

A learner-centred programme designed to bridge the gap between research and classroom practice

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Abstract

In an attempt to bridge the gap and encourage students to adequately and independently research a topic outside the classroom, a case study scenario as a learner-centred programme was designed and adopted. The principle is based on problem solving and student-centred instructions so that the student realizes several aims. For example, recording the investigative process and outcomes, achievement of stimulation of self-directed activity and research which requires locating and using a range of information based on integration and evaluation of the material obtained [1]. The target group was third year student radiographers. The objectives are generic and could be applied to other learner groups. The patient in this scenario could be replaced with, for example, a member of the community to assess environmental issues. The learner-centred programme is designed to explore a topic using a clinical experience to reflect the type of experience a student would be likely to encounter in practice.

Keywords: *reflexive practice, research, focus-group-interviews*

Introduction

Radiography is a practical medical science, the theory of which should be effectively taught in order for the radiographer to practically implement the information in a technically skilled, compassionate and holistic manner. This cannot be exclusively taught in the classroom. Students need to independently experience and research real-life situations to appreciate the holistic approach required to function as a competent health worker. The programme described in this article required that each student had to independently research a case study of any patient he/she personally radiographed

Programme objectives

It was hoped the following would be achieved:

- Explore a topic using a clinical experience.
- Reflect the type of experience a student is likely to encounter in practice.
- Stimulate self-directed activity and research.
- Locate and utilize information from a variety of sources [1].

On completion of the exercise the students were invited to participate in focus-group-interviews to assess the success of the programme in the form of a situation analysis. Traditionally case studies were designed to assist students in the study of decision making in business in which, a simulated or real problem, was presented, so that students' ability to think quickly, analyze events and identify underlying principles were tested [2]. In this learner-centred programme, case studies were not implemented according to traditionally accepted instructional strategies. The students were given broad guidelines and criteria. They were then required to holistically research everything about the patient and to then develop their own case study.

Model for the study

The students were required to include the following information with regard to the categories outlined in Figure 1.

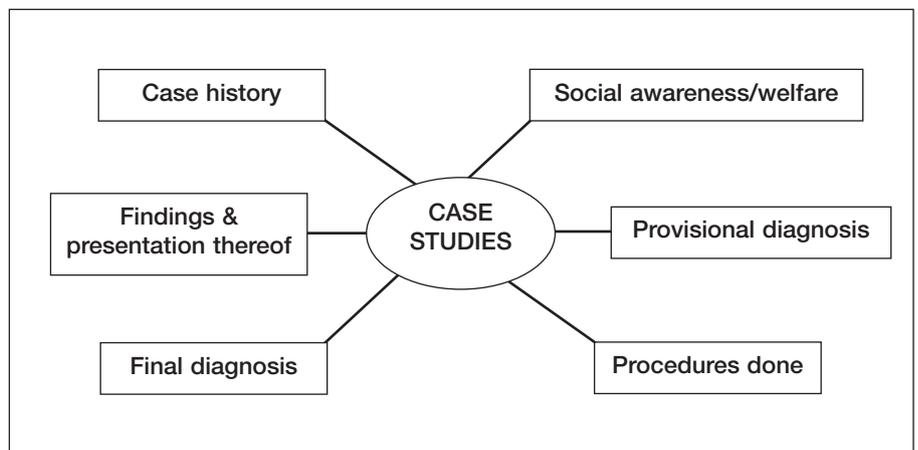


Figure 1: Model used in the study

Case history

- Patient information.
- Clinical history.
- Social habits which could have influenced the patient's condition.
- Provisional diagnosis.

Procedures done

- Non- radiographic examinations that were relevant to the case study.
- Radiographic and radiological examinations that were relevant to the case study.
- All terminology used in the case study needed to be explained by the student.
- The examinations the student were personally involved in.

Findings and presentation thereof

Each student, after having researched and recorded an account of the case study, was required to present the case to the class. The objectives the programme hoped to achieve were:

- To ensure the student recorded his/her investigative process and outcomes of the research and investigation.
- To integrate, evaluate and apply information researched.
- To learn to communicate information clearly.

Students were told the oral presentation took into account the fact that not all students were public speakers and were often nervous. This was important to convey to the students because English is many of the students' second or even third language. The students were encouraged to

use any form of audio-visual aids. There were no restrictions. To improve their knowledge of radiographic anatomy and pathology they were required to include radiographs which pertained to their case as part of their presentation media.

Social awareness

It was suggested the student should consider the patient's feelings and perceptions, social background and financial implications as result of the patient's condition, as topics for research, but no specific guidelines were prescribed. The object was to encourage the student to communicate with the patient, other members of the health team and, hopefully, in their presentations communicate their findings to their colleagues.

Provisional and final diagnosis

These were required to make the student aware that an initial diagnosis is not always the final diagnosis and that a comprehensive and holistic approach to a condition is often required. Their written account of the case study and oral verbal presentation were evaluated and contributed towards their year mark.

Focus-group-interviews

These were used to assess the success of the programme. Focus-group-interviews are planned discussions designed to obtain a perception on a defined area of interest in a permissive non-threatening environment [3]. The students who participated presented a diverse mix of cultures. Each group of students who participated in the interviews was asked to describe their experience. Students were asked how did they experience the case study researched and presented in terms of:

- Assessing the patient holistically.
- Improving social interaction with the patient.
- Improving personal professional behavior towards the patient.
- Acquiring knowledge and helping with the learning process.
- Identifying gaps in personal knowledge and ability to care for patients from different cultural groups.
- Case studies being used as a teaching strategy for other subjects.

The interviews were recorded and transcripts made of the interviews. The transcripts, which reflected the students' findings, comments, concerns, perceptions, suggestions and experiences, were decoded and broadly summarized into two main sections as depicted in Figure 2. The sections were in turn divided into

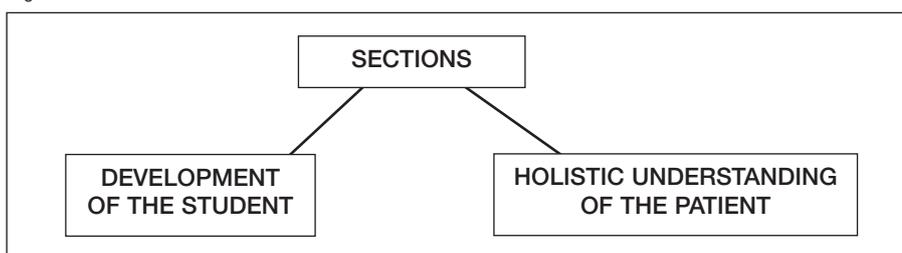


Figure 2: Focus group interview sections

categories and sub-categories. Each category is briefly discussed to highlight the information, skills and values the students appeared to have acquired as a result of the programme. The categories, which contributed to the development of the student were identified as (i) knowledge, (ii) motivation, and (iii) professional growth.

Development of the student Knowledge

The students identified

- Data collection,
- Learning techniques,

- Practical application of knowledge cultural diversity, and
- Subject knowledge as areas or methods that helped them acquire knowledge and assisted with the leaning process.

Comments expressed by the students included that by doing the research this necessitated them (i) having to refer to many books, (ii) asking people and doctors for information, (iii) speaking to the surgeons in the operating theatre, and (iv) taking photographs. These activities resulted in them cherishing the process more as it was their hard work which lead to their knowledge base being broadened. They mentioned they had learnt to recall information by association and link pathologies to patients and situations.

Motivation

It became apparent from the students' comments that taking research out of the classroom sustained motivation in terms of:

- Self motivation.
- Self-esteem.
- Social acceptance.

The students felt needed and respected. They were acknowledged by the patients which was more important than being acknowledged by the lecturer. The link between professional aspirations and subject content was achieved outside the classroom environment which contributed to enhancing the students' self-esteem. Comments such as: "I feel the patient developed more trust in you"; "You feel more professional"; "It develops you, it gives you confidence in your job"; "This case study helped me to identify I can care more", indicate that their research assisted in their development as professionals. No amount of classroom practice could have achieved this result.

Professional growth

In terms of their professional growth the students perceived the case study as an exercise which gave them the opportunity to improve their interpersonal skills with reference to:

- Communication.
- Listening skills.
- Interactive skills.

Interpersonal skills may best be taught (i) through critical thinking, and (ii) by using an interactive process. Researching and presenting a case study, according to the students, enabled them to be part of an active process and they unknowingly learnt

through critical thinking.

The following examples of their responses in the focus group interviews endorse this theory, "(i) I learnt to communicate another way, (ii) I think most of us have changed our attitude towards patients, (iii) you took more time to listen to what he said, and (iv) you learnt to feel what the patient feels".

Holistic understanding of the patient

The categories, which contributed to the holistic understanding of the patient, were identified as social interaction, addressing the needs of the patient, cultural diversity and understanding other cultures.

Social interaction and addressing the needs of the patient

The students perceived their social skills were enhanced by having to spend time with the patient. Unfortunately the time a radiographer spends with the patient is usually limited to the time it takes to complete the radiographic examination. During the focus group interviews the students continually referred to being given the opportunity to get to know the patients, understand their concerns, fears, needs and, to appreciate where they came from.

They also acknowledged that they needed additional skills to improve social interaction between themselves and the patients and to address the needs of the patient. Their comments cited below indicate that their independent research taught them skills or identified skills they lacked.

- "It taught us how to talk to them easily".
- "It taught us things we can apply to other patients".
- "You are more sensitive to the patient's needs".
- "You look at things differently".
- "I did not always know how to respond to their questions".

Cultural diversity and understanding other cultures

Cross-cultural training can be classified on the basis of two major dimensions namely experiential versus didactic [4]. The didactic approach is based on the assumption that a person has a cognitive understanding of another person's culture before they can interact effectively [4]. The depth to which cognitive understanding is achieved during the training of student radiographers is limited, to a degree, to the information given during theoretical presentations. This can be achieved by way of classroom practice. It does not include all aspects of cultural diversity and does not include all the interactive skills required to interact with all ethno-cultural groups. The theory via articles and lectures are available to students but few offer a

workable model for understanding and effective learning of diversity [5]. The experiential approach is best realized from direct or simulated experiences. Researching and presenting their case studies provided the students with this direct experience.

The students, through their case studies, identified some of the reasons for patients not returning for follow-ups, refusing treatment or an operative procedure, or arriving at the hospital with advanced stages of a disease. These encounters and knowledge taught the students to foster mutual respect and understanding as expressed by students:

- "It teaches you to have more respect".
- "I've learnt that culture has its own way of communicating".

As a result of the programme students identified gaps in the curriculum which they felt needed to be included or emphasized in their training, namely,

- Cross cultural communication. It was advocated that all students should be taught pertinent phrases in the different languages spoken in South Africa. There are eleven official languages.
- Communication. They felt that more emphasis should be given to the social etiquette of how to address different cultural groups, which in turn should foster mutual respect and understanding between cultures.
- Psychology skills. Students felt that on many occasions they did not know how to effectively deal with the patients' psychological needs or how to appropriately respond to their questions thus the students felt uncomfortable.
- Counseling skills. They identified the need to incorporate basic counseling skills as part of the curriculum.

These recommendations achieved the main objective of stimulating self-directed research and bridging the gap between research and classroom practice. Finding the best way to teach these soft skills and make the learning meaningful is not always easy. The fact that students identified the gaps as a result of their own research, we hope will make future students more receptive to learning these skills and, our jobs as educators easier.

Concluding remarks

To summarize, we need to assess whether the case study scenario as a learner-centred programme achieved the objectives it was designed for.

- The programme did allow the student to explore a topic using a clinical experience.

- The student had to have undertaken a radiographic examination on the patient thus it reflected the type of experience he/she is likely to encounter in practice.
- A written account of the case study the student researched had to be submitted and presented to the class. This ensured the student recorded his/her investigative process and outcome of the research/investigation.
- By only giving the student broad guidelines it allowed for individuality and stimulated self-directed research.
- The students were obliged to consult widely and use various methods to obtain information.
- By integrating, evaluating and applying the information gained whilst investigating their case study, it appears they developed as professionals, began to understand the patient holistically and identified skills they lacked.
- Through the focus-group-interviews they practiced situational analysis which allowed them to reflect on the programme and offer suggestions.
- They learnt to communicate information clearly both during the class presentations and in the focus group interviews.

If the above are considered, the case study scenario, as introduced in this learner-centred programme appears to have achieved the objectives the programme.

A learner-centred programme can bridge the gap between research and classroom practice provided:

- Freedom to explore the topic is given to allow for individuality,
- A platform for presenting the research is provided,
- Feedback sessions are encouraged, and
- The reward system is fair.

It is essential we create opportunities to encourage research and build research capacity at undergraduate level. This learner-centred programme has tried not only to bridge the gap between research and classroom practice but also to link the students' technological knowledge and expertise with their social responsibility to the community.

Acknowledgements

Dr. A Lotter: Supervisor

Mrs. M Gous: Co-supervisor

Mrs. J Cottrell: School of Medical Radiation Division of Health and Biomedical Sciences. University of South Australia.

The case study scenario is based on the research done for my Masters in Technology: Education. The student directed programme was developed around the concept of student centred investigation packages utilized by the School of Medical Radiation at the University of South Australia, Australia.

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