CHAPTER 2

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2.1 INTRODUCTION

The growth of the modern world is determined by the engineering and the technological innovations. Engineering Education has given students a new outlook and a new dimension. Engineering is perhaps the most powerful instrument through which we have to transform the society. Engineering Education is an instrument for developing and transforming the life of the people and improving their prosperity, happiness, standard and quality of life. From biotechnology to space, from pins to planes every activity and product needs to be engineered and improved constantly. The purpose of Engineering Education is to equip the learner with technical skills and non technical skills through all types of educational activities. Ability to communicate well is essential in globalization. Engineers hold the key to progress. It is on them a major part of educational budget is spent, so moulding them into good human beings is as important as imparting technical skills and knowledge. The content of syllabus in the area of value education needs improvement.

Deliberate and well planned efforts need to be made in every engineering college to hold human values in the curriculum. There is a need for role model in the society, which will make an impression upon the students’ moral and value education. Attitudes of the student play an important role in moulding them into an employable engineer. Engineering Education should not only impart elements of technical competencies but also impart good attitudes which makes a student a responsible citizen of our country. To frame a new curriculum, it is necessary to adopt the practice of balancing emotions in the students’ behaviour. So emotional maturity is the main social competence to tackle the problem of workers in an
industry. Emotionally matured people always tend to be assertive and express their feelings directly. They also have positive thinking and promote optimistic thoughts.

Decision making is also an essential part of modern management. The students of Engineering colleges need to develop this skill in their college days. Time management is also one of the important competencies one should adopt, and imbibe during their stay in the Engineering colleges. The behaviour of the people in groups is the unit of social psychology. Suggestions and views should be invited from the students to improve group discussions. So the researcher has completed the review of literature in the area of non technical competencies like values, communication skill, attitudes, decision making, time management and group discussion which are essential components to become energetic and efficient engineers.

2.2 REVIEW OF LITERATURE RELATED TO NON TECHNICAL COMPETENCIES

2.2.1 Attitude

The way our lives are lived out is determined not only by our attitudes towards ourself but also by our attitudes towards others. A person is much more likely to learn his attitudes from his parents and teachers than other sources. The students often admire their teachers and their qualities (Ball, 1977). The concept of attitude has played a central role in the development of engineering curriculum. Technology has devoted a large part of its effort to attitude measurement. Psychologists have been dedicated to theoretical and empirical issues in attitude change. Attitude change as per views of Charles (1964). An attitude is a mental and neutral state of readiness, organised through experience and exerting a directive or dynamic influence upon the individuals response to all objects and situations to which it is related. An individual's social attitude is a syndrome of response consistency with respect to social objects. The attitude is considered as a
response rather than a set to responses. The content of an attitude is determined by the responses which constitute it. An attitude reflects the emphasis on a conscious experience that pervaded. An attitude is a process of individual consciousness which determines real or possible activities of the individual in the social world. Thurstone (1928) cited the way in which attitude tests are used today in contrast to earlier practices, scientific research on attitudes has been continuous to be contributed principally by social psychologists and educational psychologists and sociologists. They have clarified the origin and nature of the attitudes and their relation to perception, thought, learning and motivation.

Concern about highly good attitudes from our engineering courses lead to an innovative team. We sought to introduce the students to the attitudes needed to survive the engineering courses and activate their concern about the demands of their skills. Those with higher perceptions of the process and with strong identification with good attitudes were expected to perform better subsequently (W1).

As per the view of Green (1954), Attitudes may be inferred from the choices implicit in overt behaviours as when an individual consistently support one policy. Attitudes may also be inferred from expressive or symbolic behaviour in which overt choice is implied indirectly, expressed as questionnaires, in interviews and in responses in projective techniques.

The motivation of the attitude has been discussed by Cabel (1959). In this discussion the term motive is used as generic to embrace both goals directed need and goal seeking different aspects of behaviours. Attitudes are inferred psychologically from a number of concepts which can be assumed under the same construction. These include interests, appreciations, likes, dislikes, opinions, values, ideals and loyalties.
An attitude is defined as a more or less stable set or predisposition of opinion, interest or purpose involving expectancy of a certain kind of experience. In organisational life, attitudes acquire an added importance because satisfaction and success both depend on wholesome attitudes. They are reflected in certain specific behaviours like performance, absenteeism and accidents.

Much of what is seen in the environment and in other people's behaviour is determined by attitudes. If one has an overall favourable attitude towards a person, one tends to judge his functions as good or superior. On the other hand, negative attitudes or prejudices generally prompt disagreement with the individuals concerned or failure to appreciate the good work done by him. It is not uncommon to come across people who hold contradictory opinions though they have positive attitude. Intelligent people can reconcile or rationalise the same actions which seems a contradiction to others. Objective events can be differently perceived by different people because of different attitudes. Meanings can be falsely communicated to others by changing the attitudes of the recipients towards wide social issues.

Doob (1947) reiterated that attitudes are acquired through experiences which have a pronounced effective component. It should come as no surprise to the reader that people often say one thing and do another. This discrepancy complicates the assessment of attitudes particularly among adolescents.

Attitude helps to determine not only what student sees, but how he sees it. A person tends to see what he is looking for and hence will find reinforcements for already existing attitudes even though there is evidence to the contrary. They are sometimes highly resistant to change. It is therefore important that desirable social attitudes, attitudes about school, teachers, and beliefs are learned early in life.

In several ways, the kinds of attitudes which a student has, affects college work and learning. If he has positive attitudes about teachers and likes college work
it is almost inevitable that he will experience some success and through reinforcement will work more effectively and achieve highest level of his capacities. Conversely negative attitude towards college and teachers usually signify that his interests and energies are aimed elsewhere and that he will fight against the attempts to make him learn. The orientating function of attitudes, is that they influence the perception, makes the child assume the learning task as pleasant and important, as unpleasant and useless or colourless and neutral. The feeling which goes along with such attitudes is an important factor in learning, for experience have shown that pleasant material is retained longer than unpleasant or neutral ones. It has shown that self confidence plays a major role in determining a learner's readiness for college work.

The common error made in student behaviour is to assume that interests and attitude are direct indications of needs. A student needs approval of feelings of importance, security and independence and he is likely to develop an interest in any activity which brings him a satisfaction of such needs. It is deplorable that colleges do not give students an opportunity to satisfy their ego and social needs through approved college activities. But when rewards are limited to a few students and depend upon a narrow range of innate abilities, there is a little chance that all youngsters will experience the achievement necessary to satisfy the basic needs. A major function of the colleges is to find activities which satisfy their needs. Valuable clues to what students want and of the factors which influence their modes and behaviour and their attitudes can be understood from the study of their wishes and ideals, their ideas of what is glamorous.

Attitudes once formed may be highly resistant to change. The attitudes are wrapped up with a person's feelings, needs and self concept. Further more attitudes are easy to maintain because a person sees what he wants to see. Colleges often fail in changing attitudes, because their whole program is based on teaching and learning. Mere teaching alone is not enough and information may do
little changes in attitudes. So attitudes are learned dispositions or sets of action. They are highly pervasive and influence personality and personal relationships as well as have a profound influence upon student's learning. As do motives, attitudes grow out of student's needs. They find voice through student's wishes and ideas. The attitudes may be used to facilitate learning. If this is done the educator will be able to transform learning into an exciting adventure.

An individual's personality includes his attitudes, and also his traits. The distinction between traits and attitudes is not always clear cut, but in general attitudes involve a fairly definite reference to things or ideas and usually in a disposition to react favourably to or against the object of reference. Socialisation and cultural adaptation are a part of the process of the student development as perceived by Rao (1981). By the time a student becomes a full grown adult, he develops certain cognitions, responses and preferences which set his behaviours in distinct ways. He has his own unique personality and a unique way of perceiving the world and responding accordingly. It implies that the human behaviour is to a great extent ordered and not haphazard. It is based on certain principles which make an individual's behaviour so ordered and guided. The answer lies in the attitudes, beliefs and values.

Attitudes enhance the effectiveness of human involvement in the production and distribution of such goods and services. The engineers should maintain ethics of profession and job satisfaction. The solution to the most human problem in the industry requires the application of knowledge of positive attitudes (Cormic and Tiffin(1979).

Attitudes spring from a number of sources. Some of these are to be found in the classroom, but most of them are from outside it. Since preparation for good citizenship calls for the establishment of the appropriate generalised controls of behaviour as well as understanding, it is the responsibility of every one to contribute
to some extent to the development of attitudes. The students of the engineering colleges are certain to be influenced by attitudes. So we should make that influence in the right direction. This means that the development of attitudes cannot be left out of the teacher's aims and plans. Their development should be cultivated by designing and it should not be allowed to grow in a haphazard way as an incidentally product of classroom instruction. It is believed that the attitudes which are acquired through classroom experiences may continue as potent factors in the life and behaviour of the individual. The teacher should be sensitive to the attitudes possessed by his pupils. He should know the ones required for good citizenship and individual happiness and strive to eliminate the wrong ones. We have mentioned here some of the ways in which new attitudes arise.

In many cases, a person simply adopts attitudes of his associates. In the case of students' life particularly this is likely to occur without any definite awareness of the attitudes and without the realisation that it is being assumed. The adolescence is inclined to conform to his group. He notices their prejudices, likes and dislikes and copies them in order to be like others.

An extensive investigation of attitude of college students towards the perception of attitudes has been carried by Jones. His work included retesting to discover changes in the attitudes during four years in the college. It was found that both freshers and seniors were neither conservatives nor radicals. The difference between the freshers and the seniors was little. While there is ample evidence that the attitudes of students do change during their college days, it appears that attitudes have not in most cases been clearly formulated.

Many factors at home and community life serve to shape the attitudes of the children and the young students. Measured results have shown that motion pictures are sometimes effective in bringing about significant changes in attitude towards the subject of the pictures. The attitude of appreciation or enjoyment is like
other attitudes developed through learning. The college should enrich the lives of its pupils by cultivation of attitudes that predispose them toward appreciative responses. The teacher's own attitude is important. So the development of attitudes is important for the welfare of the individual and the society.

2.2.2 Communication Skill

The current global changes in the developments of Engineering and information technology and other areas call for changes in our Engineering curriculum in the area of non technical competencies like communication skill. The Engineering graduates should posses communication skill along with their Engineering competencies.

Communication occurs all over the world all the time in some form, some medium and for some purpose among individuals, groups, organizations, societies, notions and cultures. The urge is so good as it is concerned with matters like efficiency and accuracy. It sees communication as a process by which one person affects the behaviour of another analyzing, interpreting and even coming better to understand the self may be a target of all good communication (Beck et al., 2004).

Pamel (1978) defines communication as an "international process which includes all those procedures by which people influence one another". Communication is the process of transmitting and receiving symbolic cues both verbal and non-verbal. It includes all levels of communication like intra personal, interpersonal and public. Intra personal communication is the communication within yourself. It involves thinking remembering and feeling. Intrapersonal communication is the basis for the other two levels of communication. It is also the origin of most of the communication problems. Communication is a means of developing, maintaining and even terminating relationships. The language of communication skill is considered to be the window of the world. The dominance of communication skill in Engineering education has been amounted to greater levels
because of the availability of abundant knowledge in all domains-science, technology, space research, nuclear field, medicine and engineering. Having acquainted with the communication skill, student community strives to access this vast treasure of knowledge, partially in science and technology. It is evaluated not only on technical competencies alone but also on the image one presents while communicating. The expertise of the candidate depends not only on his competency in technical field but also on his efficiency in communication skill.

Bigge (1980) points out that written and oral communication skills are critical not only in obtaining a job but also in performing the job effectively. It was the result of a study reported by a personal survey questionnaire which was sent to the personal managers of the largest companies in a western state. One of the few questions in this study was concerned about the skills most important in graduating business. Students mostly obtain employment through written and oral communication skills. They are the two most important factors of skills in obtaining employment. There is a direct correlation between the employee communication and the profitability and it is also found that good profit goes hand in hand with good communications.

Research shows that people spend about 45% of their communicating time listening. Despite this the average listener understands and retains only about half of what is said immediately after a presentation. It suggests that listening is one of the most critical skills, in the communication process. It helps executives to determine worker's needs, problems, moods and interests. In order to become effective communicators one needs to tune not only to words and the ways those words are expressed, but also to non-verbal clues.

Effective communication requires responses that demonstrate interest, understanding and concern of the worker, as well as for the worker's needs and problems. Communication effectiveness is also dependent upon the following
message forms: Vocabulary, Language, Phrases, Sentence structure, Sentence, clarity and etc. Words can insult and injure and exalt and exult. Then can evoke pride and action. However, they are not the basis for how people represent and interpret reality.

Communication is the force that binds the people who are working in the organization as viewed by Mukhopadhyay (1994). Through communication, the members of the organization can come to a common viewpoint and can have better understanding. Communication is important to sustain and increase the motivational level of the members towards the accomplishment of organizational ends and objectives.

It is unfortunate that some administrators working in educational institutions are poor communicators. Most of them feel that they have mastery over their subjects and therefore their education is complete. They feel there is no need for them to learn and practice effective communication. Of course there are many educational administrators who realize the role of communication in managing and motivating staff members. The failure of communication if not bridged properly in time, harms the organizational climate.

Reddy (1987) reiterated that most companies consider the ability of communication to be unique ingredient for recruitment process. Scientists and engineers may be technically brilliant and creative, but unless they convince their clients their technical skill will be unnoticed, unappreciated and unused. Communication skill has been considered to be a critical tool for success, and survival in the real world. The effective communication will lead to reach greater heights of success in a very short span of time. We live in a world of paradox. So in order to inject our thoughts it is mandatory to communicate effectively with the people. The best and useful ideas are worthless unless they can be communicated properly. Great ideas will not only be ruined but also causes untold wastage and
miseries in day to day activities. Unless this non technical competencies the communicative skill is accepted as a dominant factor, the technical competency will not be at a diminishing end.

2.2.3 Value Education

Value education is a neglected component of engineering education system. Engineering education in Tamil Nadu seems to be loosing its values among the students as is seen from the behaviour of the students in the campus of engineering colleges. Nowadays young student in engineering colleges are influenced a lot by the cultural behaviour of west. Also the teachers of the engineering colleges pay little attention at imbibing value education in them . It is felt among teachers that the students are not interested in these value education. The student’s demand from the teacher is rather mark oriented than value oriented. All these lend the research a novel look at the curriculum of the engineering colleges.

According to Kapur (1993), learning means receiving education and integrated education includes mental, intellectual, physical, moral, ethical and value education. It includes building a character. A student can attain excellence in education if he uses every minute of his college life to build himself intellectually, physically and emotionally, aesthetically, morally and spiritually.

Kesari (2000) reiterated that value education is wholly a debated subject now a days. This is because of the chaotic conditions observed in almost all spheres of human life. It is conjectured not without reason, that these chaos are mainly due to lack of values in the education being imparted in India. Knowledge had become a part of their thoughts, emotions and actions. Swami Vivekananda has said that education is not the amount of information that is put into the brain, but it is the assimilation of ideas. He also said that education should give us character that would make us flower into the best of humans - full of love, self
confidence and self reliance. Education in India means not only cramming of information into the brain but also the application of them into one's life so that life becomes better at individual, social, secular and spiritual levels.

Similarly Parikh observes that the aim of education should be complete fulfillment of man in all his richness of his personality, the complexity of his forms of expression and his various commitments as an individual, member of a family and community. Thus we can say that education has mainly two aspects, the cultural aspect which makes a person grow socially and the productive aspects which makes us do things usefully to the growth of the society. The objective of the value education is not given to him but the taste and capacity for acquiring it and the method of that is personal discovery. Value education importantly emphasises that the youth is to be educated in the social relationships.

Plato strongly believed that the vision of truth and goodness possessed value which depends on what we believe, operational value which lies on what we practice and dynamic value which emphasises what we learn from experience. The sources of human values are education, tradition, religious belief, reason and sense of vision. The values that uphold the sanctions of the educational organisation are economic value, achievement orientation, academic values, respect for teachers and elders, obedience to authority, esteem for order and confirmity, appreciation of hard work, shame for rectification and dismissal and respectability.

India has one of the biggest system of education in the world. After independence there has been an unprecedented expansion of educational facilities at all levels. Inclusion of values among curriculum must be emphasised and this has to be considered as one of the two major aims of education as opined by Shailaja (1977).

The onslaught of information technology revolutions has influenced life styles and caused major changes in values. This generally leads to erosion of
human values in general and behavioural change among students in particular. In this context, education in general and value education in particular occupies a vital place in the curriculum of engineering colleges. The problem of value education of students of engineering colleges has a great prominence in educational institutions. The curriculum planners should consider more about values and value education of students.

Jhon Swanson's studies at the University of Pittsburgh eventually led to a better understanding of the value of hard work and strong commitment to engineering education. It is considered that engineering education is one of the major disciplines in keeping the world running, and engineers are among the most grounded and stable people in the working environment. Professional engineers can play an important role in establishing new enterprises, restructuring existing processes, and developing new services. Emphasis should therefore be placed on developing graduates with the appropriate attributes, quality for this innovative role as well as producing graduates filled primarily for existing employment (W2).

Value education encourages students to: 1. Develop their own professional moral codes and have concern for others, 2. Reflect on experiences and search for meaning and pattern in those experiences, 3. Have self-respect and respect for commonly held values such as honesty, truthfulness, and justice, 4. Make socially responsible judgments and be able to provide justification for decisions and actions.

In implementing value education in the engineering colleges of Tamil Nadu, teachers adopt a process and strategies which will depend on personal, cultural, and social settings.

The major objective is the promotion of independent thought regarding social and moral issues, to respect laws and legitimate rights of others, like respect for different beliefs and ideas and practices, using non-violent ways of managing conflict, active involvement in the life of college and community, Building positive
relationship within the classroom and potentially in the community and in the wider society.

Dibella and Hamston (1989) suggests that value education enables the students to respect upon their own experiences and compare situations with new experiences. A value is a pattern of life. It has been rightly said that values are caught rather than taught. The famous psychologist Skinner tells that values come by practice and reinforcement. So if we are able to foster the appropriate values in our younger generations we can certainly hope for a better prospect.

There is an immense diversity of opinion regarding the place of values in the curriculum and also the strategies and approaches to be employed when teaching values as opined by Joan (1977). When we speak of values they usually refer to those beliefs held by individual to which they attach special priority or worth by which they tend to order their lives. A value is therefore more than a belief, but it is also more than a feeling.

The outline of the categories of values as listed by Taylor (1964) is the aesthetic, the intellectual, the religious and the custom. He also notes that these topologies do not include sensual values. When considering the concept of values in education, the educators are faced with multiple agenda and a plethora of interests, motivations, tensions and conflicts about values and the teaching of values.

Value education should not be equated to moral education. It has wider connotation and includes value of physical education, vital education, mental education, ethical education and spiritual education. Value education does not merely imply an intellectual discussion on the theme of value as an integral part of syllabus in various disciplines, but also the practice of those values in the day to day life by the students and teachers.
In the engineering education the function of humanities and social sciences is not limited to the improvement of learning value education and emergence of amicable employees. The engineer is a responsible professional whose every professional act has human and social consequences. To fulfill his growing responsibility as an engineer he needs both professional competence as well as a sure understanding of himself and of the world in which he lives. Engineering colleges have always been reckoned as the seats of learning where not only knowledge but the best human qualities are infused in the students.

Engineering education should not be considered merely as a mechanical study of course books alone. It should include the whole environment and culture that goes to create a finished product of student for the life that he has to face. Most of the engineering colleges concentrate only on the theoretical and practical aspects that enables the students to tackle the exams and yield them better pass percentages. They do not give importance to the cultural and social aspects of life and not even referred to in the course of the development of the student. The heart of culture is formed by values. What people believe is good or bad? Whether a thing should be done or should not be done? What they hold is desirable or undesirable? When we wish to characterise a culture in terms of values, we describe ideas about what is good, right and desirable that the society or other cultural group views. These cultural values are the bases for the specific norms that tell people as portrayed by John and Pamela (1977).

In a changing world of today, the concept and process of valuing is also changing. This changing phenomenon is moving towards a value crisis which is very predominant among the students in almost every country. In the absence of a sound and meaningful approach to the value system, uncertainty and confusion are bound to result.
The aim of education undoubtedly is the attainment of human excellence and perfection, not just in any field of knowledge or activity but life in totality. Education should be the means to fashion excellent characters out of the very ordinary human raw material. This means cultivating the qualities of head and heart in a way congenial to the growth and development of oneself and others around him. Swami Vivekananda stressed on man making character-building education. To quote him, education is not the amount of information put into your brains and runs not their indigestible way of life. We must have life building, man making, character making and assimilation of ideas. We want education by which character is performed, strength in mind is increased, the intellect is expanded, by which one can stand on one's feet. The education as is today is not at all aimed at character building with the result we find that even the highly educated men who have so much of power and service machinery at their command fail miserably when tackling problems in the right way, in the human way, in the interest of our nation. Highly talented individuals are there in every field but devoid of personal integrity, the impact they produce is minimal. Today we are urgently in need of men and women of character, integrity and dedication and of tremendous capacities happily blending dignity of man with dignity of labour (Goel and Goel 2005)

Managerial values are the most important aspect of manager's behaviour. It gives a positive direction and brings out the best in him. It has tremendous influence in his performance. It is the manager's moral principles and integrity, which imparts legitimacy and creditability to the vision, and sustains it. These managerial values guide the leader in achieving common good of human welfare at the personal organisational and society levels. As such knowledge and awareness of managerial values is of more importance and vital for all professionals in performance of their roles effectively. (Bhatia, 2003)

Professionals engaged in different professions are realizing the fact that to achieve excellence of all resources that matters human resources are the most
vital, values are akin to a beacon. Values are the core of any profession. Mukhopadhyay (1994) has outlined three types of values these are 1. Operative values, 2. Conceived values, 3. Objective values.

2.2.4 Emotional Maturity

Due to growing complexity in the organisational climate, tensions bound to increase. At times it becomes difficult to maintain the emotional integrity in personal life and working place. Therefore emotional maturity is one of the most important competencies which is to be acquired by the students in their college days. Curriculum of engineering colleges should have enough scope to introduce emotional maturity in students Today's curriculum aims at all round information training and developments of students. But does the curriculum include the training to make students emotionally mature? This is a crucial question to answer for which we have to shift our attention to the emotional aspects for full, complete and holistic formation of students.

Emotional maturity is the new yardstick, which is applied to appraise a person, therefore it calls for harmonisation of mind and heart. Emotional maturity refers to the capacity for recognising our own feelings and those of others. It is monitoring, guiding, regulating and tuning one’s own and other’s feelings to express them effectively

Emotional maturity has five components:

I. Self Awareness

The key to success is knowing oneself. Self awareness means knowing one’s internal stress, preferences, resources, intuition etc. It indicates the ability to recognise, understand and accept one’s own moods, emotions, drives, strengths and short comings. Awareness of self leads not only to understand oneself but also
to see one's emotions and reaction. It is the basic competency that one should possess.

II. Self Regulation

Self regulation means managing and handling impulses, distressing feelings and upsets. It implies making a choice as how to express our feelings. Regulating oneself is very important before acting.

III. Motivation

Motivation is an emotional tendency that guides or facilitates reaching goals. It is an ability to pursue goals with energy and persistence. Emotions move us to pursue our goals, fuel our motivations and motives drive our perspectives and shape our actions.

IV. Empathy

Empathy means understanding the issue or concern behind other persons feelings. It is an ability to look at things from other's point of view and think from their angle. It can be said that empathy is the foundation skill for all social competencies.

V. Social Skills

Social skills is an ability to build rapport with various sections of society and create a network of people. In the words of Kothari Commission, the educational system cannot satisfy the present need. To meet the present need the education of the youth should be changed from the world of class to the world of counselling and guidance. The present curriculum may not be in a position to give any assurance for a successful life. By experience and experiment, it has been indicated that even the persons with high intellect cannot always be successful Many people have been
trying to fill the gap between success and failure caused by mind and heart. Emotional maturity involves the ability to deal with feelings and the ability to communicate. The lack of these skills for reaching impact results in unhappiness and inability to form positive relationships. Recent findings have identified emotional maturity as the single most important factor predicting success and happiness in life.

In 1989, John Maye and Peter Solovey first coined the emotional intelligence (EQ) to describe a person’s ability to understand one’s own emotions and other’s emotions and to act appropriately based on these emotions. Goleman (1998), a journalist and Harvard University professor popularised this term in his book, Emotional Intelligence. The emergence of EQ gave the explanation that the people with high IQ might not necessarily be successful, and gave rise to a new theory that true intelligence is actually a combination of both EQ and IQ.

Emotional intelligence refers to the capacity of recognising our own feelings and those of others for monitoring ourselves and our relationship. Emotional intelligence has its roots in the concept of social intelligence. Psychologist have classified intelligence in three groups as i. Abstract intelligence, ii. Concrete intelligence, iii. Social intelligence.

Emotional intelligence is a type of social intelligence that involves the ability to monitor one’s own and other’s emotions and discriminate them, and to use the information to guide one’s thinking and actions. The difference between intelligence quotient and emotional intelligence can be explained in the following way. A high IQ is all about memory and understanding the concepts, but emotional intelligence is about feelings and understanding the feelings of other people. The emotionally intelligent person is skilled in four ways as (i) Identifying emotions, ii. Using emotions, iii. Understanding emotions, iv. Regulating emotions.
Emotional intelligence allows us to think more creatively and use our emotions to solve problems. Daniel Goleman believes that emotional intelligence appears to be an important set of psychological abilities that relate to success of life. Daniel Goleman argues that man needs to develop emotional skills and he gives many examples of men with high intelligence who were not successful because they had problems in their emotional skills. He found from his research that people with high intelligence generally have successful relationship with their family, friends and fellow workers. They are successful because they are channelising their goals. He developed a framework of emotional competencies which determine the extent of emotional intelligence acquired by an individual.

An emotional competence is a learned capacity based on emotional intelligence that results in understanding performance at work. It is a very interesting and potential area which needs more attention about emotional intelligence. No doubt emotional intelligence will contribute more to a happy living of an individual and the community.

The complex study of emotions provides us with a view of the vital subjective influence in the student’s life. One of the most difficult aspects of student’s life for the adult to comprehend is the area of emotional development. It is in this area of emotions that the parent or the teacher is frequently ineffective because of his own emotions and feelings. The student who is apparently mature and balanced in his emotional life suddenly becomes upset, restoring to temperamental outbursts.

Edward (1964) defines the word emotion as ‘emotus’, the principle of Emovere, to move or to be put in motion. The word ‘emotions’ is used in psychology to describe a state of excitement in the organism. The emotions represent affective feeling tone. It is characterised by inner adjustment, conditioned by the functioning of the automatic nervous system and aroused by the interaction
between the external stimulus situation and the inner mental status. The physical well being of the student is a primary factor of his physical growth, so his emotional well being of the student is a primary factor in his mental and personality development. There is also a cross relationship, physical factors influence psychological growth and emotional factors influence the physical growth.

In understanding student it is important to recognise the significance of need of theory. Fundamental needs are not only organic but include psychological needs which have developed during the process of socialisation and emergence of self-individual needs of the student. In education the teacher helps each student to become aware of his own needs then utilizes them in the motivational process. The emotional development depends chiefly on maturation process determined by heredity. Emotional development is process of both maturation and learnings. Since maturation is essential for student's psychological growth, it plays a significant role in the development of intelligence in the student.

Psychologists differ considerably in their emphasis on the role of maturation in the development of emotional behaviour. Maturation influences the expression of emotion through development of capacities rather than through ripening of a specific innate response pattern. Emotional maturity is always relative. However it can be developed throughout life. It is also a form of maturity from which one can regret most quickly. The student becomes more mature as the parents and teachers permit him to accept more responsibilities and becomes independent and self sufficient. Emotional maturity is not a state of problem solving but instead is a continuous process of clarification and evaluation in an attempt to integrate feelings, thinking and behaviour.

Bernard (1965) defines that emotion is a powerful reaction that have motivating effects on behaviour. Emotions are physiological and psychological responses that influence perception learning and performance. Emotions are simply
one class of motives. Some defines emotion subjectively in terms of feelings experienced by the individual. Emotions are a special class of motives. The bodily changes in emotions are more dramatic than other motivational states. Thus an emotion is an extremely arouse motive with important bodily accomplishments. We shall examine the effects of emotion on behaviour with particular reference to a comparison of emotion and motivation.

Emotions are aroused by a variety of innate stimulus patterns, learned stimulus and social situations. Anger is another emotion that may be produced by certain situations on innate basis. Emotions are also aroused by threats to our more personal and social motives. The word ‘mature’ means ripeness or fully developed. Obviously a student is immature as far as physical development is concerned. He may mature in the sense that he has reached the development typical to his age, An adolescent who quickly recovers from a broken heart is mature for his age and is developing towards the conduct which will be mature when adulthood is reached. It appears therefore maturity is not an absolute. It is a process. Emotional maturity is the process of acting one’s age. The teachers should not expect students to reach stability of emotions beyond their years.

Students’ capacity for development and adaptation to changing conditions are probably their outstanding characteristic. The wide variety of their daily experience contribute to both emotional turmoil and emotional maturing. The provision of guidance can enhance their speed and direction of development. The problem of parents and educators is to establish goals for emotional maturity and work for their achievements. Emotional maturity is not so much an eliminating disruptive emotion as it is providing commendable substitutes. This can be fostered by experiences of success in social contacts, in physical activities, and the development of skills.
Emotion drives the individual by adding excitement. Like biological drives, emotion may be aroused, sustained and directed towards an activity. It can also serve as an emergency source of power. Emotion like joy, pleasure, delight, affection, happiness mostly act as an energy resources. It has been observed that mild joy, curiosity, optimism, affection and confidence act as positive emotions. These are energy resources for adults. They are responsible for positive mood.

Emotion like thrill, fear, power, rejection beyond a certain degree disturb adults mood. Emotion and Performance are closely related. There is evidence that it is the emotional aspect of expressive behaviour that is the key to understand its ties to certain personality traits. That is an individual likely has typical ways of expressing or inhibiting feelings like anger or joy. However those personality traits in adulthood are more stable than childhood. Perhaps the most significant individual dimension of style is an overall expressiveness. People vary in the intensity expansiveness, animation and dynamism of their nonverbal behaviours. Expressive people are perceived as more attractive than unexpressive people (Friedman and Schustack, 2004).

Emotional health and goodness of society hinge on character formation. Characters in the inner principle in a student that motivates choice and behaviour. It is the intellectual root of all forms of activity. Principle by which we feel know and will. Parents are positive forces when they nurture within child a sense of trust and stability. motivation, competence, integrity and emotional maturity. When a child develops these characteristics feels himself positively, his self evaluation influences the ways he interacts with others and interprets. Our children live in a culture of instant solutions. We should create a sense of inner confidence, repeated experiences of persistence, diligence and responsibilities (W3).
2.2.5 Decision Making

In industries managers have used knowledge available to them to make decisions shaping the world in which they lived. The impact of manager's decisions has ranged from those affecting the world in some small way or affecting the globe in great proportions. Over the centuries, number of decisions being made per time period has increased. The complexity of decision activities has grown. The amount of knowledge used in making decisions has exploded.

Decisions made by today's managers in business, government and other organisations play an important part in determining the landscape of tomorrow's world. Our different backgrounds and experiences, develop a novel method of taking new decisions. The first step in decision making is i) Collecting information, ii) Sensing by facts and details, iii) Institution trying to see the total picture. The combination of handling information and implementation methods define decision making.

Decision making is a complex and well developed area. Decision making skills are core components of most executives. This technique makes the best decision possible with the information you have available. With these tools you will be able to map out the likely consequences of decision, work out the importance of individual factors and choose the best course of action to take cost analysis which are routinely used in commercial decision making. Check for accountability in a timely manner with good decision. Analytical thinking and business development in a periodic manner enhance thinking and improve decision making (W4).

2.2.6 Time Management

The way we spend our times determines the quality of our lives. Time is one of the most valuable resources but like all precious resources, it has also to be properly managed. Time management as told already is all about balance. It means
not being two extremes in styles we used to manage time. Time demonstrates job
analysis and skills, the important aspect of time management is doing skills. Doing
skill requires the application of effort to carry out what needs to be done than
putting it off.

Everybody has to manage their life to some extent whether it be at home or
at work or both. Time is our most valuable source. By analyzing time usage on a
regular basis, it is possible to understand the most efficient ways to understand time
both in and out of work place people’s attitude towards time is complex and
variable. Perception of time and its usage vary worldwide. Our attitudes towards it
are constantly changing. Many of these changes are due to advent of new
technology, which affects our work, travel and communication. The internet, e-mail
and modems have made the exchange of information almost instant. Individuals
and departments are held accountable for their use of time. Company culture can
have an important influence on how employees use their time. In too many
organizations, working long hours is equated with hard work. In fact long hours
often decrease efficiency and productivity. Ways of using time become habitual, So
make an initial investment of time to rethink and improve these habits. The key to
successful management is possession of good time management skill. Keeping a
precise and reliable record of forth coming events, appointments and obligations
are crucial for efficient time management. With a positive attitude towards life, it is
much easier to manage your time and solve problems at work.

Time management skills are essential for successful people. These are the
practical techniques which have helped the leading people in business, sports and
public service reach the pinnacles of their careers. Industry develops their skill of
success, goal seeking, clarity of objectives, time management organisational style
and self confidence. Teach time management to avoid procrastination. Share
details and dialogue about future strategy. Time management helps you become
highly effective and show how to identify and focus on the activities that give you the greatest returns.

2.2.7 Group Discussion

The behaviour of people in group is the domain of social psychology. Group has been used and defined from different analysis. A group is a social unit consisting of a member of individuals who stand in role and status relationship to one another. Group discussion plays an important role in social learning. The teacher must create and improve conducive emotional climate and cohesion in the class as a group employing techniques developed by research workers in the field. To improve classroom work more interestingly free group discussion should be arranged. The suggestions and views should be invited from the students to improve the existing conditions.

Men and women carry on their everyday affairs by means of prodigious amount of talk. The object of most of this kind of talk is to arrive at decision to form for our self or to urge upon others conclusions about the topics discussed. A group is two are more persons or things having some common characteristics. Group discussions usually carry on their deliberations through oral discourse and under the guidance of the teacher. It gives the cooperative solution of the problem. It is a process of group deliberation in which individual participants sensing the existence of a problem, seek collectively to remove or modify it through oral consultation under the guidance of the leader. In short we are concerned exclusively with the problem solving discussion. Discussion is a group of reflective thinking for the purpose of reaching a rational to the felt needs (Wagner, 2003).

2.3 STUDIES RELATED TO NON TECHNICAL COMPETENCIES

A study was conducted by Mitachell, Marry (2001) on "Importance of workplace skills needed for entry-level employment as perceived by secondary
vocational students and employers" The purpose of this study was to determine the importance of workplace skills and competencies that high school graduates needed for entry-level employment are vocational basic skills, thinking skills, personal qualities skills, resource skills, systems and technology, informational skills, and interpersonal skills. A stratified random sampling procedure was used to obtain information. There was a significant difference between students' and employers' perceptions of the importance of entry-level workplace skills in the areas of basic skills, thinking skills, resource skills, systems and technology skills, and informational skills, with students perceiving the skills to be more important than employers. Results obtained from this study indicated that there should be a closer collaboration between educators and employers to eliminate the disparity regarding knowledge and skills needed in the workplace.

A study was conducted by Lu, Chifang (2002), on Instructional technology competencies perceived as needed by vocational teachers in Ohio and Taiwan (China). The purpose of this study is to explore and describe the perception of the perceived competence, importance, and educational needs of instructional technology for vocational and career-technical education teachers and draw comparisons between Ohio and Taiwan. The objectives of this study are to determine: (a) the demographic characteristics of vocational teachers such as age, gender, highest degree earned, instructional technology experience, and specialty; (b) the perceived knowledge and importance of instructional technology competencies for vocational teachers in Ohio and Taiwan; (c) the perceived need for further education in instructional technology by vocational teachers in Ohio and Taiwan; and (d) the relationships among the demographic characteristics of vocational teachers and their instructional technology education needs. The population was all vocational education teachers working at 44 comprehensive high schools and six Joint Vocational Schools (JVS) in the Central Region of Ohio and 22 vocational high schools in Kaohsiung district, Taiwan, during the 2001 and 2002 academic year. The magnitude of the relationship between characteristics was
defined according to Davis (1971). The t test for independent means was used to compare the mean scores of two different groups. The Pearson correlation coefficient r was used to measure the relationships between ages, year of teaching, instructional technology training experience and calculated perceived educational needs for instructional technology competencies. The Spearman correlation coefficient was used to measure the relationship between teachers' education degree earned and perceived educational needs. The multivariate analysis of variance (ANOVA) Eta Squared was used to measure the association between gender, teachers' teaching specialty and perceived educational needs.

A study was conducted by Ivey, Starla Lynn (2002), on Workplace competencies (SCANS) of job applicants as reported by human resource personnel. The primary purpose of this study was to investigate the perceptions of human resource personnel with respect to workplace competencies possessed by job applicants and the factors employed when evaluating these skills in job applicants. Data for the study were collected during face-to-face meetings with human resource personnel from 25 employers in mid-Missouri. To the extent that data are valid and reliable: (a) fewer employers are hiring job applicants who are at the less than GED educational/skill level; (b) as the educational/skill level of a job applicant increases so does the level of workplace competencies possessed and the hiring salary; (c) the assessment method does not differ among educational/skill levels, however, the type of information addressed becomes more technical and specific; (d) companies utilize a combination of assessment methods to increase the validity of the screening process; and (e) employers believe in the importance of teaching soft skills to job applicants and must actively encourage educational administrators to develop curriculum that accentuate soft skills.

A study was conducted by Blackerby, Cliff Buckner(2003) on "A forecast of competencies in implementing professional development programs for teaching faculty of community colleges participating in the Virtual College of Texas". The
study had three purposes, first to identify a set of competencies that should be included in professional development to establish a priority for those competencies that will allow those responsible for professional development to tailor training based on need, resources, and time available. The Virtual College of Texas Delphi panel initially identified 152 competencies. In subsequent survey rounds, these were reduced to 70 competencies classified into 11 separate categories. The categories were identified as: Learning styles, needs, and theory, Content expertise, Presentation and teaching skills, Multimedia, Instructional design, Interaction, Copyright, Evaluation, Web design and application, Technical, and Administrative and organizational skills. Williams' (2000) panel was in agreement with 24 of the 50 VCT panel's results representing 48.0% of the total. There was disagreement on seven (14.0%) of the competencies identified. The Virtual College of Texas, community colleges, and four-year institutions of higher education can use this study to target staff development programs for distance learning faculties.

A study was conducted by Witchel, Arnold Dale (2003) on the use of psychographics as an indicator of job success for online faculty. The extension of education opportunities to distance learning has created new delivery systems that have increased the demand for online courses and this demand is also increasing the need for instructors who are willing to educate through distance technology. It requires different communication skills, but also different personality traits and attitudes than traditional education. It is necessary and important to universities who endeavor to offer non-traditional educational delivery methods to identify those individuals who can successfully make this transition to the online environment and those who cannot. While studies specific to the teaching profession have found that vocational personality types have a high correlation with job satisfaction, little has been discovered regarding the type of personality, values or lifestyles that might successfully match the personality or psychographic style necessary to succeed in the online environment as a university instructor. The purpose of this study was to determine if there are significant differences in the composition of
current online faculty from the general U.S. population in categories used by VALS2, a recognized psychographic segmentation tool, and as identified in the most current VALS2 database, specifically in the Actualizer category. A random sample response from 351 University of Phoenix online faculty members was collected and compared to the current VALS2 database. This may have implications for online educational programs to identify likely candidates who are innovators in adapting new technology, as well as aiding in spreading the diffusion curve to other faculty members who are later adopters of online educational programs.

A study was conducted by Roberts, Darby Michelle (2004) on "Skill development among student affairs professionals in the National Association of Student Personnel Administrators Region III": Student affairs practitioners develop a variety of skills in order to serve students and the institutions in which they work. This research study used a newly developed instrument to assess the perceived performance of a variety of skills and the methods that student affairs professionals use to develop those skills. The population included professional affiliates of Region III of the National Association of Student Personnel Administrators. Faculty members and those not practicing in student affairs were excluded from the surveyed population. The professional affiliates were identified as new professionals, mid-managers, and senior student affairs officers. The instrument identified 72 skill statements in ten categories: leadership; student contact; communication; personnel management; fiscal management; professional development; research, evaluation, and assessment; legal issues; technology, and diversity. For each skill category, fifteen learning methods were identified. A usable response rate of 61.6% was obtained. Professionals use a wide variety of methods to gain competence in the skill areas. Very few professionals have taken a sabbatical or on-line course to develop the identified skills. Several skill categories revealed differences between administrative levels, although the student contact category did not reveal any statistically significant differences.
A study conducted on "The relationship between competencies" perceived to be important for administrative effectiveness and the higher education administration doctoral program of study. The duties of higher education administrators have become more complex as a result of issues relating to decreased funding, competition between and among institutions, and increasingly sophisticated technology. Therefore, it is important for doctoral programs in higher education administration to ensure that their curricula remain current. A needs assessment, similar to the one in this study, is an accepted way of accomplishing that goal. Higher education administrators, graduates from two public universities (n = 213), were surveyed to obtain their opinions on whether or not 25 administrative competencies culled from the literature were addressed in their programs of study and were important to the job of an administrator. Significant differences were found with regard to respondents' ages, sex, years of experience, and graduate institutions. Significant differences were also found when relating respondents' perceived competence upon graduation and at the time of the survey, suggesting that internships providing actual experience in a real administrative setting may allow graduates of doctoral programs in higher education administration to feel more capable.

Caution should be exercised when assuming that instruction alone can compensate for deficiencies in competence since respondents (n = 152) indicated a significant difference in perceived competence between graduation and the time of the survey, suggesting that on-the-job experience may afford administrators greater competence than instruction (Porter, Judith Adkins 2004).

A study conducted on "An analysis of perceptions of the role and effectiveness of Southern Baptist seminaries" in preparing students for administrative tasks. This study examines the perceptions of Southern Baptist ministers and seminary faculty regarding the importance of administrative competencies and the perceived level of seminary preparation in equipping
graduates for managerial responsibilities. Relationships between perceptions of ministers and faculty are analyzed using ranking correlation methods. The impact of staff position on the perceptions of ministers toward administrative competencies is also examined. Rank variances are used to identify competencies where potential over-preparation and under-preparation occur. Knowledge of biblical models of administration supported the emphasis found in precedent literature. Both groups rated assessing and reporting lasting importance among the five competency dimensions. Ranking variance analysis indicated that over-preparation occurred in four of the thirty-four competencies while under-preparation was identified in four competencies (Welch, 2004).

A study was conducted by Ross, N. Diana (2004) on Pre-service teachers' perceptions of cultural competency. The purpose of this study was to examine pre-service teachers' perceptions of cultural competence during the student teaching experience as the result of participating in a diversity and poverty simulation. The results of this study were consistent with present research on developing cultural competencies and the use of simulations in teacher preparation programs. This qualitative research utilized data gathered through interviews with pre-service teachers from a private university, citations from expert sources, and insights from the researcher's twenty-five years of teaching experience. The research further found that while pre-service teachers had increased awareness of the lives of those who are minority and of low socioeconomic status, they did not operationalize that awareness into the classroom in changed strategies for teaching students of diverse population and poverty. As an initial study in the area of simulations and assessing cultural competence, this study revealed that pre-service teachers are firmly rooted in prior cultural beliefs that in turn strongly influence decision-making and classroom interactions.

A study was conducted by Chen, Angela Shin-Yih (2004) on "Perceptions of Taiwan practitioners on expertise level and importance of workplace learning and
performance (WLP) competencies" (China). This study aims to identify Taiwan Human Resource Development (HRD) practitioners' perceived importance of Workplace Learning and Performance (WLP) competencies at the present time and in the next five years. The purpose of this study included: (1) to analyze the perception of current expertise, current importance, and future importance of WLP competencies of HRD practitioners in Taiwan; (2) to identify differences in perceived importance of competencies in terms of different disciplines of Taiwan HRD practitioners; and (3) to identify the competencies most needed at present time and in the near future for HRD practitioners in Taiwan. The most-needed individual competency and competency group for now and for the future were successively found to be Electronic Performance Support Systems and the Technological competency group. The most-needed WLP role for now is the role of Evaluator while that for the future is the role of Intervention Selector. The major differences in perception on expertise level and importance of WLP competencies among disciplines were found in the Training discipline when compared with all other disciplines. Taiwan HRD practitioners in the HRM and Other disciplines had higher perceptions on current expertise level, current importance, and future importance of the WLP competencies than those in the Training discipline. Implications of this study and recommendations for future studies were made at the end.

A study was conducted on "Creativity theory as a framework for embedding character education in professional programs". Previous research has identified several non technical competencies that are lacking in veterinary medical practitioners. Consequently, the purpose of this study was to act upon this previous research by developing a model for balancing the emphasis between technical and non technical competencies in professional programs. From these research methods recommendations were generated for improving veterinary medical pedagogical methodology and interventions were identified for improving the
performance of veterinary students based upon their psychological similarities with other high achieving populations (Zenner, Dan 2004)

A study was conducted by Pfeifer (2004) on "A comparison of the effectiveness of two training methodologies in the development of management soft skills". Effective management development training programs are of strategic importance to business survival (Carnevale, 1988). The most common method for corporate training delivery is the instructor-led workshop, although the use of e-Learning as a training delivery method is an emerging trend (Galvin, 2002). Unfortunately, transfer of training remains a challenge for both methodologies. To improve transfer of training, coaches have been used after the completion of training courses (Stewart, 1998). This study compared two delivery methods: Instructor-led workshop and Self-Directed Motivation System (SDMS), a new delivery method using a telecoach and online instructional materials. This study used a two-group, pretest-posttest randomized block design with intrinsic motivation as the blocking variable. Thirty-two managers from two companies were randomly assigned to one of two training methods, and were taught three performance management skills. Pretests and posttests on knowledge, skill, and intrinsic motivation towards training content were administered. Two months following the treatment, skill transfer interviews were conducted, resulting in three transfer ratings. The study found no statistically significant differences in the measures of knowledge or skill acquisition between treatment groups. However, skill 3, Creating a motivation plan for an employee, did show higher levels of transfer in favor of SDMS, and there was a statistically significant increase in post motivation scores for the experimental SDMS group. The study also found a sizeable correlation between transfer of skill 3 and intrinsic motivation in the instructor-led workshop (.71), and a small correlation between the same measures in the SDMS group (.11). While these correlation coefficients are based on small sample sizes, and should be interpreted cautiously, they suggest that the authentic nature of the
SDMS delivery method reduced the importance of intrinsic motivation for successful transfer.

A study conducted by Jenkins (2004) on Data-driven derivation of skills for autonomous humanoid agents. This dissertation addresses the problem of modularizing the capabilities of a humanoid agent into skill level behaviours. Our approach to this problem is to derive the skill level behaviours in a data-driven fashion from human demonstration. The humanoid agent is provided with a repertoire of basic skills by leveraging underlying behaviours in observed human movement. These skills serve as a foundation for endowing a humanoid agent with the ability to act autonomously. Given such a repertoire, a humanoid agent can autonomously perform functions such as control for various tasks, classification of human motion, and learning by imitation. Additionally, a repertoire of skills provides a common vocabulary for human-agent interaction and interface for non-technical users. Performance-Derived Behaviour Vocabularies (PDBV), an automated data-driven methodology for deriving a vocabulary of skill level behaviours from human motion data. The study was developed validated and evaluated the above approach to automated skill derivation in several ways. First, the methodology is empirically evaluated on multiple sources of time-series data, spanning scripted activities such as dancing and athletics, in order to validate input motion preprocessing, the structure of derived behaviour vocabularies, realizing each behaviour as forward models, and humanoid agent control.

A study was conducted by Scott, Barbara Susan (2005) on "The relationship between emotional intelligence and ethical decision making": Though the relationship between emotional intelligence and ethical decision making had been alluded to, no previous study was found that investigated the relationship to provide empirical evidence. Therefore, this study sought answers to three questions. The sample for this study consisted of 60 faculty/staff/administrators and 60 students, 30 of whom were liberal arts majors, and 30 of whom were career and technical
majors. All were from a small rural community college in northeast Mississippi. Each group consisted of equal numbers of male and female subjects. Emotional intelligence was measured using Mehrabian's General Emotional Intelligence Scale (GEIS), and ethical decision making was measured using the Defining Issues Test 2 (DIT-2). This study presented evidence that emotional intelligence is a predictor of ethical decision making, with education being the only significant contributing factor. Liberal arts majors and career and technical majors in this study did not differ in levels of emotional maturity. Based on the findings of this study, educators should focus on developing emotional intelligence throughout a student's school years so that both emotional intelligence and ethical decision making may be positively influenced. Additionally, community college career and technical majors should be targeted for training to develop emotional intelligence.

A study was conducted on, "Maryland community college academic deans and department chair perceptions of higher-order skill proficiencies for associate degree completers". The SCANS report issued in 1990 brought national attention to concerns about lagging competencies of US workers and their lack of preparedness for the high-performance workplace. Since the SCANS report, several national and statewide efforts have attempted to identify skill sets appropriate for success in the changing workplace. Recent discussion has included skill sets appropriate for college graduates. This study was designed to determine perceptions of Maryland community college chief academic officers and department chairs toward one such skill set, the Maryland Skills for Success, and whether they are appropriate learning expectations for associate degree completers.

The study involved a survey of 293 chief academic officers and department chairs at the 18 community colleges across Maryland. A 75 percent response rate was achieved. Based on respondent ratings, the communication, thinking and interpersonal skill sets in the MSS have the best chance of gaining acceptance by colleges interested in integration of purposeful teaching and assessment of a
higher-order skill set across the curricula. Respondent ratings also indicated that it is unlikely that the colleges would undertake a common initiative to teach and assess recommendations include the need for extensive faculty development and the provision of incentives from the state educational agencies to provide support for colleges interested in teaching and assessing a common higher-order knowledge application skill set. (Ball, James Dunington, 2000)

A study was conducted by Scott David Michael (2000) on, “The importance of multi skilled training and workplace basic competencies as perceived by Missouri hospital nursing executives and nursing instructors”. The primary purpose of this study was to determine if there were significant differences among nursing instructors who teach at two-year associate degree and four-year bachelor degree programs in Missouri and hospital nurse executives regarding their perceived importance of requiring nursing students to have clinical skill competency outside of nursing for three occupational domains occupational, physical, and respiratory therapies. Secondly, the study sought to determine if there were significant differences among nursing instructors and hospital nurse executives regarding their perceived importance of requiring nursing students to master non-clinical workplace basic skills.

There was a significant difference among the mean rating scores of all respondents regarding the perceived importance of requiring nursing students to have competencies in the professional domains of occupational, physical, and respiratory therapies. To the extent that the data collected and findings are valid and reliable, and representative of the three nursing groups, the following conclusions were formulated: (a) hospital nurse executives and nursing instructors of two-year associate degree and four-year bachelor degree nursing programs agree that it is important to require nursing students to have clinical skill competency outside the professional domain of a registered nurse for physical, occupational, and respiratory therapy; (b) hospital nurse executives and nursing
instructors believe that respiratory therapy skills are the most important skills for nursing students to acquire, followed by physical therapy skills, and occupational therapy skills; and (c) the nurses in this study, collectively, believe in the importance of workplace basic competencies (SCANS), with interpersonal skills being most important.

The study was conducted on, "United States Fortune 500 companies human resource directors' perceptions regarding competencies required in the 21st century of entry-level business employees with four-year business degrees". The purpose of this study was to investigate the specific competencies and skills that human resource directors in U.S. Fortune 500 companies believe that entry-level business employees with a four-year business degree should possess in the 21st century (the year 2001 and beyond). The findings from the study will assist in closing the educational skills gap. This will allow business school administrators and faculty an opportunity to realize and recognize what competencies and skills business employees must have in the 21st century workplace.

A pilot study was conducted to aid in establishing validity and reliability. Human resource directors from each of the U.S. Fortune 500 companies served as the participants of the study. The questionnaire was mailed to each participant. Descriptive statistics were used to analyze research questions. Responses to the qualitative requests were read, recorded, and analyzed, and reported on in a summative fashion. The results of the study indicated that the competencies and skills that entry-level, four-year degree business employees should possess in order to succeed in the business workplace in the year 2001 and beyond include basic skills, thinking skills, personal qualities, resources, interpersonal skills, information competencies, systems, applying technology to task, business etiquette, corporate entrepreneurship (entrepreneurship), professionalism, and personal wellness. (Porterfield, Sheila Yvette Crowther, 2000).
A study was conducted by Downing (2000) on “An engineer's application of non technical skills in team-based work environments”. The purpose of the study was to contribute to a better understanding of the workplace skills necessary for engineers to function effectively in team-based environments. The study surveyed engineering graduates of Southern Illinois University at Carbondale (SIUC), to determine non technical skills necessary to function effectively in a team environment, and gather recommendations for acquiring such workplace skills, both prior to and after entering the workforce. Surveys were completed by 188 graduates of SIUC between Spring 1993 and Fall 1998. Participants included: all disciplines of engineering, except mining; 100 participants functioned in traditional work environment; and 88 participants functioned in team-based work environments. Participants rated 20 non technical skills with respect to their importance in team-based work environments. The two most important skills identified were Listening and Decision Making. Although there was statistical difference between the majority (17 out of 20) of means from respondents in team-based and traditional categories, participants working in team-based environments rated non technical skills higher than those in traditional work environments.

Findings support further research for implementing changes in undergraduate engineering education to incorporate learning of non technical skills. As prioritized by respondents, listening, decision making, problem solving, verbal communication, leadership and time management should be emphasized in the instruction.

The Study was conducted by Anderson (2000) on, “Survival competencies required of human resource development generalists who are solo-performers in organizations in the next five years: A modified-Delphi study”. The purpose of this study was to determine the survival competencies required of human resource development (HRD) generalists who are working in an organization having a one person HRD or training department over the next five years. The experts identified
twelve survival competencies necessary for a HRD department having one person over the next five years. Survival competencies identified were: political acumen, organizational diagnosis, communication, relationship management, organization, inquiry, organizational linkage, internal consulting, presentation skills, assess employee performance, project management, and job-specific training. These competencies serve to define the responsibilities and necessary skills of the HRD generalist who must manage, design, develop, present or outsource and evaluate employee performance interventions on their own. The study used two Delphi groups. The first modified Delphi was used to select the panel members for the main Delphi study. These Delphi panel members were members of the International Board of Standards for Training, Performance and Instruction (IBSTPI). The fifteen members of IBSTP1 were approached to serve on the first panel. Five IBSTPI accepted and completed the expert selection in three-rounds. Criteria used by this Delphi panel was based upon the experts' standing in the HRD community as practicing and published professionals.

The experts identified twelve survival competencies necessary for a HRD department having one person over the next five years. Survival competencies identified were: political acumen, organizational diagnosis, communication, relationship management, organization, inquiry, organizational linkage, internal consulting, presentation skills, assess employee performance, project management, and job-specific training.

The study was conducted by Ford (2000) Jody on, "Identifying technology leadership competencies for Nebraska's K–12 technology leaders". It requires a person with diverse skills and abilities who can provide guidance to teachers, administrators, and Boards of Education who are involved in the purchase and implementation of technology for schools. The newness of the role in education makes it virtually impossible for one to already have expertise in all aspects of this position, yet very little attention has been given to the formal preparation of the
technology leader. Using the competencies recommended by the International Society for Technology in Education (ISTE), Nebraska technology leaders rated the competencies based on the level of importance to their position and their overall proficiency level of applying those competencies. Technology leaders also identified the predominant learning method, formal or self-directed, in which they acquired the majority of the competencies and rated the level of effectiveness for that learning method.

Descriptive statistics and repeated-measure one-way ANOVA's were used to analyze the data. Due to the number of tests run to identify significant differences between competency constructs, the alpha level of .05 was adjusted to .0009 using the Bonferroni method. The analysis showed multiple significant differences between the levels of importance placed on the constructs recommended by ISTE. Competencies in the area of Staff Development were identified to be most important throughout all forms of analysis.

The level of importance placed on competencies were fairly consistent when construct means were compared to the (1) age of the respondent, (2) years of experience as a technology leader, (3) classification of school district, and (4) highest degree earned.

The study was conducted by Akers (2001) on, "High school agricultural communications competencies: A national Delphi study". The major purpose of this study was to identify competencies that should be attained by high school students who complete courses in agricultural communications. Identification of the competencies came from industry leaders, high school agricultural education teachers, and agricultural communications university faculty. As a means of accomplishing the purpose of the study, answers to the following questions were sought: (1) What specific topics should be included in a high school curriculum for agricultural communications? (2) For each topic identified, what competencies
should agricultural communications students possess upon completion of the program? (3) For each competency identified, at what scholastic level should they be introduced to the student? A three-round Delphi technique was the principle procedure used to conduct the study with a total of 75 individuals being asked to participate in round one. In the first round, the panel identified 11 topic areas that should be included in a high school agricultural communications course.

Resulting rounds produced 93 competencies within the 11 topic areas that were identified for potential inclusion in the high school curriculum. Of the 93 competencies, two were eliminated due to lack of agreement by the panel. Scholastic level ratings by the panel further reduced the number of competencies appropriate for high school students to 76 and categorized the remaining competencies according to appropriateness for introduction at the freshman, sophomore, junior and senior level.

The Study was conducted by Richards (2001) on, "Public health informatics: A consensus on core competencies". This descriptive study identified competencies and the supporting skills and knowledge in public health informatics for public health informaticians and for general public health practitioners. Within the study's integrationist research design, which combines both qualitative and quantitative methods, the methods used were telephone interviews and a web-based Delphi survey. The interviews were substituted for round one of the traditional Delphi method. The interview data were analyzed using a constant comparison method and the final results were used to develop the Delphi survey items. A snowball sampling technique identified the study participants who met the selection criteria of expertise in public health informatics, public health education, public health practice or informatics education. Nine experts participated in the interview process and 23 in the Web-based Delphi.
The interview results provided a new definition for public health informatics: Public health informatics is the innovative application of information science, computer science and information technology to improve management of information in public health practice and research, ultimately improving the health of the community.

This research can provide a foundation for developing public health informatics curricula in graduate programs and schools of public health and public health workforce training programs.

The study was conducted on, "Identifying job types and competencies for instructional technologists: A five-year analysis". The study identifies the competencies that are required of instructional technologists by analyzing job postings forwarded to an instructional technology department of a major research university over a period of five years. Purposes were to discover emerging trends in skill requirements that may be useful information for instructional technology programs in aligning their curricula to meet the needs of prospective employers, highlight new areas for research and development, and define the expanding boundaries of the IT field as it exists today.

Content analysis was used to analyze the job postings. Frequencies of competencies mentioned in the job postings were calculated. Cross tabulations and the Chi-square Test of Independent; were also used in the analysis. Semi-structured interviews with employers who were involved in the development and distribution of job postings were used to supplement the document analysis. A Job postings included 367 from corporate settings, 413 from education settings, and 47 from not-for-profit organizations, government, and military. A total of 93 competencies were identified, which were clustered into 22 categories. Similarities and differences in competencies were found across different settings. Overall, demand for web/online course experience increased over the years 1995 to
1999. Basic competencies such as analysis, instructional design and development, implementation, and evaluation proved to be in high demand across all settings. In business settings, instructional design and development, communications, management, and computer application skills were found to be prominent. In education, media skills and teaching/delivery skills were more in demand. Competencies for non-profit organizations showed a similarity to both business and education settings; however, evaluation was more prominent than in other settings. Competencies requested also varied strongly based on the education level specified and the work setting. A comparison with the International Board of Standards for Training, Performance, and Instruction (IBSTPI) competencies is also conducted. A list of primary job types and their related competencies for instructional technologists was developed. (Byun 2001).

A study was conducted on, "A study to identify international business competencies needed by business graduates of four-year colleges and universities in Taiwan, R.O.C." The need for international business education is a result of the intensifying global economic integration. Curricula in business schools must explicitly address the global competitive, cultural, and economic factors that shape the environment in which firms operate. An international business curriculum, which enables students to develop a strong awareness of cultural and economic differences among nations and a deep appreciation of how professionals operate on an international basis, is needed. Yet, as international business has impacted other nations and economic entities, it has influenced greatly Taiwan's economic development over the last couple of decades. This study attempted to identify the international business competencies perceived to be necessary by business educators, policy makers, and practitioners in the international business setting for business graduates of Taiwan's four-year colleges/universities to be successful in securing and advancing in business positions. The results of this study will assist business education programmers to align college/university business curriculum with international business environment and practices. Procedures The research
procedure used to conduct this study included: (a) a review of a literature review of global economy, transformation of Taiwan's economic structure, and the current status of higher education in Taiwan, (b) development of initial research instrument, and (c) data collection and analysis by the modified Delphi technique. The initial questionnaire consisted of 42 statements compiled from the review of (a) National Business Education Association's (NBEA) 1995 International Business Competencies and (b) Zeliffs 1993 study of International Business Competencies Considered Important by Fortune's Global 500 Firms. Thirty-three experts including policy makers, business educator, and international business practitioners served on the panel identifying which competencies were important or unimportant. The panel members generated 9 additional competencies, which were added to the instrument after the initial round. Conclusions In three rounds of modified Delphi study, the following conclusions have been reached (Wang 2001)

2.4 SUMMARY OF REVIEW OF RELATED LITERATURE

1. The review of literature on non technical competencies gave valuable suggestion which can be used in the development of the tool.

2. The views on the non technical competencies by different educationists and psychological are found useful for the study.

3. Study by Mitachell (2004) indicates differences in perception of skills needed by stakeholders (Students & Employers).

4. Study conducted by Lu (2002) explored the competence of different categories of teachers.

5. Ivey et al (2002) studied work place competencies of job applicants as reported by human resource personnel. The study found that
educational administrations should develop curriculums that accelerate soft skills.


7. Study by Porter (2004) on “Relationship between competencies” indicate significant differences with regard to respondent’s ages, sex, years of experience and graduate institutions.

8. A study conducted by Zenna (2004) has identified several non technical competencies that are lacking in veterinary medical practitioners.

9. A study on the relationship between emotional intelligence and decision making indicates emotional intelligence is a predictor of ethical decision making. Study also concluded that career and technical majors should be targeted for training to develop emotional intelligence (Susan, 2005).

10. Study was conducted on “United States Fortune 500 companies human resource directors perceptions regarding competencies required in the 21st century of entry level business employees with four-year business degrees”. Results of the study indicated the competencies needed at the entry level.

11. Downing (2000) conducted a study on “An engineer’s application of non technical skills in team-based work environments”. Listening and decision making were the 2 most important skills.
12. Study was conducted by Akers (2001) on "High School agricultural communication competencies". Results produced 93 competencies identified for inclusion in the curriculum.

13. Study was conducted on "Identifying job types and competencies for instructional technologists" : A list of primary job types and their related competencies for instructional technologists was developed (Byun, 2001).

14. From the above studies, it is found that the requirements of non technical competencies are essential to make the students of Engineering colleges into employable engineers. There is a need to introduce practical guidance in the area of non technical competencies which are needed for the moral behaviour of the student. Educationist viewed that different non technical competencies are found useful for the study. It is also found that educational administrators should develop curriculum that accelerate non technical competencies.