

ORIGINAL RESEARCH

Action research for change: Implementation of 'case based learning' to the undergraduate nursing students: A qualitative study

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Abstract

Background: Within the faculty of nursing in RCSI–Bahrain our aim is to deliver the information and knowledge in the best possible evidence based practice delivery system known to us. This should be based on up to date evidence and research. Within my own university the delivery systems are varied. We need to bring the entire faculty together to change the habits of old. In order to do this we as educators need to be able to introduce new innovation by planning a change process and by using a good simple change model to help in the process. Introducing the change will need to be done by the collaboration of transformational leadership along with other appropriate leadership styles.

Methods: The qualitative design methodology was used with focus groups as the data collection process. Thematic analysis was used to break down the data collected. Themes were analyzed and recommendations for the change to case based learning as a means of knowledge and information delivery. The sample population in the research study will be from the author's own university. The cohorts of students are from Nursing Year 2 and 3. They were chosen from a cohort of 224 undergraduate nursing students. Seven students were chosen by random selection from answering an email sent by the researcher, the first 7 students to answer the email were chosen for the focus group interviews.

Results: Looking at the present delivery systems it was now understood that they preferred case-based learning over traditional lectures. More interaction keeps the students interested and active in class. Smaller groups will be proposed for the next semester as the recommendations from both faculty and students were that the groups were too large. Consistency in faculty delivering the information and knowledge needs to be investigated further. Students who initially are unhappy with case-based sessions have warmed to the idea of changes being made.

Conclusion: The students need to be more involved in their learning and this can be done by using case-based studies as a start to the process of student involvement. The case based study sessions are part of the learning process and are being used by the third year undergraduate students in most of the medical-surgical module sessions. Our aim is now to introduce other undergraduate students in nursing year 1 & 2 to the case based activity sessions. Because this is an action research change project we have to look at the participants that will also be part of the action process.

Key words

Action research, Change, Case based studies, Themes, Leadership, Focus groups

Introduction

In this era of undergraduate student assertiveness and sponsorship, we as faculty and with the responsibility of delivering knowledge and information to students, best practice is the way in which we should be moving. Delivery systems should be involving the students in classroom groups and activity based instructional sessions. “Researchers across many domains of education agree on the importance of providing students with the opportunities to cultivate the skills necessary to engage critically in their communities.”^[1] When our students ‘take part’ in their own learning experiences, they actually learn more, because they begin to understand the subject matter by discussion with their colleagues and draw conclusive answers to their studies. “Case-based knowledge is a flexible and adaptive form of knowledge that is easily applied to complex and ambiguous situations.”^[2]

Participating in action research change processes is an excellent way for the faculty to enhance their teaching abilities. Teaching has evolved in the last and many other disciplines are using the action research approach to assist in the changing processes. Regarding physical therapists and action research, they tell us “that over the past 30 years, physical therapy has evolved into a more research-orientated profession”^[3]. As with this profession the teaching profession is moving towards research on a larger scale. “In participatory action research researchers empower participants to become research partners. The collaborative, less hierarchal approach to research is that the practical knowledge that emerges is usually a better fit for those for whom it is intended, since they themselves helped generate and make sense of the findings”^[4]. Having the faculty on my side and working as a team would really benefit the change process and the students will benefit from the change and progression to another level in their learning curve.

Methodology

Action research was chosen to be the research of choice as this kind of research would be to actually involve the other faculty members and implement a group researched issue that exists presently in the organization. The design methodology will be qualitative through focus groups. Qualitative data will be analyzed using focus groups and thematic analysis. Focus group methodology is one of several tools that educators can use to generate valid information important to the advancement of programs, communities, and organizations. This bulletin describes fundamental aspects of focus groups by distinguishing them from familiar research tools^[5].

For the purpose of this study, I chose focus groups because I need the best information in the shortest time^[6]. “Focus group interviewing has been used as a sole method of data collection in some studies and as one of a number of qualitative data collection methods in others”^[6]. A focus group study can also help one develop a small study which can in turn lead to a bigger research project.

Using focus groups can also help the researcher develop an understanding of the participants and how they react to certain questions. They can also see how the participants interact with one another within the group. Usually the reaction and the answers to questions will get the group interested and maybe open up more. Focus-group methodology can also be used as a primary data-collection method, especially for some topics that cannot easily be studied through quantitative methods. These discussions are particularly suited to subjects that are of a sensitive or personal nature^[7].

Sample population

The sample population in the research study will be from the author’s own university. The cohort of students will be from Nursing Year 2 and 3. They have been chosen from a cohort of 224 under graduate nursing students, for the focus groups by sending out an email to the corresponding nursing years. The first 10 student respondents to the email for each year were chosen for the focus group interviews.

Ethical permission to implement the action research change project

Ethical permission to implement the action research in the author's organization was taken, and a letter of permission was taken after the proposal was read and considered by the Dean of the school of nursing. The action research project was considered and after one week permission was granted through the form of a letter written by the Dean on letter headed paper explaining that, the action research project would be welcomed in the school of nursing and that the author would be given permission to do the research.

Data analysis

The data analysis will be by using narrative and graphic content. The author will be following Krueger (2002) model for focus group interviews who also explains that when we look at the words used in focus groups we should, "Think about both the actual words used by the participants and the meanings of those words. A variety of words and phrases will be used and the analyst will need to determine the degree of similarity between these responses"^[8].

Frequently used words during the focus group interviews

The author used a word cloud to display the most frequently used words by both the students and faculty. These will be displayed by two separate word clouds. Keywords in context are of high importance in focus group analysis. "Keywords-in-context determine how some words are used in context with others. It involves a contextualization of words that are considered central to the development of themes and theory by analyzing words that appear before and after each keyword, leading to an analysis of the culture of the words use"^[8].

Action research change project

The action research change project will be introduced to the faculty through a systemic process of change management and a transformational leadership style. The change model was chosen for its simplicity and flexibility. The author has chosen Lewin & Lippert *et al.* (1951)^[9]. This change model explains the change in three stages: unfreezing, implementation and refreezing. The model was chosen for its simplicity and appropriateness for this action research project. Also the change process has a timescale which gives the author the problem of not having a lot of time for planning and strategies.

Change process

A model of change, which is perhaps simplistic but well understood, is described by Lewin (1951), who suggests that there are three key stages to any change^[10]. These are the following steps for the change process:

- 1) Unfreeze or unlock from the existing level of behaviour.
- 2) Change the behaviour or move to a new level.
- 3) Refreeze the behaviour at a new level.

This change model is simple and can be applied to many different change situations and this will help in analysing the success or failure of the project. In 1958, Lippert *et al.*^[10] suggested a three phase model that can be utilised alongside Lewin's model:

- 1) The clarification or diagnosis of the problem.
- 2) The examination of alternatives and establishing a plan of action for the change.
- 3) The transformation of intentions into actions to bring about the change^[10].

The initial stage of the change process is the unfreezing stage. In this stage the researcher has to see the problem and convince their colleagues that a change is needed. This should come from looking at the evaluation of the concerned

module then speaking to the students who are doing the case based sessions now. Once the door for change has been opened the path will be made clear for the rest of the process to fall into place.

The second stage is the implementation phase which will take place after the researcher has finished with the unfreezing stage. Now they must start the action research project for change. This will involve all concerned with the module delivery and the students. Action research means that the research has collaborative tendencies and that all staff involved will be expected to participate to enable the change to have a substantial effect. "Most definitions of action research draw attention to the collaborative aspect of the relationship between researchers and participants"^[11].

In the final stage of the change process, which is the refreezing stage, the actual position of the project should have made an impression on the participants in the action research. The change by now should be in the infant stages and the results should now be seen. The project will have to be followed up at different stages and the results documented. These results will be looked at in the follow up process which will be done at different times with specific timings between the sessions. Results of the project should be made available to the faculty and the Dean. This will enable them to see exactly the impact that the change has made and where it will be going.

Evaluation

The researchers own university depends on the students' evaluation for the necessary changes that need to be made to existing delivery systems. These delivery systems can be anything from power point lectures to group work. We as educators need to be able to know how the module was delivered and taken up by the students. Their understanding is very important also for the module assessment. In my university the student evaluation is done on-line and is through Dublin, our mother university. This evaluation takes a while to come through the system of quality management in Dublin, then the quality management in Bahrain. It is only after this stage does it come to the module coordinators for their observation and scrutiny.

The evaluation from the students' feedback has been very informative regarding the curriculum review for the new academic year. The students are being over assessed according to the external examiners review from last year^[12]. This evaluation came too late to be implemented this year (2014). The marks and standards could not be changed as there was not enough time to enable the faculty to implement for the academic year 2013/2014.

Reflexivity-validity and rigor

"Action research has three validity threats to contend with, namely: Subjectivity threats, due personal bias of the researcher; Contingency threats due to broadness and complexity of data generated; and control threats due to the lack of full control over the environment"^[13].

Focus group arrangement

A room was booked for the focus group meetings that suited both the moderator and the participant alike. The recording equipment was set up and refreshments were ordered according to the number of participants, which for the first session with students would be 5. This approach is being used as a mixed method approach to enable the author to get more honest opinions in a comfortable setting where the students and faculty alike will not be intimidated.

'Mixed methods approaches are used to increase validity of evaluation findings by using a variety of data collection techniques. Because focus groups are one of the few methods in which data is gathered from a group, it is useful as part of a mixed method approach'^[14].

Each focus group meeting lasted for approximately one hour. Apart from the participants, the researcher/facilitator would be taking notes, recording and prompting where there is a lull in the participant's discussions.

The faculty focus group meeting was scheduled for one week after the nursing students due to exam commitments and workload. The meeting went ahead after the ethical approval from both the Authors University and Liverpool. The faculty participants were all given the informed consent form to sign after reading the guidelines of the research. They were all informed that no names would be used for any other purpose than the research and that the names would not be mentioned anywhere in the finished documentation. The participants would be able to withdraw at anytime if desired without any implications to their status.

Focus group-students

The focus groups were arranged with the nursing students during their theoretical week, but the actual group meeting could not take place until the following week because of the delay in the ethical approval, which was received on the last day of the theory. The students were emailed with a suitable day for the focus group meeting after clinical practice. It was attended by 7 undergraduate nursing students from both 2nd and 3rd year.

The students were identified and permission had already been taken by informed consent and a letter of explanation given to the student earlier was discussed and explained again. This was to ensure that although they have already agreed to be interviewed, the reason for the study had to be explained in more detail. They were also told that the research would be anonymous and no names or referrals would be given to anyone within the university. The participant would not be identified at a later date for any reason other than for the participant to withdraw if desired. The focus group discussion would be taped for analysis at a later date.

The students thematic analysis

The themes that emerged from the nursing students meeting were as follows:

- 1) Sizes of the classes in the case based studies.
- 2) Faculty knowledge of the subject matter.
- 3) Referral to the appropriate textbook regarding the case based study.
- 4) Consistency in teaching faculty.
- 5) Preparation of the case based study material.
- 6) Opening of the case based study for preparation by the student on the virtual learning environment (VLE).
- 7) Faculty being resistant to change (see Table 1).
- 8) Preference of working as individuals versus working in groups.
- 9) Preference to working in groups versus working as individuals.

Students focus group specific issues

These issues were discussed by the students in the focus group. The words that were mostly used by the students were brought together and are displayed as a word cloud (see Figure 1). This would be used as a guide to the opinions of the students and bring together the ideas for the specific action to change the delivery system.

The students focused on the sizes of the classes, and said that the classes were too big to have attention from the lecturer, when a question was being asked. This was due to the other students talking in the class and sometimes the talking was very loud. Another factor was the lecturers' expertise of the subject matter. They spoke about their experiences rather than referring to the nursing year textbook. Some of the subject matter being discussed was not actually in the recommended textbook.

Another issue was the choice of room for delivery of the case based session. This is an important issue as the room size and layout can actually affect the student’s perception of the importance of the class. If the room is too small then the students will feel claustrophobic and will not concentrate on the case. The arrangement of the chairs was also an issue with them as they come to class and sometimes the classroom is not prepared, so this causes disruption and a lot of noise. A table was designed to display the themes and then they were then divided into subthemes (see Table 1).

Relationship between the themes and subthemes (Students)

The student’s spoke of the class sizes being too large. This actually reflected on the student’s behavior. Larger classes are harder to manage therefore students get frustrated when others do not comply. The lecturer also is supposed to walk around and answer some questions regarding the case if the student has difficulty; unfortunately this is not always possible due to the large numbers in the class.

Changes in faculty teaching methods can cause students to get confused, so they spoke of consistency regarding the delivery system and even the lecturer’s subject matter knowledge was questioned. They also felt that the workload was heavy when trying to prepare for the class. Some faculties do not open the case 2-3 days before, resulting in not enough time to prepare the material. Virtual learning environment (VLE) access has also proven to be an issue in many cases (see Figure 1).

Table 1. Themes and subthemes from thematic analysis of students focus groups

Theme	Subtheme
Class Size	<ul style="list-style-type: none"> • Too many students in one class. • Not enough room for lecturer to walk round the groups.
Consistency in teaching	<ul style="list-style-type: none"> • Teaching faculty are not the same every time therefore the consistency in the methods change.
Preparation of subject matter	<ul style="list-style-type: none"> • Students feel the workload is too much and do not have the time to prepare properly for the class. • Some students do not prepare at all. This causes the group to fall behind in class. • Conflict due to non-participation in the group.
VLE problems re access to the folder	<ul style="list-style-type: none"> • Students sometime have difficulty accessing the VLE.
Not enough time re opening the folder to preparation of subject matter.	<ul style="list-style-type: none"> • Faculties sometimes do not open the case based folder until one day before. • This causes pressure on the student.



Figure 1. Word Cloud of keywords that were most frequently used by the students ^[15]

Focus groups-faculty

The meeting was held with 7 faculty members who voluntarily gave up their time. The faculties were identified and permission had already been taken by informed consent and a letter of explanation given to the members, this was again discussed and explained. This action was to ensure that although they have already agreed to be interviewed, the reason for the study had to be explained in more detail. They were also told that the research would be anonymous and no names or referrals would be given to anyone within the university. The discussion also would not be taken as a method for the participant to be identified at a later date for any reason other than for the participant to withdraw if desired. The focus group discussion would be taped for analysis and transcribed.

A table was designed to display the themes and then they were then divided into subthemes (see Table 2). A word cloud was used to display the keywords used by the faculty (see Figure 2) and these word would be used as guidelines and indicators to change the delivery system set up that would be introduced at the beginning of the next semester.

Table 2. Themes and subthemes from thematic analysis of faculty focus groups

Theme	Subtheme
Knowledge of case based learning	<ul style="list-style-type: none"> Some faculty has experience in the delivery system. Some have actually studied the concept of case based learning in depth. Other faculty has no experience in the delivery method but has read the literature regarding the subject matter.
Preference of group work over traditional delivery systems.	<ul style="list-style-type: none"> Prefer group work because of the benefits. Helps weaker students to interact with others. Graduate with good management skills. Students get to know one another.
Preparation of subject matter and space.	<ul style="list-style-type: none"> Faculty can take 1-2 days to prepare one case study. Time consuming Need to understand how the room has to be arranged, e.g. space between chairs. Number of groups per class.
VLE	<ul style="list-style-type: none"> Students sometime have difficulty accessing the VLE. Opening up the case 2-3 days before the session. Opening up the case from the beginning of the semester.
Student's role should be that of an adult learner.	<ul style="list-style-type: none"> Groups should be assigned a leader. Arrangement of groups. Keeping noise level down. Acting as mature adult learners. Come to class prepared with documented work. Be ready to start the class as soon as everyone is settled.

The faculty thematic analysis

The themes that emerged from the nursing faculty students meeting were as follows:

- 1) Some faculty have not actually studied case based learning formally some have already been using it.
- 2) Group work is better than traditional delivery systems as it encourages the weaker students to take part in the class.
- 3) Students will graduate with the skills of communication, problem solving, conflict management and these skills will enhance patient care.
- 4) Working on case base learning can, especially in nursing year one can encourage the students to get to know one another better.

Implementation

Implementation of the action research change project will be introduced to the other members of the faculty over the next two to three months. We will implement this change of delivery method to first & second year at the beginning of the new academic year 2014/2015, in semester one. The entire faculty will be given training in the delivery of case based sessions and will be expected to make major changes in the syllabus over the summer period.

Action for change

When analyzing the data of both students and faculty we can understand that the two cohorts are accepting the progression towards case based learning, but feel that changes are needed in both the way in which we are delivery the case based sessions and the size of the groups in each class. Suggestions were made to make the group numbers smaller, e.g. 6 groups per class and the groups having smaller numbers, e.g. 6-8 per group. This was the consensus of all the participants, students and faculty alike.

Strategic planning for action and recommendations for change

A plan for action and implementation will be piloted in the summer months in preparation for the new Academic Year 2015/2016. The faculty will be briefed in 'case-based learning' and the delivery system will be used as a learning tool for the first, second and fourth year nursing students where appropriate.

Conclusion

The faculty will work together as a team and the action that they will take will be proof that action research change projects are the way forward. We as action researchers can use the available manpower to be able to change the way in which we deliver information and education to our students. Involving all the staff in a change project is important to the success of the venture. The case based delivery system will give the students the skills that and they need when graduating, e.g. problem solving, critical thinking, time management, research skills, and good communication skills. These attributes need to be gained throughout the four undergraduate nursing years.

The emerging themes will give the faculty a basis for the action research project to work and get the sessions on track. As ^[16] explain "While doing any research in an organization is very political, doing research in and on your own organization is particularly so". For my action research project to work, I had to convince the other faculty members that case based learning is the way forward and that I would take the front seat in order for it to make an impact in our organization.

Expanding the delivery system culture enhances the perception of self-directed learning and how students should be encouraged to be part of the learning process. A valuable alternative to other sources of teaching is inevitably relevant to the way in which we as educators deliver information and knowledge to our students.

Learning through collaboration and involving the students in the process is part of taking action and they have to 'take action' themselves enabling changes to take place.

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