CHAPTER II

LITERATURE REVIEW

Review have been done to elicit any concept or studies in the area of quality, quality indicator, system perspective, Bachelor of science (BS) nursing education system, future research including Delphi research technique, Ethnographic Future Research (EFR) and Ethnographic Delphi Futuristic Research (EDFR).

Quality

The eight edition of The Concise Oxford Dictionary (1990) defines quality in seven senses: 1) degree of excellence; 2) general excellence; 3) distinctive attribute; a characteristic trait; 4) relative nature or kind of something; 5) timbre of voice or sound; 6) high social standing; 7) logic- the property of a proportion being affirmative or negative.

The word quality has been derived from Latin word "quails", meaning, "what kind of". With a wide variety of meanings and connotations attached to it, quality is a difficult and elusive term to define and it has a wide variety of meanings. The word implies different things to different people and been defined with different perspectives and orientations, according to the person, the measures applied and the context within which it is considered. From the perspective of the users, the product or the service-based definition is more useful. From the perspective of the organization providing the service, the process-perspective is more useful.

In the management literature, the term quality has different meanings and has been variously defined as fitness for purpose or use (Juran and Gryna, 1988), Conformance to requirements (Crosby, 1979), defect avoidance (Crosby, 1979), meeting customer expectations (Psuraman, 1985). Quality is combination of perspectives, as in Ellis' definition (1993): quality refers to the standards that must be met to achieve specified purposes to the satisfaction of consumers. . Broth (1982)

brought another definition of quality as the degree of excellence at an acceptable value and the control of variability at an acceptable cost. And W. Edwards Daming (1986) proposes the most popular definition of quality: quality is the reduction of variance or continuous improvement.

Those definitions are worth considering together, they are complementary since each emphasizes a particular point which is only implicit in the others. In Juran, it emphasis the totality of quality considerations which together satisfy all needs, whether these are expressed or taken for granted. The Crosby's definition implies that the customer's requirements can be recorded, conformance to the requirements investigated independently and hence measured.

People's attitude towards quality differs from country to country, being shaped by a country's unique culture, history, and experiences. Germans think quality as meeting standards; the French relate it to luxury; the Japanese relate quality to perfection; and America' idea of quality is "that it works". They explain this as archetypes that is the underlying structures and pattern of a given culture, they represent with that culture pre-organizes the way people in it faction for their own survival. Archetypes exist in the mind below the level of consciousness; they represent the culture cognitive structure that is available to individuals in a particular culture. (BurrillCW and Ledlter, 1999)

Quality indicator

The term quality indicator gives an impression of something tentative, and used to guide decision about quality. Cave, Hanney and Kogan (1991) define quality indicator as an authorative measure, usually in quantitative form, of an attribute of an institution or condition. It might be ordinal or cardinal, absolute or comparative. A cardinal measure would be of fundamental or primary importance, whereas an ordinal measure would be of a specified order within a series of measures. In reality not all attribute could easily being measure quantitatively such as teacher – student relationship.

Jaeger (1978) concluded that indicators are all variables that represent the aggregate status or change in status of any group of persons, objects, institutions, or element under study, and that are essential to a report of status or change of status of the entities under study or to an understanding of the condition of the entities under study. It would not require that reports of status or change in status be in quantitative form, for narrative is often a better aid to comprehension and understanding of phenomena than is a numeric report. Nevertheless, Jaeger's recommendation to leave the definition an indicator open and to determine the status of potential indicators on pragmatic rather than strict definitional grounds is a wise one. Jaeger proposes the following working definition as a heuristic guide: An indicator is an individual or composite statistic that relates to a basic construct in education and is useful in a policy context. An indicator of teacher quality might be some aggregate of years of academic training in the discipline thought; possession a credential in the subject matter thought; measured subject-matter knowledge; measured pedagogical knowledge; measured ability to translate subject-mate knowledge into a form that communicates to students of a given age, background, and prior knowledge.

National indicators should be conceived of as something more comprehensive than a time series of educational outcomes. Education policy indirectly influences outcomes by actions such as increasing standards for teacher certification. The direct effects of these policies will be reflected in changes in teacher qualifications, in better matches between teachers' subject-mater and pedagogical training and their teaching assignments, and in the number of academic courses students take in the education (Richard, 1992).

Richards (1992) noted that National indicators must represent, at least roughly, the important components of an educational system. In addition to monitoring outcomes, indicators should reflect the characteristics of students and communities served by the institutions, the financial and human resources (especially academic staff) and other educational inputs. They should reflect the adequacy of the curriculum and instruction received by students, the nature of the institution as

organizations in pursuit of educational excellence and equity, and other educational processes. It also has to relate to one another so that their relationships, and changes in these relationships, can be ascertained to suggest possible explanations for observed changes in outcomes.

A good education indicator is expected to provide accurate and precise information to illuminate the condition of education and contribute to its improvement. The information generated will be neither possible to grasp through casual observation nor generally available from others efforts to collect, report, and analyze data about education institution. Indicators thus expected to assist policymaker as they formulate educational goals and translate those into actions. Basically indicator could describe and state problems more clearly. To signal new problems more quickly, to obtain clues about promising educational programme and the like. Indicators could not used to set goals and priorities, to evaluate programme and to develop balance sheet (Richards, 1992).

St. Leger (2000) proposes five guideline or characteristics to be consider in developing quality indicators, as follows:

1. Give useful data and add value
2. Are within the boundaries of influence of the programme
3. Add to knowledge and understanding about how the programme is Implemented
4. Involve and related to the key stakeholders
5. Represent the important elements or fields

St. Leger (2000) also mentioning the important of clear and acceptable indicator to the key stakeholders for the purpose of sustainability of quality practice. Campbell (2000) during his study on health indicators identified that indicators are not measure of poor performance, rather it identify potential problems that may require investigation by other methods, usually audit or it indicate potential problems that might need addressing, usually manifested by statistical outliers. This is also inline what Zimmerman (2002) state regarding the use of indicators which is to

identify areas in the institution that need review for improvement. The indicators developed for the Center for Health Systems Research are being called a success for measuring quality.

In different approach Campbell et al (2002) stated that indicators are explicitly defined and measurable items which act as building blocks in the assessment procedures. They are statement about the structure, process or outcome and used to generate subsequent review criteria and standards, which help to operationalize quality indicators. Therefore, in the development of certain indicators, information on structure, process or outcome should be clear. Campbell (2002) also elaborates the different of indicators, guidelines and standards. Indicators relate to services provided, measurable element of activities for which there is evidence or consensus that it can be used to assess the quality, and hence change the quality of service provided. Standards refer to the outcome specified within this indictors or the level of compliance with indicator.

Quality indicator, could also classified as efficiency indicator, effectiveness indicators and economy indicators and this are applied to educational input, process and outputs. The indicator will be used to judge the quality of education within an institution and are applied to a wide range of general attributes of the system. Therefore in the development of quality indicator, the general attributes of each subsystem should be identified initially. (Quin, 1995)

Cave, Hanney and Kogan (1991) highlight some of the problems in using quality indicator in higher education. For those quality indicator that are difficult to measure may be given a lower priority; for example, teaching is a much more difficult activity to measure accurately than a research, and this could lead to a shift in emphasis from teaching towards research.

Typically, an indicator is understood as a source of information or measurement used to gauge or track factors that make up a social system. Indicators often are statistics used to monitor conditions that may not be apparent to most observers.

The purpose of indicators is"...to characterize a system through its components, how they are related and how they change over time."(Shavelson, McDonnell, & Oakes, 1991, p.1). Such information provides a form of accountability, particularly in social policy where leaders (such as elected officials) are expected to keep stakeholders informed and to be responsible for the effects and consequences of their (the officials) policies and practices.

Indicators are not restricted to accountability concerns; when monitoring a system's component or its direct impacts, indicators provide information that can be used to improve the system. Such indicators (although not always termed thus) have long been part of program evaluation; it is the concept of accountability that characterizes renewed interest in educational indicators.

The difference between these two interpretations of "indicators" warrants further elaboration. From a program evaluation perspective (where the purpose of the evaluation is to improve the program), a useful indicator is one that provides specific information regarding specific aspects of the program that can be changed. To be useful, information regarding these indicators must evidence consequential validity: that is, when program changes are based on the indicators, improved student skills result.

In this context, effective indicators are those which directly measure system component; provide specific (preferably, criterion-referenced) information; and are based on sound theoretical or empirical networks which relate the system's inputs, component and outcomes. That is, to effect improvement, we must know what specific variables to change and how and what specific variables will be affected.

As well, an indicator program must be explicit as to how measurements are to be taken. Camilli and Firestone (1999) pointed out the problem of value judgments associated with developing and interpreting indicator information and danger of interpreting indicators as having a causal or explanatory power that goes beyond the simple descriptive nature of an indicator.

One potential limitation of an indicator system is the relationship or more accurately the confusion between indicators and standard. Identification of input, process and outcome indicators includes that tacit assumption that there is clear expectation with respect to the indicator. Indicators are not by definition standards; however it is quite possible that indicators could be translated into expectations and by extension into standards.

Later, Shavelson, et al., (1991) suggested a more specific definition proposing that "An indicator is an individual or composite statistic that relates to a basic construct in education and is useful in a policy context" (p.2). Indicators must measure something that is both important and meaningful to observers who are trying to understand and interpret aspect of the system. Recently authors such as Ogawa and Collum (1998), Camilli and Firestone (1999) and others have reviewed the nature and purpose of indicators in education and how indicators should be developed. Ogawa and Collum identify five uses for indicators in education, that is, description, evaluation, monitoring, value judgments and policy relevance. Camilli and Firestone suggest there are four main uses for indicators; description, monitoring, diagnosing problems and accountability.

Other writers and researchers (Porter, 1988; Oakes, 1989; Blank, 1993; Ogawa and Collum, 1998) have also addressed aspects of indicators such as the problem of clarifying the definition, the purpose, and the effects of educational indicators. Oakes, for example emphasized the importance of the context of an indicator system. They are "most useful when decision makers understand them as enablers, rather than causes of student learning" (p.195). Porter (1988) cautioned against the potential politicization of indicators, suggesting they may strengthen centralization of control of education (p.503). Blank (1993) suggested that an important element in developing and indicator system was the process of establishing the indicators such as gaining consensus as to what should be measured. Although there is no single best way to identify indicators, there are some generally accepted principles that provide a framework. As Shavelson et al (1991) suggested, an indicator must be related to basic

construct in education, such as student characteristic, curriculum content or quality of teaching.

Education Quality

David Garvin (1988) in *Managing Quality* wrote classification of quality concepts, which could be applied, to perceptions of quality in higher education, which is value-based, manufacturing based, transcendent, product-based and user-based. A transcendent conception regarding quality as something intuitively well known, but of a nature that is impossible to analyze into component parts or capture in words - the kind of tacit knowledge. Student outcomes as criteria of quality can be seen as a product-based definition. Product based approach suggest differences in quality amount to differences in the quantity of some desired attribute.

In higher education, may be judged by its students' performance on nationally standardized tests seem to be working from such approach. The value-based perspective is rare, especially if mean as economic value. Value could also could mean as academic value, that is the knowledge added by an education and students entrance value are considered when evaluating an education on the ground of student outcomes (Ball 1985, Perry 1991).

Quality also defined as conformance to requirements, whereas once set requirements are met, the product has quality (Crosby 1976) the competency based and criterion-referenced approach to education reflect this approach There seems to be no consensus definition even though most of these definitions are highly correlated. Similarly, education quality is a rather vague and controversial concept in research and policy discussion. To different people, the definition may be different and so the indicators used describe education quality may be different (Fuller, 1986; Hughes, 1988). Some many emphasize the quality of inputs to the education systems whereas others emphasize the quality of processes and outcomes. No matter whether referring to input, process, outcome, or all of these, the definition of education quality may often be associated with fitness for use, the satisfaction of the needs of strategic

constituencies (e.g. policy makers, parents, school management committee, teachers, students, etc.) or conformance to strategic constituencies' requirements and expectations. '...education quality is a multi-dimensional concept and cannot be easily assessed by only one indicator....'

Applying the ideas from total quality management and system approach, education quality is defined as follows: Education quality is the character of the set of elements in the input, process, and output of the education system that provides services that completely satisfy both internal and external strategic constituencies by meeting their explicit and implicit expectations. To large an extent, this definition includes the important characteristics of quality espoused in the management literature. If this definition accepted, the conception of education quality will involve the characteristics of input, process, output and multiple constituencies of an education institution. Therefore, education quality is a multi-dimensional concept and cannot be easily assessed by only one indicator. Furthermore, the expectations of different constituencies on education may be very different, if not contradictory. It is often difficult for an education institution to meet all the expectations or needs at the same time. Therefore, it is not rare that the education quality in an education institution is high to the perceptions of some constituencies but not to others, or that some aspects of an education institution may be of high quality but other aspects may be of low quality (Hughes, 1988).

For assessing education quality, different indicators may be developed to give information about the performance of an education institution in different aspects of input, process, and outcome. The difference in the choice of and the emphasis on indicators may reflect the diverse interests and expectations among the concerned constituencies and also the different management strategies used to achieve education quality under certain environmental constraints within a certain time frame. In other words, based on different conceptions of education quality and different concerns about achievement of education quality, different people may use different indicators to assess education quality and different strategies to achieve education quality. The

focus of these indicators and strategies may not necessarily include all aspects of the input, process, and outcome of an education institution.

Cheng and Tam (1997) proposed seven models of quality in education which is: 1) The goal and specification model, 2) The resources-input model, 3) The process model, 4) The satisfaction model, 5)The legitimacy model, 6) The absence of problems model, 7) The organizational learning model. Each model has their strength and limitation, and the advantages and the disadvantages in the application.

As a system, the input, process, and output of an educational institution, and the feedback loop from output to input form a chain, and the performance of one part influences the others. Goals of an education institution including input goals, process goals, or outcome goals can reflect the expectations, needs, and specifications of powerful constituencies.

The seven model of quality in education should be important in long-term planning for achieving total education quality. This may be the reason why total quality management in educational institutions has been strongly emphasized. The total quality management concept is an integration of the above seven models, particularly the organizational learning model, the satisfaction model, and the process model.

Cheng and Tam (1997) suggest that the above seven models can provide a comprehensive framework for conceptualizing and understanding education quality from different perspective. Obviously, the above analysis is based on the transfer of management theory to the field of education

Lim (2001) mention that quality is something, which fits the purpose. And it's also in line with argument given by Higher education Council of Australia (2001) which mentions that quality is a relative concept, meaningful only in relation to the perspective of those judging it at the time against some stated purpose. Quality can only mean something's when it is set within the context of a particular purpose at a particular time.

The above ideas about the fitness of quality for anybody involve in higher education institution should be consider before any endeavor being done in quality management. In higher education the quality will very much related to the vision, mission and value of the university and it might be perceived differently by every individual such as academic staff, administrator and also the graduate. Their personal values regarding education will influence their perception on quality of higher education.

The quality of higher education concept also very much being used in identification and verification of quality indicator for the assessment and measurement purposes in higher education institution (Kwan & Ng, 1999; Welsh & Dey, 2002; UNESCO-CEPES,2002; Owlia & Aspinwall, 1996).

The appropriateness of quality being used as bases in analysis higher education performance also being argued by Pounder (1999). He challenge higher education to locate concepts more appropriate than quality for the comparative analyses of institutional performance. His study has indicated a method, which has the potential for identifying concepts (e.g. Information management-communications, planning-goal setting, productivity-efficiency and cohesion) that offer a firmer base than quality for the comparative analyses of institutional performance of higher education.

UNESCO also grouped higher education aspect or determinant in three areas, which are in term of inputs, process and outputs. Include in input are quality of faculty resources and promotion, educational environments, facilities, equipment, and research environment. In educational process includes management of curriculum, class preparation, Instructional methods, and methods of study evaluation. Lastly includes in terms of output are employment, student achievement, research and community cervices. This also mentioned by several authors such as Barnett (1987), Church (1988) and Craft (1992).

Paula and Paul (1999) comparing indicators of higher education in Asia and United State was come up with indicators that they assert as more appropriate in

describing the nature of the factors. The first factor is course content which consists of six statements. It relates to the usefulness of the course to students in term of both personal growth and career development. Second factor, concern for students, is also loaded with five statements. It reflects the fact that the students value the services of advisers from whom they can seek help as well as the provision of upward communication channels to present their ideas to the university management. Third factors, facilities comprise of six statements relating to the availability and accessibility of campus facilities like library, computer and sport center. The fourth is a factor on assessment, which includes seven statements. The fifths is related to language as medium of instruction, and the sixth is social activities in college live. The last factor, people, relates to students aspirations to make close friends in college. Further analyses were shown that the most important factor among those seven are course content, assessment, concern with student, facilities and social activities.

Another criteria on quality of education is Baldrige education criteria (1998) which to be consider by many expert as a promising initiative that can unify all efforts and help education catch up with business sector. Those criteria provide a rigorous and comprehensive model for educational excellence. The education criteria also address and integrate several other important educational concepts. For example, demonstrated value-added performance is considered to be the central core of excellence that emphasis in teaching and learning strategies regardless of student abilities. In addition, the education criteria are to be interpreted in terms of specific school missions serving particular stakeholder, which includes students, parents, and employers.

The criteria focus on results that are aligning with the mission and that collectively provide a comprehensive and balanced view of school's effectiveness in improving its performance. The implies that a well-conceived and well-executed assessment strategy is crucial. The Baldrige education criteria represent highly significant progress in the education sector because they provide a comprehensive and

rigorous framework for pursuing educational excellence. The criteria also will bridge the gap between education institution and the workplace. (Demetrius, 1999).

1. The 11 core values of Baldrige education criteria are the foundation for developing and integrating all requirements in the education includes Learning centered education, Leadership, Continuous improvement and organizational learning, Valuing faculty and staff, Partnership developments, Design quality and prevention, Management by fact, Long-range view of the future, Public responsibility and citizenships, Fast response, and Result orientation.

Some problems in developing education indicators are common to other social sciences. Murnane (1987) described similarities between economic indicators and education indicators, particularly with respect to common problems. These are the problem of how much the data are disaggregated, that is, to what unit of interest does the indicator apply. Murnane uses the example of student achievement that can be reported at many levels-classroom, school, jurisdiction, or province.

In summary, the use of indicators is becoming an established element of the education system. There is much evidence on how indicators have been developed and used, typically to describe and provide information on student success or on the performance of the broader education enterprise.

System Perspective

The system concept has a rich history in the physical as well as the social sciences that the idea of an organized whole, or system, occurring in an environment is fundamental and essential to science. General system theory is formalized means of describing the interplay of many systems. Ludwig Von Bertalanffy proposed the idea of general system theory in the 1950s. He wrote, "General system theory the consist of the scientific explorations of "wholes and wholeness' the interdisciplinary mature of concept, models and principles applying to 'system' provides a possible approach towards the unification of science (1968).

Systems are essentially of two types: open and closed. The distinguishing difference is the extent to which a system can exchange mater, energy, and information with this environment. The environment of the system and also all factors that are affected by the system (Lindberg et.al, 1990). A significant development in the analysis of organizational behavior is the distinction between open and closed system.

An open system have nine central concepts, namely: input, transformational process, outputs, feedback, boundaries, environment, homeostasis, entropy and equifinality (Durkheim, 2001). An open system is a set of interacting element that acquires input from the outside, transforms them, and produces output for the environment. In the transformational process, these inputs are changed into something of value called outputs, which are then exported back into the environment. Outputs are usually products of services, but they may also include employee satisfaction and other by-products of the transformation process.

The system's capacity for feedback facilitates the repetitive and cyclic pattern of input-transformation-output." Feedback is information about the system that enables it to correct itself. Unlike mechanical system, however, social system does not always use the information to change. System have boundaries that is, they are differentiated from their environments. The boundaries are less clear for open than closed systems, but thy do exist. The environment is anything outside the boundaries of the system that either affects the attributes of the internal components or is changed by the social system itself. The process by which a group of regulators act to maintain the steady state among the system components is called homeostasis.

Systems that survive tend to move towards a steady state-equilibrium. The steady state, however, is not static. Energy from and to the environment is continuously imported and exported. Although forces that seek to maintain the system counter any force that threatens to disrupt the system, systems do exhibit a growth dynamic. Events that throw the system out of balance are addressed by actions that are calculated to move the system toward a new state of balance, or equilibrium.

The tendency for a system to run dawn to cease to exist is called entropy. Open systems can overcome entropy by importing energy from their environment. The principle of equifinality suggest that system can reach the same end from different initial positions and trough different paths since there is no one best way to reach the same end.

Baccalaureate Science (BS) Nursing Education in Indonesia

Nursing have identified as scientific discipline and should be prepared in university education, study the basic sciences and humanities on which nursing was thought to be based. This preparation served two mayor purposes; to prepare nurses to have educational background necessary to make scientific applications in their practice and it gave nurses knowledge credits in scientific disciplines related to nursing. As practice discipline nursing is called an applied science. (Lindberg, 1998). To be prepared as a profession nursing student need to undergone profesionalization, the process of acquiring or changing characteristic in the direction of profession.

Many authors noted the emphasis on quality of care is rooted in the accelerated professionalization of nurses by improved education. Through research and evaluation have stressed the important of quality nursing education .As a discipline, Nursing should be reappeared in a professional education with the attention in such called quality education. Nursing education have been challenged to produce tomorrow professional nurse that is more managed, integrated, dependent on evidence for performance, and focused on better utilization of information and communication technologies.

A corollary and related changes is needed for all nursing educator, particularly on the undergraduate level, to find the common ground in nursing education and practice. Tagliareni and Mengel (2001) as a daunting task for nurse educator in today's health care environment and to implement this it need clear indicators to provide direction. They even challenged the nurse educator to find common ground in preparing nurse for emerging roles. It is imperative that nurse educators find ways to

develop faculty commitment to a collective vision that call for greater sense of collaboration that is responsive to changes in health care.

Baccalaureate nursing program is a four to five year study program in a college or university for gain 120 – 150 credits. Student must meet the same kind of general education requirement as the other entire student to earn their baccalaureate degrees. In the nursing program it will also includes professional education and clinical training for nursing practice. In addition to theoretical foundation for nursing and clinical nursing practice itself, curricula in baccalaroreate program include nurse leadership, health promotion, mental health, community health, medical and surgical care, psychiatric care, and management. Baccalaureate students typically gain experience supervised clinical practice in a variety of setting, hospital, nursing homes, community health agencies, and mental health facilities. (Schwirian, 1998; Ellis&Hartley, 2001). Many baccalaureates nursing programs provides "re-entry" programs of study designed for practicing nurses who obtain their basic nursing education at diploma level.

Following the National Development Plan for nursing manpower, in Indonesia it was recommended that BS Nursing as the minimum educational preparation for entry into professional nursing practice (MOH, 1996).BS Nursing also recommended as a teaching staff in Nursing Education and as the minimum educational preparation for supervisory and administrative nursing roles (CHS, 1983; MOH, 2004).

BS Nursing education in Indonesia has been developed based on concept and principle in international context. As an academic professional education, it consists of two educational phases, the academic and the profession phase. According to National Educational system, curriculum for professional education is arranged based on the competencies with 164-200 credit hours. The institutional curriculum cover minimal 144 credit hours for 4 (four) year education in academic phase and 25 credit hours or one year in profession phase. Only those who already finished the academic phase are eligible to enter the profession phase in order to get the degree of Bachelor Nursing (BS Nursing Curriculum, 2000).

As part of higher education system, BS Nursing education in Indonesia should observe and implements the regulation of Higher education (Ministry Education, 2000), including the regulation of the accreditation program which should be conducted in every 5 (five) years by the Board of National Accreditation. Unfortunately this regulation is base on a very general indicator and for a professional education such as Nursing Education specific guideline such as related to the recruitment system, curriculum, and staff, educational facilities including the clinical facilities, teaching learning and the evaluation were limited.

In order to open or start BS Nursing education, a proposal has to be submitted to the Ministry of Education. As long as the proposal fulfill all the requirement mention in the general regulation provided by the ministry of education, they will get the permit to open a new BS Nursing education even though some specific requirement such as clinical expertise of the staff, field practice area, nursing laboratory facilities and nursing literature was very limited.

BS nurses was very highly needed, therefore many people was interested to open new BS Nursing education in Indonesia. In the record of Indonesian Nurses Association in the early year 2006 there are 96 BS Nursing Education in Indonesia (INA, 2006). From this number only 17 have been accredited and only 5 out of the 17 be considered as "good" education program based on their accreditation status (BNA, 2006).

BS Nursing education in Indonesia accepts the graduate of senior high school to entry the education and some BS Nursing also accept the graduate of Diploma Nursing with special design program. Unfortunately some of the diploma nurses have no senior high school degree when they enter the Diploma Nursing Education before.

According to the national regulation in higher education, applicant to higher education including BS Nursing education must have senior high school education background. Those diploma Nurses have difficulty in entering the BS Nursing education without having the senior high school certificate. This situation becomes very strong discussion among the nursing leader in Indonesia.

In relation to the accreditation system in Indonesia every education program has to be accredited by the National Board of Higher Education Accreditation every 5 year. A very general measurement was used to evaluate and accredited educational program. This board was recruited representative of every educational background including nursing to conduct the accreditation program mainly as assessor to review all documents related educational institution and also to do the site visit to observe the institution.

In the latest National Education System (2003) there is possibility for every professional group to participate in the accreditation system. In order to become part of the accreditation process each professional group through their professional association are expected to submit the proposal containing the accreditation process which they purposely plan to accredit their professional education. Including in the proposal to be submitted is the indicators and the instrument going to be used.

This suppose to be a good practice for every professional group including nursing in order to play their role in monitoring their professional educational program as part of their accountability to the public specially related to maintain educational quality. In the future nurses group in Indonesia through Nurses Association should propose to the Board of Accreditation to be independent accreditation body to accredit the nursing education mainly the profession stage.

Education is a system, and system approach could be use when people want to analyze the important educational element of a school. The following are general attribute of nursing education system as a basis for development of quality indicators proposed by Quin (1995):

A. Inputs

1. School organization and policy, includes Quality of leadership, Institutional philosophy, Mission statesmen, Vision, Management structure, Relationship with staff, Financial management, Staff development policy, Public relations and publicity, Equal opportunities policy, Quality assurance system,

2. Personnel, includes Teaching staff and library/support staff, Staff student ratio, Staff development opportunities, Individual performance review

3. Library and support services, includes Adequacy of book stock and periodicals, Opening hour, Student support, Information technology and media resources, and Secretarial and administrative support

4. Enterprises include Teaching accommodation, Halls of residence, Security arrangements, Ground maintenance, Catering, Car parking, Recreation, and Child cares.

5. Students, includes Admission and access, Entry qualifications, Motivation

B. Processes

1. Curriculum, includes Relevance, Employer focus, Planning, Validation, monitoring And review

2. Teaching includes Preparation, Delivery, Assessment, Teacher student Prelateships, Support for new teacher

3. Research and consultancy includes external funding, Publication in refereed

Journal, Citation, Client satisfaction with consultancy

4. Student guidance and counseling includesGuidance and counseling by teachers, Availability of a school counseling service

C. Outputs

1. Student achievement includes Assessment/ examination success rate, Progress for Further study, Value added, and Employment rates

2. Course monitoring evaluation includes annual monitoring reports and Review

Chen (1990) defines program theory as a framework that identifies the element of the program. According to Chen there are six evaluation type which are goals, normative treatment, implementation environment, intended and unintended

outcomes, intervening mechanism, and generalization. Billing and Halstead (2005) adapting Chen's theory to identify components for evaluating nursing education programs, come up with the following components: Mission and goal, curriculum, teaching electiveness, student, faculty, delivery mode, organization, interorganizational relationship, outcome, intervening mechanism and generalization. Billing and Hallstead was also elaborated the mission and goal component as the mission should congruent with the university or mother institution mission and there should also show congruency between mission, philosophy and goal.

Rebore (1998) was mention that induction to be a continuation of teacher education and further postulates that a significant amount of learning by the new teacher will take place during the induction process. This program conducted by pairing of an experienced teacher with a beginning teacher in order to provide her beginning teacher with support and encouragement. The experienced can act as a role model for the beginning trough couching help teacher develop her competencies, self-esteem, and sense of professionalism

Future Research

The discourse of futurism is not an old. Futurism did not exist in separate discourse and it was part of the discourse of progress in the Western philosophy and futurism be considered as a scientific discipline. Viewing of the future, has found a new important and could answer one of the three following questions: 1). what will very possible happen in the future? 2) What can happen in the future? And 3) what should happen in the future? The answer to the first is analytic futurism, to the second is visionary futurism and to the third is participatory futurism (Ghandchi, 1994).

Analytic futurism is studied by the evaluating of different existing trend and tendencies through scientific investigations, for example, using Delphi method. This is becoming more and more a positivist science, called social forecasting or **future studies** use in developing and testing newer models such as systems theory. The

visionary futurism has been formed in answering the question of what can happen in the future is more an art than science. Participatory futurism specifically have a certain future in mind, in an area of life, focus the actions to achieve, the results intended in the plan and thus are consciously participating in the formation of the future (Ghandchi, 1994).

Basic assumptions underling futures research are 1) the future could be systematically studied by human beings, 2) human beliefs concerning the future influence human behavior and decision making, and 3) human beings could control and shape the future.

Future research main purpose is surveying and studying possible and probable trends of issue under consideration both desirable and undesirable in order to find ways to making such desirable trends occur in reality and preventing or eliminating undesirable trends or seeking effective means of encountering undesirable trends. Including in this research is Delphi technique, Ethnographic Futures Research Technique, and Ethnographic Delphi Futures Research Technique (Poolpatarachewin, 2004).

Delphi Technique

Delphi technique is an iterative method of refining expert ideas, and is used to measure the judgment of experts, assess priorities, or make forecast. Delphi technique has been widely used in decision-making for future, and also in several development processes. It provides a means to obtain the opinion of a wide variety of experts to provide feedback without the necessity of meeting together therefore the opinion of individuals cannot be altered by the persuasive behavior of others at a meeting

Delphi technique has become popular for data gathering in any research activity, which the main purpose is for prediction and pre-planning. The Delphi technique has been used to predict alternative futures and is useful in administrative planning. In relation to its usefulness the Delphi technique has been use in many enterprises and agencies such as in politics, economics, education and so forth.

Steps of the Delphi technique are as follows:

1. Determining panels of experts, usually consist of approximately 10 up to 100 persons depending on the aims of the research, complexity of issue studied, the time and the budged available
2. Determining trends, issues and constructing research tool which generally is in the form of questionnaires or structure interview
3. Employing Delphi procedures as 1st rounds, through sending the questionnaires to experts or interviewing or teleconference.
4. Analyzing data obtained from the first round
5. Employing Delphi procedures (2nd round. Each expert would receive statistical feedback of groups responses including his own responses in the first round
6. If necessary, employing another Delphi procedures (3rd round; 4th round; etc)
7. Summarizing and discussing results by presenting consensus of experts' opinions, and write the recommendations.

Ethnographic Futures Research (EFR) Technique

EFR is one of the methods for future research developed from ethnographic research or ethnography by Robert B. Textor of Stanford University, USA in 1977 try to obtain scenario and values concerning socio-cultural change process of the group of population under study by using non-directive open ended interview. The principle of EFR interview regards the informants as the controller of the interview who is free to give his opinions. The interviewer would summarize the interview and might request the interviewee to revised parts of his response if needed. This process is called cumulative summarization technique which hopefully could obtain higher degree of validity and reliability information.

The main steps of EFR technique are summarized as follows:

1. Defining the expert group
2. Interviews, which are non directive, open ended and semi-structured forms. Using cumulative summarization technique and interviews in three scenarios as optimistic realistic, pessimistic realistic and most probable.
3. Analyzing each scenario for consensus
4. Writing up the scenario.

Ethnographic Delphi Futures Research (EDFR) Technique

EDFR is a method for future research was developed by Poolpatarachewin (1979) and he revised and adapted the method again on 2004. This research technique combines the strength of both the EFR and Delphi to overcome the weak points using EFR or Delphi individually. The EDFR steps are similar to those of Delphi, but in the first round employ revised EFR interview. The information collected the be analyzed and synthesized to form a research tool and then be sent again to the experts through several rounds Delphi probing, and the information obtained in the final round would be organized as research findings (Poolpatarachewin, 2004).

EDFR steps are listed as follows:

1. Determining and preparing group of experts

This step is very important and necessary because the research result will be reliable if the expert group comprise real expert in the topic. The expert group should be a group of people in position of authority, a decision making group, administrator group, a leadership group, a specialist group or those who advocate social change or each enterprise change. Accordingly, some criteria for selecting the sample group that differ from the other research models are the more purposive sampling rather than random sampling.

If the research propose to study the consequence of organization, enterprises or societies, it is important to select expert such as administrators by the purposive or snowball technique for bias decrease. The number of experts is not the main criteria. It depends on whether the field has many or a few knowledgeable people. Preparing an expert group is more important because this technique is time consuming and requires the greatest participation from the expert. Thus, in the pre-contract process, the researcher should explain the objectives of study, the steps and the approximate required time to the expert group for cooperation and preparation of the process of thinking which will make sure that the information from expert group is more reliable.

2. The first round of EDFR technique

The first round of EDFR technique is an interview which has the same characteristics and steps as the EFR technique but more flexibility so that the EDFR researchers can choose the form of interview which can be modified for the researcher's main purpose, timing, budgeting or situations. They can cover all scenarios from optimistic-realistic to pessimistic-realistic and most probable scenarios like the EFR technique or they concentrate only on possible and probable scenario without being concerned with the desirable or undesirable scenario because in the second and third round of EDFR technique, the researcher can design the questionnaire for include three scenarios systematically.

3. Analysis and synthesis of information

The information from expert's interview will be summarized, analyzes, and synthesized in the draft of questionnaire.

4. Improvement of the questionnaire

The construction of the scenarios is simple in that it employs a descriptive write-up process; the content will come from the first sample's protocols regarding optimistic, pessimistic and most probable scenario. The questionnaire emphasizes summarizing descriptively what exists in the protocols from panel expert.

5. Delphi probing

The expert are again informed by letter of the outcome of all proceedings, and invited to consider any scenarios for reconsidering decisions until a reasonable degree of consensus is reached.

6. Writing up the scenario.

The scenarios are written up based on statistical data gathered from fifth Step.

Expert are often assumed to be professionally or scientifically qualified and have achieved high status, some Delphi study use laymen in their research such Linstone (1998) used expert panel of housewife in his study on the future of communications services in the residential market. Gallager et al (1996) study policy priorities for improved diabetes care, used patients on the panel alongside clinicians. According to Centrill et al (1996), the definition of expert should include any individual with relevant knowledge and experience of a particular topic, including patients and carers.

Related to the discussion on the expert, some studies ask the expert to self-rate their expertise in the area of their confidence in their responses, for example weighing their expertise on each question on 0 – 10 scale (Ishikawa et al.. 1993) or evaluating their familiarity with the item as fair, good or excellent (Linstone, 1978).

According to Linston (1978) and CavalliSforza and Ortolano (1984) Delphi panel has about 8 – 12 members while Philip (2000) mention that the optimum size of panel is 7 – 12 member. For policy Delphi, Turroff (1970) suggest from 10 – 50 person to be panel member.

Although EDFR is combination of EFR and Delphi technique, they have differences ideas involved in procedures. In Delphi, a set of questions is developed and controlled by the researcher in the first round. In means that experts are not consulted and that limits not only information within the issues or questions but also other information carelessly and/or ignorantly omitted by the researcher. But in EDFR, all information given by the panel experts during the first, second or third

round is fully recognized. In first round of EDFR, the panel expert is asked to project and talk about alternative futures or studied issue. The panel expert is free to talk and discuss any sub issue he or she thinks is important and relevant.

In EFR, scenarios are written up based on the data gathered from the interview. The interview are used as a non-directive technique in which some structural probing questions are provided during the interview, that make each interview not talk about studied issue in the same sense or details. In this case, some trends would be ignored or deleted. The most probable scenario is hard to obtain as well but in EDFR, every issue and trend will be presented to all panel experts to consider in the second and/or third rounds. By this iterative process, trends mentioned in the first round might receive a high consensus and the most probable scenario can be obtained through the use of Delphi technique in the second and third rounds (Poolpatarachewin, 1999).

In conclusion, EDFR is a technique of future research. It is useful for determining policies, creating new models, making decisions, directing plans by presenting the consensus of experts' opinion in that of topic through scenario after in-depth interview and questionnaire consideration with no meeting. The advantages are decreasing experts' confrontation, sharing ideas without threats from other experts, and giving opportunity for experts to reconsider all data. Campbell (2002) also stated that indicators developed by well respected experts using systematic method will have high credibility when used for professional development.

In 1995, Stead applied the Delphi technique to nursing education planning. Mitchel (1998) in her study also identified that the Delphi technique as a viable method for forecasting future events in nursing education by determining the degree of accuracy of previously predicted events and identifying the circumstances that delay or accelerated occurrence of the predicted events. This method also being used since long time ago such as Lindeman (1975) conducted a Delphi survey to determine

research priorities in clinical nursing research. She used a panel of 433 experts, both nurses and non-nurses, with a wide range of interest. Four rounds of a 150 – item questionnaire were sent to the panel. As a future research the participant should be the expert in area to be studied, since it is believed that expert should be able to forecast the future more accurately and more reliable than the layman.(Poolpatarachawin, 2004). The expert to be consider as a person of importance behind the scene including groups of administrators, group leader related to BSN, and also very knowledgeable about quality of BS Nursing education.

Larzon and Wissman (2000) used three round Delphi technique to gain consensus among 23 community college administrator and faculty representing 19 community college in Kansas. This method was selected for their study because it can be used to gain consensus where geography limits the practicability of face to face discussions and when anonymity is desired.

It was concluded that Delphi technique going to used in this study is appropriate and will be effective for exploring the future quality of nursing education and an effective tool for planning nursing education The participants in this study will be expected to give their ideas and then being refined by the researcher and summarized. The iterative process is repeated for two or three rounds in order to refine the consensus of the group.

FRAMEWORK

Educational development can not be studied in isolation because it does not exist in isolation or in a vacuum. By focusing in the totality of a simple or complex structure, one can better understand the pattern of relationship within the structure (Gillies, 1995). A comprehensive approach to educational development can be accomplished by using system theory as recommended by Gillies (1995), and

Swansburg (1995). It is adaptable and evolving, as demonstrated by the numerous system approaches in the literature. It supplies the basic framework upon which the content of different discipline can be organized into a coherent whole, and assist in designing models to study real situation.

The system theory, which consists of subsystem, input, process, output and feed back will, guided the study. Quin (1995) grouped higher education attribute in this 3 (three) subsystem which is input, process and output. Include in input are the school organization and policy, personnel, library and support services, students and also enterprises such as security and recreations. In educational process includes management of curriculum, teaching, research and consultancy and student guidance and counselling. In term of output, student achievement and course monitoring evaluation will also be included. Referring what Yackulic and Noonan (2001) pointed out in educational system should also include outcome. Therefore the last subsystem in the system is the outcome which is the working experience of the graduate and the satisfaction with their work.

Incorporating what have been mention by several authors such as Chen (1990); Shavelson, 1991; Quinn 1995; Lindberg, 1998; Schwirian, 1998; Tagliareni and Mangel, 2001, and Billings &Halstead (2005) researcher develop the framework which will guide the entire study especially in term of indicators to be study in BS Nursing education as shown in figure 1.

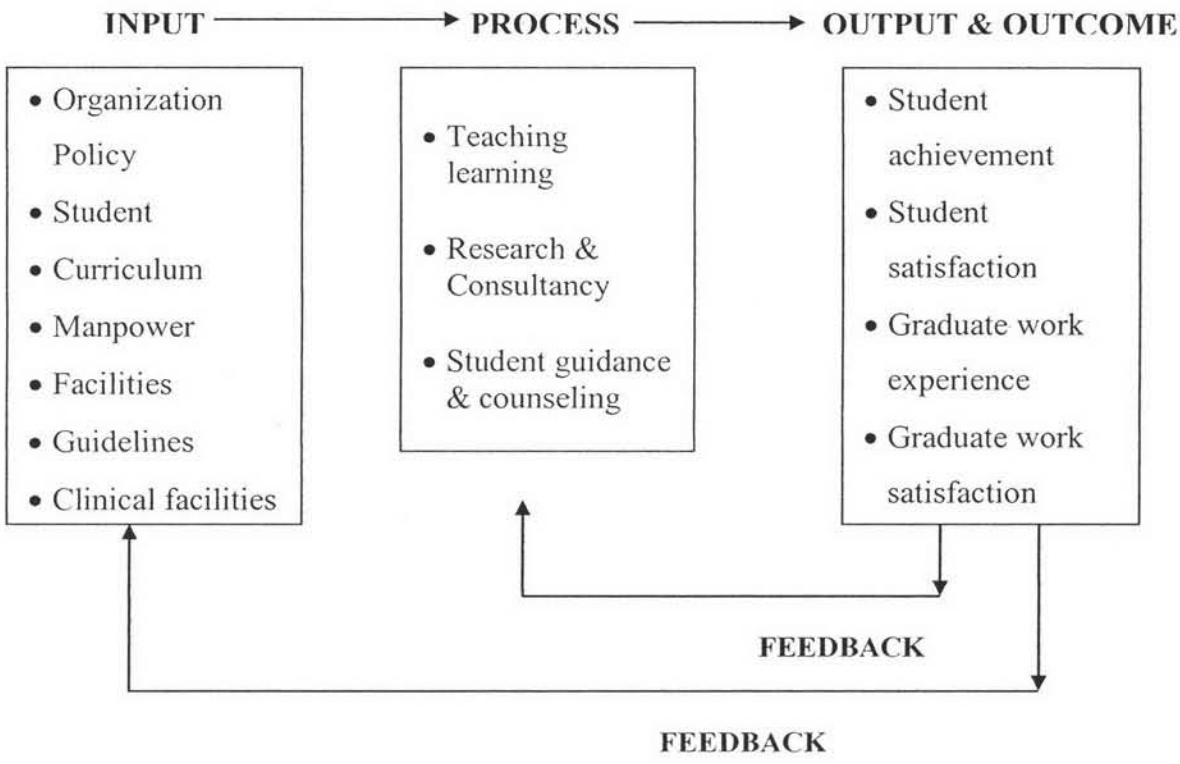

Figure 1: Conceptual Framework

This framework explain there are 5 important element in the system namely input, process output and outcome and feedback. The previous 4 element consists of 2 to 7 sub – element. Element output and outcome have 2 sub element each , the input element have 7 sub element and the process have 3 sub element.

As overall generalization of open system theory, could be stated that output of education are a function of the interaction of structure individual, culture and polices as shaped and constrained by environmental forces. The output and the outcome mostly will depend on the overall input and process. In the case of Nursing Education, the input and educational processes will affect the quality of the graduate and their jobs attainment. It is assumed that the good quality input and good quality educational processes will produce good quality output/ graduate.

Issues of organizational effectiveness and quality also constitute key concepts in open-system theory. It could be elaborate in an open social-systems framework of educational system using input, process, and output components. As overall

generalization of open-system theory, could be stated that output of education are a function of the interaction of structure, individual, culture, and politics as shaped and constrained by environmental forces. The educational output constitutes the performance outcomes of the students, faculty, and administrators that can be used as indicators of organizational effectiveness and can be assessed for their quality.

As a professional education, nursing education should focus on the quality of the program as the educational preparation of the nursing profession in the future. The education should concern not only to the quality and integrity of the total institution, and their mission, goals and objectives, but also more important is the effort in achieving the mission. Educational philosophy, goals and objectives of the study program should be directed toward the appropriateness for preparing individuals to enter the field of professional nursing.