen, 2000:188; Van der Horst

& McDonald, 2005:167, 189; Maree & Fraser, 2004:37).

The concepts within the educational reform and the situational context in which the action research process took place will now be discussed.

2. CONCEPTUALISATION

In South Africa the transformation of higher education exercised an enormous influence on education and health practices. The challenge facing health professional education is to restructure and reorganise all areas of education and training in accordance with new legislation and the needs and demands of a changing society.

2.1 Outcomes-based education within the new legislative framework

Outcomes-based education is promoted in the new legislation framework as a mode of delivery. It is an approach designed to ensure that all learners gain the necessary knowledge, skills and attitudes to be successful lifelong learners who will fulfil meaningful professional roles in real life (Maree & Fraser, 2004:4). The National Department of Education identifies two groups of outcomes that encourage a learner-centred approach, namely critical and specific outcomes (Department of Education, 1997:48; Van der Horst & McDonald, 2005:46).

2.2 Critical cross-field and specific outcomes

Critical cross-field outcomes are the broad, generic cross-curricular outcomes that are useful for, and result from, all teaching and learning (Vasuthevan & Viljoen, 2003:48,51; Van der Horst & McDonald, 2005:46). These outcomes lay the foundation for developing all other field-specific outcomes and will ensure that the learners gain the skills, knowledge and values that will allow them to contribute to their own success as well as to the successes of their families, their communities and the nation as a whole, thus promoting lifelong learning.

The generic degree entails many specific outcomes that must be achieved in each module. It is thus necessary to develop assessment strategies that will cover the assessment of more than one outcome to ease the assessment process. The new legislation framework refers to integrated assessment in order to define this process (Vasuthevan & Viljoen, 2003:77; SAQA, 2005:online).

2.3 Authentic integrated assessment and competence

The authentic assessment approach concerns the assessment of complex performances and higher order skills in real-life contexts (Van der Horst &

¹Service learning is an academic enterprise that integrates community service activities aimed at addressing identified community needs with educational objectives. Reflection on the service activity enhances further understanding of content, promotes personal values and civic responsibility (Bringle & Hatcher, 2005: 27)

McDonald, 2005:167). Integrated assessment within this approach entails a holistic process, utilising a number of outcomes, assessment criteria, assessment methods, and instruments from a range of sources and contexts. It provides an opportunity for learners to demonstrate that they have achieved competence (Killen, 2000:189; SAQA, 2000; Vasuthevan & Viljoen, 2003:77). Most of the American literature refers to competence ('competencies') in a holistic way, where the focus is on knowledge, skills and values instead of competencies that refer to specific capabilities. A person that acts competently will integrate foundational knowledge with skills and values and will do so in diverse situations with the ability to verify their decisions (Killen, 2000:188).

3. SITUATIONAL CONTEXT

Prior to 2000 the third-year nursing students in the generic degree undertook a once-off clinical competency test of a wound care procedure as part of a traditional assessment approach. Since 2001 the facilitators of the School of Nursing have introduced new ideas related to wound care in the generic degree. The idea was to design a wound care project with an integrated assessment approach in order to assess the competence of the specific outcomes related to wound care. In 2005 the facilitators embarked on an action research initiative to rigorously document the research process and knowledge creation related to the wound care project. As a result of the action research a unique structure for the project unfolded.

3.1 Structure of the project

The specific outcomes, assessment criteria, assessment tools and the time frame for the project are given to the students at the beginning of the academic year. The theory and structured practical sessions for demonstration of the basic principles of wound care are scheduled early in the year to ensure that the students are equipped with the essential information and knowledge of wound care and are able to cope with the project. The introduction and classification of wound care products according to the TIME model form part of this schedule. The facilitators are available for supervised consultation and supportive accompaniment is provided during a six-week period. A number of people, hereafter referred to as the partners (e.g. the hospital wound care specialist, wound product representatives and the wound care specialist of the School of Nursing), were available for consultation as the need arose.

Every year students are divided into seven small groups comprising not more than six students per group. Each group then has to meet ten (10) criteria, namely:

- (1) identify a patient with a chronic wound in a clinical or community setting. They are responsible for

TIME model is a summary of the principles of wound bed principles established by Smith & Nephew which identifies four areas crucial to wound management.

- (2) holistically assessing the patient with regard to the wound and to
- (3) develop and implement a nursing wound care plan over six consecutive weeks. During the six-week period each group member is assessed on
- (4) the performance of a wound care procedure demonstrating the application of the “do not touch method” and correct utilisation of the selected wound care products being used as well as
- (5) their monitoring of wound healing. Various companies exhibit their wound care products and introduce these products to the students. The students are given the opportunity to get to know the various wound product representatives. It is up to the students to
- (6) negotiate sponsorship for the products they would like to use during the monitoring phase of the selected wound. At the end of the six-week period students must
- (7) work out a cost analysis and
- (8) submit a written document for assessment on all aspects of the project. Students must
- (9) present their wound care projects by means of a PowerPoint presentation during an open wound care day. This presentation ensures that they improve their technology skills, as they must
- (10) develop their own presentation with the assistance of the staff in the computer laboratory. Public speaking is a thread running throughout the curriculum and therefore the third-year students are familiar with the PowerPoint programme and the criteria for effective public speaking. A panel of internal and external experts in wound care and/or the partners are invited to assess the project presentations.

4. RESEARCH METHODOLOGY

The following section will deal with the research paradigm, design and method of enquiry.

4.1 Research paradigm

Zuber-Skerrit (2001:23) states that we need to explain and justify our research paradigm so that the findings can be evaluated accordingly. This research was conducted within a participatory action paradigm that is grounded in a participatory worldview (Mouton, 1996:37). Fourie (2003:34) suggests that a participatory worldview repositions knowledge from a commodity produced by experts to knowledge that people co-create and use in their settings. Michael Gibbons (1998:7) in his Mode 1-Mode 2 knowledge production thesis suggests that a new distinct set of cognitive and social practices is beginning to emerge where researchers can develop their own research methods and modes of practice. Mode 2 knowledge involves the creation of people who are experts in building knowledge relevant to contexts of application. It involves a variety of other knowledge producers/researchers as opposed to Mode 1 knowledge production that has a disciplinary context with a prescriptive structure (Gibbons, 1998:1,4).

4.2 Action research design

Altrichter, Kemmis, McTaggart and Zuber-Skerrit (2002:125) remark that action research does not have only one neat, widely accepted definition. At the end of their article a working definition is presented which serves as a classic definition for this research (Altrichter et al., 2002:129,130). The definition includes aspects such as: interlinked action and reflection to improve your own work situation, participation in decision-making, public making of experiences and the well known spiral model of cycles consisting of four phases: planning, acting, observing and reflecting (see Figure 2). Within this model a plan of action emerges for an identified problem. After implementation of the plan, data are collected in order to gain further detail of the situation and to ascertain how successful the implemented plan was. The problem is then re-assessed and the process continues until the problem is resolved (O'Brien, 1998:3).

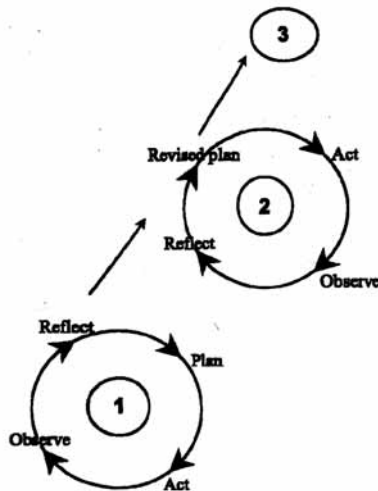


Figure 2: The action research spiral

The action research took place within the situational context described previously. O'Brien (1998: 2) mentions that action research takes place in a real-world situation and turns the persons involved into researchers. Unlike positivists, the researcher does not attempt to remain objective, because the researcher is actively involved in the process of promoting change. In this action research study, research participants, hereafter referred to as participants, contributed to knowledge production related to the development of a wound care practitioner. The participants comprised the project coordinator, 4 facilitators, third-year nursing students (40 in 2006, 45 in 2007 and 55 in 2008) and partners. They were involved at different stages of the research cycle, as necessary.

The first rigorous action research cycle of 2005 and the cycles to follow in 2006 and 2007 focused on action research related to the improvement of the wound care project.

4.3 Data collection and analysis methods

Action research employs a variety of approaches to data collection (O'Brien, 1998:8; Mills, 2000:49). In this study a diversity of data were collected from all participants through a variety of methods (see Table 1). Qualitative data collection for action research is classified according to three data sources, namely experiencing, enquiring and examining (Mills, 2000:66). Data gathered through observation illustrates how researchers “experience” the situation in question. Enquiry refers to all data collected through asking questions for example interviews, focus groups and questionnaires. Everything else that cannot be classified under experience and enquiry can be placed under examining and consists of archive documents, journals, records, etc. (Mills, 2000:49-50,55,61). The data collection methods for this research included observation, nominal group techniques, reflective discussions, reflection reports, module evaluations and minutes of meetings (see Table 1).

Table 1: Data collection methods utilised over the three-year period

Data source according to Mills' taxonomy	Methods and instruments	Time frame	Participants	Person that collected and analysed data
Experience	Observation	Continuously	Project coordinator	Project coordinator
Enquiring	Nominal group techniques	Annually after presentation day	Student groups (Annually: one English and one Afrikaans with 12-15 students per group)	Independent researcher
Enquiring	Reflective discussions	Annually directly after the presentation day	Partners, facilitators and students	Project coordinator
Examining	Reflection reports	Annually after presentation day	Students	Project coordinator
Examining	Module evaluation	Annually end of semester	Students, facilitators and project coordinator	Project coordinator
Examining	Meetings and minutes of meetings	Quarterly	Facilitators and students	Project coordinator

Tesch (1990:96) points out that it is possible to analyse any phenomenon in more than one manner and that each qualitative analyst must find his/her own process of creative involvement.

In this article the data were analysed by the project coordinator who holds a Master's degree and who is a wound care specialist. The project coordinator assisted with the data in order to list themes and identify patterns. Interpretations made were documented carefully (Mills, 2000:100). An independent auditor performed an audit trial whereby systematically collected and documented materials were utilised to confirm the trustworthiness of the data and the meaning attached to this (Polit & Beck, 2004:435). The data analysed over a three-year period are summarised in three tables (see Table 3, 4 and 5).

4.4 Rigour and ethical principles

Due to its focus on real practices and its cyclic nature, action research, according to Melrose (2001:166), provides a measure of flexibility that other research methods cannot. She refers to the rigour of action research in terms of specific synonyms for the concept. The first synonym is regular. To provide adequate rigour related to this synonym, this project proceeded through three cycles in which the early cycles were used to help decide how to conduct the later cycles. This resulted in a more thorough probing of the situation and practice. Critical reflection throughout the process allowed for change and well-grounded understanding (theory building) as a result.

Rigour was also increased by the constant factor, another synonym referred to by Melrose (2001:167), where the reputation and the constancy of those involved apply. The core group of facilitators for this research remained constant and to further increase rigour they were assisted by an experienced qualitative researcher with excellent facilitation skills.

Another meaning for rigorous, as employed by Melrose (2001:174), is found in the concept 'scrupulous'. The idea of rigour is linked to telling the truth and acting ethically. Ethical principles were taken into consideration, including openness to the suggestions of others, collective decision-making, informed consent in order to make observations and examine documents, and the maintenance of confidentiality. The research was collaborative; implying that the facilitators involved shared their research concerns and all participants were allowed to influence the work (Zuber-Skerrit & Farquhar 2002:102; Melrose, 2001:175).

Furthermore rigorous action research uses appropriate methods of data collection. In this case, as discussed previously, a range of appropriate data sources were used that strengthened the principle of triangulation and trustworthiness (Melrose, 2001:169; Polit & Beck, 2004:435).

5. ACTION RESEARCH PROCESS

According to the action research spiral (see Figure 2), continuous planning, acting, observing and reflection took place in order to improve the wound care project and will be discussed in the following section.

5.1 Planning for change

The initial planning period entailed the design of the wound care project where the traditional isolated clinical wound dressing competency test was transformed into a comprehensive wound care project. This design included outcomes that contribute to the development of a wound care practitioner, where the assessment criteria formulated focused on the nursing process related to wound care. The specific outcomes and related critical outcomes covered by this project as well as the assessment criteria are outlined in Table 2. During the action research cycles of 2005, 2006 and 2007, the project was refined through further plans and actions as a result of the reflective processes.

Table 2: Specific, critical outcomes and assessment criteria related to the wound care project

Specific outcomes	Critical outcomes related to specific outcomes	Assessment criteria utilised to assess the wound care project
Collect and analyse data, interpret the so collected data, formulate a nursing diagnosis as well as implement and evaluate a nursing care plan	<ul style="list-style-type: none"> • Research/interpret information • Critical thinking/ problem solving • Self management 	<ul style="list-style-type: none"> • Assess the patient context and the wound holistically • Compile a nursing care plan • Adhere to basic wound care principles • Monitor wound healing • Provide evidence in written document
Implement nursing care in cooperation with a multi disciplinary team and the patient	<ul style="list-style-type: none"> • See world as a set of related systems • Communication • Working with others 	<ul style="list-style-type: none"> • Consult partners • Adapt to the context (the patient is sometimes in the community where all the facilities are not available) • Utilise all available resources
Keep accurate records of estimates/assessments, planning, implementation and evaluation of nursing care so that quality care may be promoted	<ul style="list-style-type: none"> • Communication • Research/interpret information • Critical thinking/problem solving 	<ul style="list-style-type: none"> • Provide evidence in written document • Keep accurate and comprehensive records • Apply nursing care

Take responsibility for and be accountable for own actions	<ul style="list-style-type: none"> • Self management • Working with others • Science and technology 	<ul style="list-style-type: none"> • Adhere to appointments • Act according to ethical and legislative principles
Act as an advocate for the patient and protect his/her human rights (patient rights)	<ul style="list-style-type: none"> • Communication • Working with others • See world as a set of related systems 	<ul style="list-style-type: none"> • Act according to ethical and legislative principles (protect rights, protect confidentiality, ensure privacy, and render the best possible care) • Provide proof of informed consent
Demonstrate competence in wound care	<ul style="list-style-type: none"> • Critical thinking/problem solving • Science and technology 	<ul style="list-style-type: none"> • Perform wound care according to the non touch technique/principles • Utilise wound care products effectively
Develop technical, management cooperative and presentation skills	<ul style="list-style-type: none"> • Work in groups • Use technology effectively • Communicate effectively 	<ul style="list-style-type: none"> • Provide proof of group dynamics • Apply presentation skills • Use technology correctly (computer, data projector, camera)

5.2 Action and observation

Implementation of revised plans and observation (data collection) took place on a continual basis and involved all participants. Categories of students' comments during 2005, 2006 and 2007 related to the wound care project were selected from all the analysed data and are portrayed in relation to the specific outcomes. These categories together with comments related to each category are shown in Table 3.

Table 3: Student comments related to categories of all analysed data

Specific outcomes	Key categories from data	Comments of students
Collect and analyse data, interpret the so collected data, formulate a nursing diagnosis as well as implement and evaluate a nursing care plan	Decision making Critical thinking Holistic care	<ul style="list-style-type: none"> • Had to think for myself • Learned to think critically • Emotional and cognitive challenge • Apply nursing care plan • Improvise (problem solving) • Many outcomes were reached • Integration of theory and practice
Implement nursing care in cooperation with a multi disciplinary team and the patient	Relationships Communication Competent care Professional	<ul style="list-style-type: none"> • Realised the importance of patient education and communication • Effective communication

<p>Keep accurate records of estimates/ assessments, planning, implementation and evaluation of nursing care to promote quality care</p>	<p>Record keeping Quality care</p>	<ul style="list-style-type: none"> • and commitment • Learn to work in a multidisciplinary team
<p>Take responsibility for and be accountable for own actions</p>	<p>Responsibility Accountability Critical thinking Professionalism</p>	<ul style="list-style-type: none"> • Treat patient holistically • Give best quality care
<p>Act as an advocate for the patient and protect his/her human rights (patient rights)</p>	<p>Confidentiality Decision making Respect Care</p>	<ul style="list-style-type: none"> • Learn independence and own judgement • Learn assertiveness • Have poor commitment with lack of creativity among group members • Become independent practitioner
<p>Demonstrate competence in wound care</p>	<p>Equipment Psychomotor skills Holistic care</p>	<ul style="list-style-type: none"> • Provide emotional support to patient • Learn to listen • Build relationship of trust with patient • Advocate for the patient
<p>Develop technical, management, cooperative and presentation skills</p>	<p>Group work Science and technology</p>	<ul style="list-style-type: none"> • Manage different kinds of wounds • Learn different kinds of skills e.g. monitor ABPI • Gained confidence
		<ul style="list-style-type: none"> • Used a variety of technologies • Effective conflict management • Learn to control my temper • Support one another • Many learning opportunities • Commit to time management • Group cooperation learn new characteristics from one another • Dealt with group conflict • In the beginning overwhelming • Work as a group • Used own initiative

The facilitators, partners and assessors met after each annual presentation day to discuss the problems and to plan actions for the following year. The partners that acted as assessors were different people each year. The main problems identified during the reflection and planning, as well as the actions that were implemented are given in Table 4.

³ABPI: Arterial Brachial Pressure Index

Table 4: Main problems encountered related to the presentation day and the actions that were taken

Problem	Action
Partners could not assess the content of the written document that was handed in on the presentation day as well as assess the public speaking during the presentation of the case study.	Students hand in their written reports three weeks prior to the presentation day. The reports are then circulated amongst the assessors. Each assessor allocates an independent mark to each group. The average of the individual marks is the final mark for the group.
Common mistakes made by the students during the presentation were not corrected.	The assessors or an invited expert will deliver a brief overview of recent research on certain identified mistakes.
The audience was too small.	Staff members from the various hospitals are invited. Pharmaceutical companies that market wound care products are invited to exhibit their products and to attend the day. It is compulsory for the second-year students to attend as it serves as an orientation for them.

The data of the annual nominal group sessions, where students provided recommendations related to the improvement of the wound care project, are listed in Table 5. During their informal reflection sessions, facilitators considered the recommendations, made plans and took action, as indicated in Table 5. The actions taken focused on providing more time for integrated assessment in order to accomplish the purpose of the study.

Table 5: Student recommendations and actions taken over a three-year period

Year	Problem	Recommendations	Facilitator's action(s) taken
2005	Students did a case study in the first and second semester and a wound care project in the second semester. The case study and the wound care project in the second semester constituted too much work for them in one semester and the	Students recommended that they should only do the wound care project in the second semester.	The facilitator changed the activities in the following year so that the students only did the wound care project in the second semester.

2006	<p>two projects were very similar.</p> <p>A six week period was too short for the project.</p> <p>The preparation time for the PowerPoint presentation before the open/ presentation day was too short.</p> <p>Some patients were in the community and the students were dependent on transport. Transport is very expensive.</p>	<p>Students wanted to do the project over 8 weeks.</p> <p>Students wanted more time to prepare.</p> <p>Students recommended that perhaps money could be allocated for transport from the service learning section.</p>	<p>Facilitators suggested that students that so preferred, could start during the July holiday. They could then carry the project out over 8 weeks.</p> <p>Facilitators changed the timetable and more days were scheduled for the preparation.</p> <p>Facilitators approached sponsors for additional funds. Facilitators helped students with expenses. Facilitators tried to get money from different sources, but the administration of the allocation is still a problem. Facilitators help students with expenses.</p>
2007	<p>Sometimes students had to buy wound care products which are costly.</p> <p>Students spent many hours (a six week period) with their patients and they gave nursing care throughout the time.</p> <p>Evaluators of the projects on the presentation day are wound care specialists and some of them also mentor students during the six week period.</p>	<p>Students recommended that perhaps money could be allocated for products from the service learning section/sponsors/ School of Nursing</p> <p>Students asked that the hours spent with the patients should count for experiential learning hours. The South Africa Nursing Council prescribes a certain amount of experiential hours for third years.</p> <p>Students recommend that evaluators should be chosen who were not involved during the six week period because of favouritism.</p>	<p>University funding for service learning was allocated for 2008. It was discussed with the staff member who did the placements and calculated the hours. It could be implemented in 2008.</p> <p>This was implemented at the end of 2008.</p> <p>There are few wound care specialists in the area and the groups make use of most of them for mentoring</p>

5.3 Reflection and interpretation

Formal annual reflection on the data took place during the three-year period at the end of the implementation and involved the facilitators, partners and students. Informal reflection took place throughout the implementation and involved all the participants. Furthermore the facilitators reflected on various aspects of the wound care project during their weekly meetings. The insight obtained through this reflection was utilised to make decisions and implement new actions for improvement of the project through authentic assessment. The most significant testimony that one of the facilitators made in relation to the project was: "Students had to take responsibility for own learning and complete a task independently. This prepares the ground for lifelong learning and continuous professional development."

Mellish, Brink and Paton (2005:7-8) state that the ultimate goal of nursing is to produce a highly skilled professional practitioner. They explain that a professional practitioner is a person who has a high degree of accountability inherent in practice with a motive to serve, care and support. The professional nurse must be able to take the initiative and think critically in various contexts. Professional competence is furthermore based on the value of integrity. The nature of the comments that the students made (in Table 3) correlates with the characteristics of the professional nurse. The comments made by the students also indicate the learning opportunities that were available to the students in order to become professionals whilst participating in the wound care project. It shows that the project, through integrated assessment of the outcomes, provides a means to become a competent wound care practitioner.

6. VALUE OF THE RESEARCH

In viewing all the analysed data, the project coordinator feels that knowledge, skills and attitudes were integrated in a holistic way. The action research process is a flexible method of research where the researcher can take own initiative in partnership with others. Students became co-researchers that make use of higher order skills to integrate practice and theory and at the same time add to knowledge production.

Gibbons (1998:6,8) states that knowledge produced in contexts of application is useful knowledge for society in general. In this study knowledge was produced where it was required and thus useful for all the participants. Mode 2 knowledge is heterogeneous in terms of the skills and experience people bring to it. The knowledge created through this action research initiative was influenced by the involvement of a variety of experts in wound care as well as relevant other members of the multi-disciplinary team. This is aligned with the statement of Greenwood and Lewin in Melrose (2001:160), that action research is a participative process. Action research as mode of delivery for this project created an opportunity for producing this kind of knowledge (Mode 2) and is a worthy element for further investigation.

The value of this research lies in the production of Mode 2 knowledge related to the development of a competent health care practitioner. Erasmus (2007:26) points out that preparing students to become full participants as professional practitioners in a Mode 2 society is a challenge that South African higher education institutions are currently taking up. In her discussion she provides evidence that service learning is a pedagogical approach that contributes to the preparation of students for Mode 2 knowledge production.

7. RECOMMENDATIONS

Within the praxis of this project, the recommendation can be made that service learning should have a greater focus on the agora or public space within the Mode 2 society, specifically in relation to the community as partner. In any field of study an authentic 19

project that relates to generic and specific outcomes can be identified in order to promote integrated assessment and result in cost-effective time management.

8. CONCLUSION

Evidence of the rich scope that this project brought to nursing students to develop as wound care practitioners cannot be compared to the once-off clinical competency test of the past as captured in the following quote of a student:

"I learned to be independent;
I learned that talking things out helps a lot;
I learned to work towards achieving a goal;
The project was very very interesting, it was an adventure!"

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⁴According to Gibbons (2006:11) the agora of the Mode 2 society refers collectively to the public space in which 'science meets the public', and in which the public 'speaks back' to science in order to define societal and scientific problems and negotiate solutions.

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