

**IMPACT OF THE CRITICAL THINKING COMPONENT IN THE
HEALTH EDUCATION MANAGEMENT OF NURSES**

by

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IMPAK KOMPONEN PEMIKIRAN KRITIS DALAM KURIKULUM PENDIDIKAN KESIHATAN JURURAWAT

ABSTRAK

Penyelidikan ini bertujuan untuk mengenal pasti impak komponen pemikiran kritis dalam kurikulum pendidikan kesihatan kejururawatan bagi pesakit yang mempunyai keperluan yang berbeza. Impak ini boleh dilihat dari segi skor pencapaian pelatih kumpulan eksperimen berbanding dengan skor pencapaian pelatih kumpulan kawalan melalui ujian pra dan ujian pasca. Selain itu, kajian ini juga bertujuan untuk mengenal pasti keberkesanan modul pemikiran kritis yang diberikan kepada kumpulan eksperimen.

Data bagi kajian ini telah diperolehi melalui gabungan dua kaedah iaitu kaedah kuantitatif dan kualitatif. Bagi kaedah kuantitatif, sejumlah 84 orang jururawat pelatih telah dipilih bagi mewakili kumpulan eksperimen dan kawalan di sebuah kolej perubatan swasta di Ipoh, Perak. Kedua-dua kumpulan pelatih tersebut telah didedahkan tentang pendidikan kesihatan dan latihan amali di wad-wad seperti yang ditentukan oleh kurikulum kejururawatan. Seterusnya, rawatan dalam bentuk modul pemikiran kritis yang mengandungi aktiviti-aktiviti berkait dengan kemahiran pemikiran kritis telah didedahkan kepada kumpulan eksperimen sahaja. Pada penghujung sesi tersebut, ujian pasca telah diberikan kepada kedua-dua kumpulan.

Selepas sesi kuantitatif itu, kaedah kualitatif telah digunakan. Dalam sesi ini, seramai 5 orang jururawat pelatih telah dipilih dan mereka seterusnya ditemubual sebanyak 2 kali iaitu sesi pertama selepas mengikuti rawatan dan sesi kedua selepas latihan amali yang dijalankan dengan pesakit. Selain daripada itu, temubual juga turut dijalankan dengan pesakit.

Semua data yang diperoleh daripada responden bagi kaedah kuantitatif telah dianalisis dengan menggunakan program Pakej Statistik untuk Sains Sosial (SPSS) versi 13.0. Statistik deskriptif, ujian-t dan ANCOVA digunakan untuk menguji hipotesis manakala data-data yang diperoleh melalui temubual telah ditranskripsi terlebih dahulu sebelum ianya dianalisis dan diinterpretasi mengikut persoalan kajian. Dapatan kajian dari analisis ujian-t dan ANCOVA menunjukkan bahawa terdapat perbezaan yang signifikan pada pencapaian di antara kumpulan eksperimen dan kumpulan kawalan. Dengan kata lain, dapatan ini menunjukkan bahawa terdapat impak komponen pemikiran kritis dalam kurikulum pendidikan kesihatan kejururawatan yang signifikan.

Data yang diperoleh bagi kaedah kualitatif menunjukkan bahawa 5 jururawat pelatih dapat mendemonstrasi kemahiran memikir semasa latihan amali. Pesakit mereka pun dapat menyuarakan pandangan dan persepsi masing-masing. Jururawat pelatih juga berasa pemikiran mereka telah bertambah baik selepas pendedahan pada modul pemikiran kritis.

IMPACT OF THE CRITICAL THINKING COMPONENT IN THE HEALTH EDUCATION MANAGEMENT OF NURSES

ABSTRACT

The purpose of this research is to study the impact of the critical thinking component in the health education curriculum of nurses for patients with different health needs. This impact can be seen when the scores of the student nurses in the experiment group are compared with those of the control group which is determined by pre and post tests given to them. This research is also aimed at establishing the effectiveness of a critical thinking module that was given to the experiment group.

Data for this research was gathered from 2 approaches, namely; the quantitative and qualitative approaches. For the quantitative approach 84 student nurses were selected to represent the experiment and control groups in a private medical college in Perak. The 2 groups of students had been exposed to health education and clinical training in the wards as determined by the nursing curriculum. Following that, a treatment in the form of a critical thinking module which consisted of critical thinking – related activities, was only given to the experiment group. At the end of this session, a post test was given to the two groups.

Following the quantitative session, the qualitative approach was used. In this session, 5 student nurses were selected and they were interviewed for 2 times, the first session was after the treatment was given and the second session was after clinical training with the patients. Besides these interviews, the patients concerned were also interviewed.

All data obtained from the respondents for the quantitative approach was analyzed using the Statistical Package of Social Science (SPSS) version 13.0 programme. Descriptive statistics, t-test and ANCOVA were used to test the hypothesis while data obtained through interviews were transcribed before it was analyzed and interpreted in accordance to the research questions. Findings from t-test and ANCOVA showed significant difference in the achievement between the experiment and control groups. In other words, these findings showed that there was a significant impact of the critical thinking component in the health education curriculum of nurses.

Qualitative data findings showed that the 5 students demonstrated thinking skills during their clinical training. Their patients too voiced individual views and perceptions. The students also felt that their thinking had improved after their induction to the critical thinking module.

CHAPTER 1

INTRODUCTION

1.0 Introduction

Patients and their families have a right to health education in order to make intelligent, informed decisions about their health. Effective health education is essential for the increasing number of patients and to minimize the effects of preventable diseases. Shorter hospital stays, increased demands on the nurses' time, an increase in the number of the chronically ill and the need to give patients concise and meaningful information in the shortest time possible emphasize the importance of quality health education (Ramli A.S. & Taher, S.W. 2008). The general public has become more assertive in seeking knowledge and understanding of their health status and the resources that are available. Well designed comprehensive teaching plans that fit in to the patients' learning needs can reduce health care costs, improve quality of care and help patients gain optimal wellness as well as an increase in independence (Cooper, 2001).

The Ministry of Health and the Nursing Board of Malaysia had realized the importance of health education and had integrated the teaching of health education into the basic nursing curriculum (*Kurikulum Jururawat* 1996). However, the focus of health education in this basic nursing curriculum is only in the community health nursing discipline where 14 hours have been allocated for the imparting of knowledge on health education (Appendix 1). Health education is only touched upon as part of general nursing interventions in the

other nursing disciplines on a “touch and go” basis. The theory content of health education especially on patient survival skills such as injection techniques and diet education is given more focus. Thus, the impact of the health education delivered was compromised without due consideration for the patient in his reality setting.

The nursing curriculum of a private medical college had been built upon the nurse training curriculum of the Ministry of Health and the Malaysian Nursing Board with certain aspects being updated and modified (Document 3, Detailed Educational Programme, 2004). Among the improvements made was in the area of health education. However, even with the amendments made to the curriculum, critical thinking aspects for the students to impart meaningful health education based upon individual patient needs still had not been given enough focus (Appendix 2).

1.1 Background of the Study

Today’s patients are becoming better consumers of health care. With internet access patients are becoming responsible for their own health maintenance, modifying their behaviour and managing chronic diseases with complex therapeutic regimens (Rankin, Stallings & London, 2005). Patients demand to know more about their health conditions and treatment through health education as they know it is their right to participate in decision-making regarding their own health care.

Health education is an integral part of quality health care. It is necessary to address all the patients' health needs including their need to know about specific disease conditions and their management in hospital or at home. Health education is also the means where nurses help patients improve and maintain health by using a wide range of teaching strategies to achieve the goals of changing health behaviours, attitudes and social circumstances (Ewles & Simnett, 1999).

Generally nurses too seek to deliver holistic care for their patients. However, where the delivery of health education in nursing practice is concerned, much needs to be improved. The general notion nurses have is that if they have done their job of informing their patients and their families about the essentials of staying alive and away from hospital, they have carried out health education successfully (Rankin & Stallings, 1990). There is usually no follow-up on the effectiveness of the health education given. Its impact is only known when the patient is readmitted for the same complaint or when his or her disease condition has deteriorated and complications have set in.

This scenario is evident in a study carried out by Norwahida Ruzlan, Hairne Yanti Abdul Halim and Nurulaidah Ali (2006) on 30 hypertensive patients and their awareness pertaining to their medication taking. Findings indicated that although health education had been carried out, it had not achieved an effective level among their respondents. 26.7% respondents had not followed medical instructions and that a high percentage of respondents did

not know about the side effects of the medications they were taking. Study findings also indicated that even though all were told about their disease conditions, the importance of medication taking was perceived only by 16.7% of the respondents. It could be assumed then that even though health education was given as a matter of routine, the emphasis on its importance did not seem to get communicated to the respondents (Norwahida Ruzlan, Hairne Yanti Abdul Halim & Nurulaidah Ali, 2006). In another study on the knowledge of mothers pertaining to breast feeding, similar findings were obtained. It was found that although 86.7% of the thirty respondents were given health education, 20% of them did not know when to initiate breast feeding and 30% did not know about breast care should problems arise in that area. Generally, the study findings had indicated that knowledge on breast feeding was not satisfactory (Aisah Rodiah Mohd. Zahid, Nik Nurani Nik Muhammad Kamil & Norasmat Abdul Samad, 2006).

Further evidence was shown where the teaching of health education was concerned. 37 nursing students of a private medical college were assessed on the giving of health talks on the diet intake for a patient with chronic renal failure, by trained staff nurses from a government hospital functioning as external examiners for the students' final semester clinical examination. Only 24% students passed that task. Among the performance weaknesses identified was that the content of the health talk the students gave was not specific to the patient's disease condition (*Keputusan OSCE*, Semester 4, 2006). Though there could be other causative factors for this

situation, it indicated that the students may not be able to think critically if they were to face that kind of nursing situation in the ward setting.

In a survey on home care carried out by Leong Sau Liang (2005) it was found that respondents and their families were not given adequate or clear information which they could understand pertaining to their after - care at home. It was also found that they generally preferred health education to be given to them by the nurses in their own home settings rather than in the hospital set-up.

It appears that the way how health education is being communicated to the patients and their families, the level of patient understanding and other individual socio-cultural factors could have influenced the impact of the health education delivered. All these factors should have been considered critically, looking into its overall implications.

1.2 Problem Statement

Considering the above factors related to the current health education management, it indicated that much need to be carried out to improve the quality of health education management. To begin with, before the nurse can carry out effective nursing functions including health education delivery, she has to be equipped and trained with the appropriate knowledge, behaviours and attitudes in order to promote health, help prevent diseases and care for the sick through nursing education (Document 3, Detailed Educational Programme, 2004).

In the nursing curriculum, health education is only allocated 14 hours in which the nurse teacher has to explain, describe and discuss the different aspects of health education. Students are given minimal time to prepare and present health talks as group activities. Standard disease specific formats on health education are discussed and students are expected to follow those formats during their health education delivery in the clinical setting. The students are not taught how to assess and think critically to deliver health talks tailor-made for patients with different needs. Besides this, there is also the critical lack of experienced and trained nurse educators. From my observation as a nursing personnel, this situation was aggravated by a drain of experienced and trained nurses to the more lucrative oversea markets (S.L. Chua, 2004). Fresh nursing graduates who lacked clinical experience were employed to fill up nurse educator vacancies. They transferred nursing knowledge only according to the curriculum but they lacked the clinical experience they should have. Once student nurses had completed their theory component, they were expected to know how to transfer theory into practice by delivering it effectively to their patients and their families as each situation arose. However, this did not appear to be the case as evidenced in some of the studies carried out (Norwahida Ruzlan et. al., 2006; Aisah Rodiah Mohd. Zahid et. al., 2006).

Student nurses are expected to be able to co-relate nursing theory to nursing practice in the clinical set-up. Bandura (1989) had proposed that individuals learn from observing and imitating a model's behaviour. Therefore, the student nurses would have learnt their clinical nursing skills through

observing role models in their nurse teachers and trained staff nurses in the clinical settings. For example, they learn and remember how to carry out a health talk by observing their teacher demonstrating one in the clinical skill laboratory. When required as during a practical posting in the ward, the student nurse is expected to be able to demonstrate a similar nursing activity through her observations and practice sessions when learning nursing theory. However, not all nurse teachers and trained staff nurses are exemplary role models, resulting in the student nurses “catching” the wrong behaviour or attitudes. This is undesirable and can affect the quality of nursing care as student nurses generally do not question or think critically the appropriateness of an action in specific situations. This makes one ponder as to the degree of critical thinking development that these trained staff had had undergone. If the nursing curriculum had not placed enough focus on developing thinking skills in nursing practice in general and health education management in specific, then the weakness seemed to be in this aspect.

To develop the student nurse’s cognitive thinking further, Reeves(1996) agreed with Vygotsky’s postulations that learning depends upon the individual constructing his or her own understanding of the new information through social interactions in the context of his or her culture which in this case was the nursing culture. He also suggested that students learn even better with help from others such as their teachers and peers. But in today’s nursing scenario, the lack of experienced and well trained nurse clinicians to help guide student nurses in health education management and clinical practice is worrying and may have

accentuated the lack of critical thinking skills cultivation among student nurses.

Besides the teaching – learning process, other vicarious aspects could be contributory to the ineffectiveness of health education outcomes. If the health education carried out is ineffective, one would have to reconsider the way it is being communicated to the patients. Barriers to effective communication could have occurred between sender and recipient taking into consideration the messages conveyed as well as the communication channels used (Kozier, Erb, Berman & Snyder, 2004). Other aspects include patient understanding of the health education content which could be due to differing perceptions since they are individuals from different socio-cultural backgrounds. Moreover, most nurses tend to teach too much within a short period of time resulting in their patients being overwhelmed with information prior to discharge from hospital. Since nurses are usually hard pressed for time to give proper health education, they tend to concentrate only on survival skills such as injection techniques, dietary requirements and signs and symptoms of disease recurrences. The patient's reality problems, reinforcement and evaluation of learning goals are often overlooked.

From my personal experience as a nurse for the past 34 years and with the findings of some local studies (Norwahida Ruzlan et.al., 2006; Aisah Rodiah Mohd. Zahid et.al., 2006), it may be assumed that nurses' attitudes towards patient education especially on home care remain lacking. Student nurses usually practice health education on a trial and error basis as well as

learning from their seniors. This could be due to the fact that not enough emphasis is focused on this important aspect of care in the nurse training curriculum (*Kurikulum Jururawat*, 1996). During nurse training, this subject is just dealt with on a superficial level, expecting the students to perform well when they qualify to be trained staff nurses later on. This could have resulted in a negative impact on the nurse towards the imparting of effective health education to his or her patients. Coupled with a lackadaisical attitude, it could also have resulted in the nurse not managing health education for her patient as according to his or her needs but instead merely carrying out routine medical instructions sufficient only for patient survival and health maintenance. Special emphasis on certain aspects of health care may not be stressed upon resulting in their patients not placing enough importance on these aspects of care. An example is the study on medication awareness whereby the emphasis was lost on the patients even though health education had been given (Norwahida Ruzlan et.al., 2006). Patient needs may be overlooked as the health education content conveyed may be what the nurse wants to tell her patient but may not be what the patient wants to know given the reality of his or her situation. For example, the specific diet requirements for patients with diabetes mellitus to take certain foods. From the socio-economic aspect where diabetic patients of low economic standing are concerned, the priority would be for them to fill their stomachs resulting in their diets containing more carbohydrate than other classes of nutrients. Diet counseling and modification may be more appropriate under the circumstances. This awareness of patient needs could only be discovered if the health educator has thought critically and

has considered factors such as socio-economic background and values influencing the patient's health behaviour.

Other factors could also have played contributory roles to ineffective health education management such as the tight time schedule of nurses and the nurses' own values but it cannot be denied either that generally, there is a crucial need for nurses to think critically through all aspects of nursing practice. Therefore, I chose to carry out this study specific to the critical thinking component and its impact on the health education curriculum of nurses as otherwise a broader enquiry would be beyond the scope of this paper.

It is assumed that the nurse, having undergone the required three years in training, has acquired the necessary basic nursing knowledge and clinical nursing skills for nursing practice as forwarded in Vygotsky's theory of learning (Schunk, 2000). However, the nurse may not have acquired the higher order thinking skills as expected during the learning process. He or she may still be able to function as a good practical nurse and has no difficulty in following instructions. However, he or she may experience difficulty when critical thinking skills are called for in problem solving.

Since student nurses are future staff nurses, I chose to establish the presence of critical thinking among student nurses which they should have possessed and utilized when managing health education for their patients. I hoped to be able to generalize the findings of my study on student nurses of a

local private medical college to those of other nursing colleges so as to indicate a need to review the teaching of the subject as it was crucial to develop the critical thinking ability of nurse students which would help them not only when managing health education but also in other aspects of nursing care.

1.3 Aim of the Study

As the nursing curriculum is extensive, I feel that the emphasis given to the area of critical thinking is inadequate as student nurses tend to carry out rote-learning in order to pass nursing examinations which would result in good passing rates but may compromise on the quality of nursing care rendered by these nurses. In this study, I focused only in the area of health education management as I felt that among the many subjects taught in the nursing curriculum, effective health education exerted a great impact on patient care.

This study aimed to establish the presence of critical thinking of student nurses when managing health education for their patients with different needs. I examined the impact of a critical thinking module which consisted of activities pertaining to critical thinking skills through an analysis of the student's own clinical experience. I interviewed the students after the treatment had been given and after observing them conducting health educational activities in the form of health talks. Their patients too were interviewed in order to get their perspectives of those talks delivered by the student nurses concerned.

I carried out a pretest on all year 2 student nurses of a private medical college. A critical thinking module was delivered to a group of these student nurses who constituted the experiment group, after which a posttest was carried out on all the year 2 student nurses to establish the impact of the critical thinking module on those student nurses in the experiment group. I believe that every student do carry out some kind of thinking in whatever they do. It is only that their thinking may not have crystallized and is unstructured which result in their presenting health education talks in a haphazard manner. I also introduced the critical thinking module which helped to crystallize the thinking among these student nurses.

To establish the effectiveness of this instructional strategy in nursing practice, I interviewed 5 student nurses with the top 5 highest marks from the pretest scores to obtain their views on the critical thinking module that I had developed. These student nurses were observed when carrying out a health education activity by giving health talks to their patients. A post activity interview was carried out on the same students to get their opinions regarding the application of their critical thinking ability when carrying out the health talks. To provide a more in-depth view, their patients were interviewed to get their views and opinions regarding the health talks carried out by the student nurses concerned.

1.4 Research Questions

The research question in this study was to establish the impact of the critical thinking module in health education management. I carried out a quasi-experiment for the purpose of my study. Basing on my problem statement, I obtained answers to the following questions;

- i. Was there an impact of the critical thinking module on the achievement of the posttest scores between the experiment and the control groups?
- ii. How was critical thinking practiced in the delivery of health talks after having attended the critical thinking module?
- iii. What were the perceptions of the recipients of the critical thinking module through health talks?
- iv. What were the perceptions of the student nurses towards the practice of critical thinking after having undergone the critical thinking module?

1.5 Hypotheses

To answer some of the research questions, I had generated the following hypotheses:

H₀ 1: There is no significant impact of the critical thinking module on the achievement between the experiment group and the control group.

1.6 Significance of the Study

I am working in a private medical college which conducts the medical and allied health programmes. I am a member of the Curriculum Committee of the nursing department and am involved in the development of the nursing curriculum at my college.

The diploma in nursing curriculum of my college was developed using the credit system format and had been accredited by the Accreditation Board of Malaysia since 2004. However, this curriculum is due for a review in 2009. The findings of this study will contribute towards this curriculum review. The current health education component of the diploma in nursing curriculum of my college consisted only 9 hours theory. Its content only covered structural aspects such as the different approaches to teaching health education and the various factors causing resistance to learning. The aspect of how to consider individual patient factors such as considering their views on health and family support was omitted. There was no emphasis on the development of critical thinking skills in health education for the students (Appendix 2). Therefore, data findings from this study could be generalized to support the need to improve the curriculum in this aspect for the next curriculum review.

With the intended publication of the study findings, I hoped that it would impact upon the nursing curriculums of other colleges so that generally on the whole there was more focus on the development of critical thinking skills

among student nurses, hence contributing to an overall improvement of nursing standards of the country.

1.7 Limitations of the Study

I carried out a quasi - experiment using the nonequivalent control group design involving two groups of student nurses who were pretested, administered a treatment and then posttested. The success of the treatment was determined by comparing the pretest and posttest scores, health talks and interviews. As such, the following limitations had been identified;

- a) This study was only carried out in a private medical college. The study findings did not reflect the situation in other private medical colleges.
- b) The findings of this study was the effectiveness of the critical thinking module which was carried out on year 2 student nurses of a private medical college. As such, the findings from this study could not be generalized to other nursing students of other levels in the same college or other private medical colleges.
- c) The subject under study was on health education management and as such, the study findings could not be generalized to other subjects in the nursing curriculum.

1.8 Definitions of Conceptual Terms

This section discussed the definitions of conceptual terms for this study.

Among the terms used were as follow:

a) Critical Thinking

Critical thinking in the nursing context, refers to the knowledge and awareness of purposeful, informed reasoning, both in and outside the clinical setting (Alfaro-LeFevre, 2004).

b) Health Education Management

These are health related activities promoting wellness behaviours and the preventing of diseases which are focused on groups and communities (Alfaro-LeFevre, 2004). These activities are ranked in priority according to the patients' learning needs and the contents of these activities are determined by the learning outcomes. It can be conducted informally as basic as the exchanging of information during a conversation or is planned, structured and directed towards specific topics and goals as in formal health education (Kelly-Heidenthal, 2003).

c) Student Nurses

These are student nurses who are undergoing the three years Diploma in Nursing programme. Related nursing knowledge and clinical exposure for these student nurses are carried out in stages which are relevant to the year of training they are in.

d) Nursing

Nursing provides a service whereby the nurse aims to promote, maintain and restore the optimum state of health for each individual with her role in the health care team being to provide holistic health care in a variety of settings (Document 3, Detailed Educational Programme, 2004). Their objectives include the promotion of health, prevention of illness, alleviation of suffering, restoration

of health and optimum development of health potential using the nursing process (*Lembaga Jururawat Malaysia*, 2006).

e) Diploma in Nursing

This is a three year programme in basic nursing which provides comprehensive preparation and a sound foundation in nursing knowledge and skills preparing the nurse to assume responsibility and accountability as registered nurses, to apply knowledge and skills and demonstrate the right attitudes to meet nursing needs of individuals and families in wellness or in sickness in the area of practice and to be competent and safe nurse practitioners (*Lembaga Jururawat Malaysia*, 2006).

f) Nurse Education

Nurse education consists of the theoretical and practical training provided to nurses with the purpose to prepare them for their duties as nursing care professionals. This education is provided to nursing students by experienced nurses and other medical professionals who are qualified or experienced for these educational tasks (deWit, 2005).

1.9 Definitions of Operational Terms

For the context of my study, I define the following operational terms:

a) Thinking Tools

The CoRT method (de Bono, 1972) of teaching thinking skills is made up of seven thinking tools, namely P.M.I (Plus, Minus, Interesting), C.A.F. (Consider All Factors), O.P.V. (Other People's Views), F.I.P. (First Important Priorities), A.G.O. (Aims, Goals, Objectives), A.P.C.(Alternatives, Possibilities,

Choices) and C & S (Consequences & Sequel). These tools will help one to think in only one direction at a time to avoid confusion if one should think in all directions at any one time.

b) Critical Thinking

I refer to the critical thinking expounded by Paul (1993) for the purpose of this study. It consists of eight elements of thoughts which include the gathering of information, the purpose of thinking, question at issue, points of views, interpretations and inferences, making assumptions, using concepts as well as the implementation of decisions made and its consequences.

c) Health Educational Management

These are interactive learning processes delivered through various health related activities promoting wellness behaviours and the preventing of diseases (Alfaro-LeFevre, 2004). Since many strategies could be used to deliver health education, I choose the delivery of a one-to-one health talk as part of the assessment of the effectiveness of the critical thinking module in the students as this is the most common approach used among the trained nurses when delivering health education to their patients.

d) Student Nurses

The 2 groups of student nurses in this study are currently in year 2 during the duration of the study. All these students are chosen as the subject of health education has been taught in year 2. These students have already been given the theory input for health education and have had the experience of carrying out health education for their patients in the clinical setting (Document 3, Detailed Educational Programme, 2004).

1.10 Scope of the Study

This study combined a quantitative and a qualitative approach to establish the presence of critical thinking of 2 groups of year 2 student nurses undergoing the Diploma in Nursing programme at a private medical college in Perak. The 2 student groups made up the control group and the experiment group.

Written permission was obtained from the college management prior to commencement of the study. Local vignettes pertinent to critical thinking in health education were given out to the 2 groups of nursing students involved in the study to pretest them in order to establish the presence of critical thinking.

A critical thinking module was developed and used to consolidate the student nurses' thinking tools and to initiate the students' beginning skills in critical thinking in the experiment group.

After the delivery of the critical thinking module, 5 students in the experiment group with the top 5 highest marks in the pretest were selected to be interviewed to obtain their feedback on the critical thinking module. The same pretest instrument on critical thinking in health education was then given to the control and experiment groups of students as a posttest 10 weeks after the delivery of the critical thinking module in considering the memory factor in the students of the 2 groups. The results of these 2 tests were then compared

to establish a connection between them.

The same 5 students who had been selected earlier were interviewed to get their views on the critical thinking module. They were also requested to carry out a health education talk with one patient each. They were observed and their health talks audiotaped. These same students were also interviewed after their health education talks with their patients to assess their perceptions of what they had applied in their health talks in relation to the critical thinking that they had learned through the critical thinking module. The same 5 patients involved were also interviewed to establish their views on the health education talks that had been carried out for them.

1.11 Summary

Health education has a very important role in the health care delivery system in reducing the number of hospital admissions and in minimizing the effects of preventable diseases. However, even though its importance is acknowledged, it is not really fully implemented effectively as the micro aspects of delivering effective health education such as the critical thinking required to assess individual patient needs is not emphasized upon. The teaching of health education is already included in the nurse training curriculum but I feel that it is inadequate and I agree with Alfaro-LeFevre (2003) that if the higher - order thinking skills of critical thinking is taught as well, student nurses should be able to deliver health education as according to individual patient needs. Hence, it

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Thinking skills are often taken for granted and critical thinking skills are only useful when situations require one to solve problems, make decisions or decide what to believe or what to do. But all these situations that require thinking and decision-making is just what everyday living is all about. It is only when the thinking is blocked or misconceptions lead to wrong answers that its importance is felt.

Thinking skills focus on providing the individual with the tools necessary to acquire knowledge and then transferring that knowledge to everyday tasks. This is meta-cognition which allows the individual to be aware of the thinking process and develop general thinking skills that can be applied to the acquisition of knowledge in new domains. The purpose of thinking is, therefore, to achieve understanding, evaluate viewpoints and solve problems. In the field of nursing, trained staff nurses are assumed to have acquired thinking skills as they have undergone basic nurse training for three years. However, this may not be the case as it depends on the individual nurse's capability to capture these cognitive skills. Moreover, as a trained nurse educator, I feel that there is not enough focus placed on the acquisition of these skills in the nursing curriculum (*Kurikulum Kementerian Kesihatan Malaysia*, 1996; Document 3, Detailed Educational Programme 2004).

2.1 General Thinking

Thinking and cognition are words that are used interchangeably as thinking can be described as conscious mental processes that are used to manipulate mentally all the sensory information that one's brain has received in order to do activities such as classify, evaluate, sort, question, analyse, sequence, solve problems, create, explore, enquire, decide and ask questions in order to formulate thoughts, reasons or judge the sensory input received. But what actually constitute the essential thinking skills? This is a difficult question as there is no one existing taxonomy which could be used to describe them. Having considered all perspectives of thinking, Costa (1991) has designed a model of general thinking skills which involves five common aspects, namely: causation, transformation, relationships, classification and qualification.

- a) Causation: This is when one is able to assess the cause and effect of a situation and is able to establish or predict the outcome of that situation.
- b) Transformation: This is when new meanings or implications are created when analogies are applied to a specific situation as the individual is able to induce logically according to the context of the situation presented.
- c) Relationships: The individual is able to analyze the individual roles of the components or parts of a situation and at the same time is able to see the overall situational pattern. Logical deductions are used to apply a kind of order and sequence to the flow of one's thoughts.
- d) Classification: The individual will group and sort out common characteristics or differences of a situation in order to be able to compare it with other situations.

- e) Qualification: This is when the unique characteristics of a situation such as the facts or problem presented are identified and recognized.

Base on the individual nurse's experience and previous learning, he or she is assumed to possess these general thinking skills though he or she may not be aware of them since these skills are not clearly spelt out as there are no instructions or guidance in the usage of these general thinking skills. Where health education is concerned, these thinking skills may not be utilized since as far as the nurse's perception is concerned, health education may be just a routine repetition of medical instructions and directives. The individual patient needs are not critically analyzed or focused upon resulting in a lack of patient health compliance. Thinking therefore, is critical when it evaluates the reasoning behind a decision, in this case, the decision to give health education to the individual patient .

2.2 Application of Critical Thinking in Nursing Practice

The traditional general thinking skills may be used to analyze, judge and argue on an issue. These skills may be adequate in dealing with standard situations with standard solutions. However, in the fast paced nursing environment, these standard solutions may not be sufficient and call for the need for thinking as a deliberate act rather than as a reactive behaviour for the nurse as he or she needs to view each situation as unique and hence needs to be considered in toto, giving rise to the need for critical thinking. Moreover, according to Martin (2000), critical thinking and decision-making have been