An Action Learning Study of Teacher-Student Partnership: Integration of Theory and Practice in Health Education

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Abstract

Carefully planned dialectical teaching and learning arrangements between teachers and students can be effective in fostering and maximising student learning. This is most useful for post-registration nurse students who possess rich clinical experience as resources for learning. Experience provides a testing ground for theory, and in turn facilitates the integration of theory into application in the health education practice.

The aim of this action learning project was to:

1 develop and improve the teaching and learning effect by establishing a dialectical partnership between teachers and students;

2 explore if this dialectical teaching-learning arrangement can enhance the integration of theory and practice.

This teaching and learning arrangement consisted of three stages. In the first stage, students were required to formulate an initial teaching plan. The second stage comprised four cycles of teaching and learning activities, including student-teacher conferences and theoretical input in the second stage. After each cycle, students were to revise their teaching plan focusing on one aspect of the teaching plan which included assessment, planning, implementation and evaluation. In the third stage, after all four cycles were completed, students were to submit the final version of their teaching plan. They were also asked to re-visit their learning experience and to write a reflective paper on the process.

The effectiveness of this teaching and learning arrangement was evaluated through a triangular method which included a review of student teaching plans, a reflective paper and an interview with individual students. Findings indicated that most students found the arrangement innovative and conducive to individual learning. The arrangement also allowed the integration of theory and practice of health education programme planning.

Background of Study

Integration of Theory and Practice

Although nursing is a practice discipline in which nurses must learn by doing, whether they can apply their knowledge to professional practice remains an unresolved question. Bridging the gap between theory and practice involves more than just a simple transfer of classroom teaching to the clinical setting (MacKenzie, 1994). It is a constant challenge for both nursing practitioners and

students. It is particularly a concern for nursing educators in their efforts to integrate theory and practice.

The researchers of this Action Learning study are nursing educators who aware that if teaching remains at the explanatory–understanding level, it will merely place students in a passive learners' role and the teacher as an informant. Teaching health education can be perceived as a 'cookbook recipe' or an instructional guide of health education. Nursing procedures are usually taught in this manner (McCaugherty, 1992). This theory may remain meaningless to students, not because students cannot grasp the subject matters, but because the materials remain only as textbook knowledge due to students' lack of actual experience.

McCaugherty (1992) gave an example of cycling to illustrate the need for 'thinking and doing'. To describe how to ride a bicycle is one thing; actually to do it requires something else. Kolb asserted that knowledge is created by the interaction between thinking and doing (1984), as trying out ideas and thoughts serves to link and further strengthen thinking and doing. MacKenzie (1994) argued that experience alone is not the answer to learning. Rather, it is experience that is guided by reflection, which may occur through a process of reflecting on what has been done or an experimentation with new knowledge or concepts or both. Knowledge is then gained through the transformation of experience.

Reflection could be the solution offered to encourage linkage between theoretical concepts taught in classrooms to the reality of the nursing practice. Nursing educators devoted to facilitating the integration of theory and practice would find Schön's (1983) reflective practitioner, knowing-in-action and reflective-in-action useful. Garr (1989) notes that reflective-in-action is a process through which the development of professional knowledge and the improvement of professional practice occur simultaneously.

Teacher–Student Partnership in Learning

Theoretical knowledge and clinical competency are better acquired by becoming involved in the intellectual activity of synthesising and integrating experience with new theoretical knowledge (MacKenzie, 1994). In seeking the integration of theory and practice in health education, it would be more desirable if teachers could take into account the existing framework of students, placing emphasis on the application of understanding rather than replay (Biggs, 1989). Conventional didactic teaching allows limited space for the inter-flow of exchange between teachers and students, which may hinder the successful integration of theory and practice. Biggs (1989) suggests that teaching can be enhanced by an interactive approach in which students are involved in learning as much as possible.

The teaching team postulates that an efficient teaching arrangement orchestration will facilitate and encourage the active learning of students. Likewise, teaching health education with the arrangement for theory application may facilitate the integration of theory and practice as well as the consolidation of learning in health education. Along the same lines, this Action Learning study intends to bridge the gap between the theory and practice of health education.

Study Design

Aim of the Study

In this study, the teaching team and researchers aimed to explore whether the integration of theory and practice in health education can be enhanced through establishing a dialectical partnership between teachers and students.

Design of the Subject

The setting of this Action Learning project was in the subject, 'The Nurse as an Educator', offered in year one of the post-registration course of the Bachelor of Science (Honours) in Nursing. The subject aimed to develop among experience registered nurse students an appreciation of the importance of health education in nursing as well as to equip students with a basic competence of the education process. The subject, as a semester unit, lasted for 14 weeks.

The teaching and learning strategies utilised included student-teacher conferences (STC), lectures and the formulation and revision of health education teaching plans. The learning assessment included the series of health teaching plans and an individual reflective paper submitted by students.

There are three stages in the subject design (Table 1). In stage one at the beginning of the semester, the students worked in groups of five in a similar specialty area. Together they identified a topic for health education which they believed was an educational need of their client group. They were asked to formulate an initial health education plan for their target client group, including all four essential areas of the teaching planning process. The teaching plan was developed based on their previous understanding of health education before any theoretical input was given by the teachers. This was done as these students were registered nurses who had the proficiency and ability to provide health education.

Table 1: The Three Stages of Subject Design

Stage 1 Formulation of an initial teaching plan	Stage 2 Continuing revision of the teaching plan	Stage 3 Application and reflecting on the experience
• forming group of five • formulation of teaching plan	(a series of four cycles) • each cycle included student-teacher conference, teacher meeting, lecture and revision of teaching plan by students • each cycle focused on one of the following areas: assessment, planning, implementation and evaluation	• final version of teaching plan • implementation of the plan • writing a reflective paper on the experience

Since the content matter related to health education was not new to these post-registration students, the subject was designed to teach students to approach health education in an organised manner as well as to provide opportunities to integrate their previous experience and newly acquired knowledge into practice.

In stage two during the semester, the students repeated four cycles of Action Learning. Each cycle included student-teacher conferences (STC), lectures and revision of health education plans by students. Each cycle focused on one aspect of the health teaching process: assessment, planning, implementation and evaluation.

Student-teacher conferences were designed to allow interaction between the student group and the teacher. Lateral interaction with peers can also enhance realistic goal setting and self-monitoring. The arrangement provided students a good opportunity to clarify questions, discuss problems they encountered and debate ideas regarding the planning of health teaching.

After the student-teacher conferences (STC), the four teachers involved met among themselves to share ideas and observations which they gathered from the STC of each group. The common issues and problems identified from the STC were discussed. The lecturer who was responsible to present the subsequent lecture made a special effort to stress the common problems. Each follow-up lecture focused on fostering the integration of students' experience and the issues they raised during the STC as well as providing theoretical knowledge related to the specific aspect of health teaching process that was discussed. This arrangement permits the 'thinking and doing' to occur simultaneously as suggested by McCaugherty (1992) and Kolb (1984). As a result, immediate and constant feedback to the teaching plan could be obtained.

In stage three, with the newly acquired knowledge from lectures, students then revised their plans and submitted a copy to their lecturer after each revision. The students would then implement their health teaching in their field. This educational method was adopted for promoting the integration of the theory and practice of health education.

Method and Evaluation

The effectiveness of this teaching arrangement in encouraging the dialectical relationship between teachers and students enforced in the STC was threefold:

1. knowledge attainment can be seen in the series of revising the initial teaching plan;
2. determine if students' reflective papers can foster the integration of students' learning (theory) and experience (practice);
3. interviews of selected students help to illuminate their learning experience.

Each group submitted one initial, four revised and a final health teaching plan. Analysis of knowledge attainment of health education was based on the Alberta's Client Education Standards (1986). The Standards were chosen as they are widely accepted as the minimum standards for client education. The use of individual reflective papers also added value in the understanding of each student's reflective process in learning throughout the semester. Twelve students (two from each group) were chosen to be interviewed from a range of subjects and student performance so that different views of the teaching arrangement or learning experience could be included. These students were approached and provided with explanation of the study aims. They could then volunteer to participate in the interviews if they so desired.

Results

Knowledge Gain in Health Education

The Alberta's Clients Education Standards were adopted to evaluate the gain in student knowledge. Seven standards are included in the Standards (Table 2). The criteria set forth in the Standards were scrutinised by the research team members, followed by discussion to confirm that all members shared the same interpretation and understanding of the criteria as written. Some of the criteria were clarified and reworded to avoid misinterpretation. As a result, 51 criteria were specified in the seven standards. After these were specified, the initial, revised and final teaching plans were scrutinised against the criteria and standards to assess student knowledge attainment.

Table 2: The Alberta's Clients Education Standards

1	The primary focus of the educational process is the client.
2	An educational assessment is done by the nurse in collaboration with the client.
3	The nurse demonstrates planning in the educational process.
4	The nurse applies the principles of the educational process in the implementation of client education.
5	A written outline of the educational process is available as a communication tool, a resource to health professionals.
6	The nurse evaluates the educational process.
7	The client participates in evaluating the educational process.

The four lecturers, who were also members of the research team, jointly extracted information from the teaching plans based on their interpretation to decide whether the series of teaching plans fulfilled the criteria set forth in the Standards. They then met to discuss and validate their observations. Although the four lecturers found it somewhat difficult to code the submitted teaching plans based on the detailed criteria, crude analysis of submitted teaching plans showed an increase in fulfilment of the criteria from the initial to final teaching plan. Gradual gain of knowledge in client education seemed to happen from the time of the initial teaching plan to the subsequent revised as well as final teaching plans.

There are a total of 51 criteria included in the seven standards of the Clients Education Standards. In the initial teaching plans, only five of the 51 criteria set forth were fulfilled. In the first revised teaching plans, the number of criteria fulfilled increased to 16 in the first three standards. The second revised teaching plans fulfilled five out of the nine criteria in the third standard, and three out of nine criteria in the fourth Standard. The third revised teaching plans has increased to 12 out of 17 criteria set forth in fourth, fifth and sixth Standards. The final plans written by the students fulfilled a total of 40 out of the 51 criteria set forth (Table 3).

Table 3: Number of criteria fulfilled in each standard in the series of teaching plans

Standard #	numbers of criteria	Initial plan	1st revised plan	2nd revised plan	3rd revised plan	final plan
1	5	1	4	-	-	5
2	16	2	10	-	-	11
3	9	2	2	5	-	6
4	9	-	-	3	9	9
5	3	-	-	-	1	1
6	5	-	-	-	2	4
7	4	-	-	-	-	4

In the second part of analysis, only the final teaching plans were scrutinised. The four lecturers gave one point to each criteria fulfilled in the final teaching plans. The criteria on which all four lecturers have reached a consensus would receive a score of four. Table 4 provides a summary of the mean score received in each standard (total score received of all the criteria divided by the number of criteria in each standard). The table also gives the range of possible scores received in each criteria within the standards.

One can readily identify from the table that the Alberta's Client Education Standards that received less than half of the score had the three lowest means. These included: collaboration with clients (mean=1.76), written documentation of the health education effort in client s to communicate between health professionals (mean=0.79) and evaluation of outcomes (Mean=1.73). These aspects were often neglected in students' teaching plans. They were also evident in student interviews. As one of the students said in the interview:

> I appreciated the fact that I have to collaborate with my clients to assess their education need before teaching. Nurses come across clients from so many different backgrounds, so teaching them all using the same way just won't work. I have always started health education by planning programmes, and neglected to find out what they need. Now I know what they don't know or want to know, so I can be sure that the clients are interested in what I teach.

Another student commented about evaluation of health outcomes:

> I have always taught patients, but I seldom evaluate the outcomes of my efforts. I usually just tell them that they can come to ask me if they have any more questions, but did not evaluate what they have really learned.

In the student interviews, no student mentioned communicating with other health professionals in regard to health education efforts. It is evident that students still have not placed much emphasis on this matter.

Table 4: Alberta's Clients Education Standards Being Met in Students' Final Health Education Plan

Standards	Mean Score	Range Score
1. The primary focus of the educational process is the client	3.20	2.50-3.88
2. An educational assessment is done by the nurse in collaboration with the clients	1.76	0.13-3.25
3. The nurse demonstrates planning in the educational process	2.35	0.25-4.00
4. The nurse applies the principles of the educational process in the implementation of client education	3.28	2.13-4.00
5. A written outline of the educational process is available as communication tool, a resource to health professionals	0.79	0.50-1.63
6. The nurse evaluates the educational process	1.73	0.00-3.38
7. The client participates in evaluating the educational process	2.09	0.50-3.50

Integration of Theory and Practice

The reflective papers and student interviews illustrated the successful integration of theory and practice in health education efforts by the students. The following paragraphs will discuss the themes that emerged from the students' reflective papers and interviews which relate to the dimension of theory-practice integration. The themes included: learning building upon existing framework, learning through experiences and re-visiting health education.

Learning Building Upon Existing Framework

Students felt that their previous experience provided a foundation for further learning. Some of the interview responses further reveal this particular aspect:

> This active learning approach is effective in a way that we can use our own experience in formulating the initial teaching plan and improve step by step after we have gained the information.
>
> We could make full use of our past experience for integrating in our learning and gain new insight into our further practice and learning.

Learning Through Experience

Students felt that they could learn through experimenting. Some students used the term 'experiential learning' and 'discovery learning' in describing what they gained from this subject. A few students made the following comments:

> This subject provides an opportunity for active participation, and exploratory manner in consolidating our learning.
>
> There were chances for discovery learning and students could put the health education plan into implementation and evaluate the process and outcomes of the plan.
>
> Continual revision of the teaching plan is a good learning experience in integrating theory and practice.
>
> A practical approach of health education to the learners is the best aspect of this subject. We do not just `work out the solution on paper', we actually faced the task and solved the problems we encountered.

Re-visiting Health Education

The process of formulating and continual revision of the teaching plan seemed to provide an opportunity for some students to re-examine their practice of health education in daily practice. One student said in the interview:

> Previously I held training programmes in my ward but I never thought of doing an assessment of learner's needs. What we are doing this time is teaching nurses how to teach mothers to breast feed. We set a questionnaire and tested the knowledge of the nursing staff in this area. Surprisingly we held a class addressing their learning needs, and we were able to attract a group of audience.

Some felt that what they learned was useful.

> What we learn is practical and useful to our career and daily practice. It enables me to teach my clients more effectively.

> It is very interesting and practical, but painful in a sense because we have to learn from our own experience. However, the gain from experience outweighed the pain.

A number of students we interviewed expressed that the content matter discussed in this subject was probably not so 'new' to them since health education was a common role of nurses. However this subject helped them to approach health education in an organised manner. The subject also highlighted a number of areas of patient education that they probably have ignored in daily practice, such as taking into account the personal characteristics of their clients, assessing learning needs and evaluating learning outcomes.

Discussion

The process of formulating and continually revising the teaching plan seemed to have provided an opportunity for registered nurse students to reexamine their practice of health education in their daily nursing practice. The students pointed out that the formulation of teaching plans in the written form helped them to organise their ideas as well as specify each phase of the teaching process. In the process of student-teacher conferences and teaching plan revision, they realised that in daily practice they had neglected the assessment and evaluation phase of health education in their general practice.

The Alberta's Client Education Standards emphasised collaboration with clients, written documentation of the health education effort in client records to communicate with health professionals and evaluation of health education efforts. These aspects were often neglected in the students' teaching plans. This observation is validated both from the students' final teaching plans as well as from their reflective papers and interviews. Health education efforts made by one professional discipline are often not communicated to other professionals, making it difficult to ensure continuity and reinforcement provisions when needed. This result was validated by the students' in what they revealed in student interviews.

During the analysis of teaching plans, the lecturers recognised that the Alberta's Clients Education Standards have a broad applicability which may need further delineation to increase its applicability to specific client populations. Whether student learning was evident from submitted teaching plans seemed to depend very much on the nature of the settings, client groups and the client education topics that were selected.

As no single model of health education may meet the variety of situations in which nurses operate, reflective practice can help nurses to provide individualised patient education. Reflecting on one's experience in the final reflective paper was a valuable experience in itself. It helped the students to explore more information and knowledge. There was evidence of efforts to integrate theory and practice among students in this teaching-learning arrangement. Students also demonstrated a more critical examination through reflecting on their current practice in health education.

This study revealed that an active approach to learning was generally enhanced by teachers delegating more control of learning task to students. Regular meetings between students and teachers managed to facilitate communication between teachers and students, as well as among students themselves. Students found cooperative learning among peers as a stimulus to broaden one's perspective and arouse discussion. Continuous guidance to learning by teachers helped to give direction and confirmation to further learning. For students who benefited from the learning arrangement in the study, there was evidence of integration of theory and practice. Students also demonstrated a more critical examination of their current practice of health education.

The student-teacher conferences arranged allowed for recapturing of experience, thinking about it and evaluating it. These conferences engaged students and teachers together to explore their experiences in order to lead to new understandings and appreciation as suggested by Boud et al.

(1985). The student-teacher conferences specially arranged in this subject seemed to have highlighted a number of areas that these post-registration nurse students have neglected in their daily practice of health education.

However, the teaching arrangement was far from perfect. Some students felt that there was no sharing and learning from the teaching experience other groups, although they were provided seminars sessions to share their final teaching plans with others. From the subject evaluation, many students have suggested that more large class discussions should be arranged to allow 'cross-topic' discussion, so that students can learn from other groups as well. They envisioned that this would provide opportunity for them to share experiences and problems.

Adult students usually possess varied background and experience. Some students in this study did not respond so favourably to the learning arrangements. One of the students who has more experience with health education commented that she has been involved in teaching, and found it difficult to work with other fellow classmates in discussing things that she already knew. In order to allow the students to determine what they needed, efforts could be made to create a larger educational space, such as offering individualised contract learning. Arrangements such as 'contractual learning', where students design their own learning objectives and define their learning activities, can be explored in future study.

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