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Status, Contents and Strategies based on the Humane Quality Education of University of Science and Engineering

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***Abstract*—Humane quality education of university of science and engineering in China actually started with the arrival of the missionaries who set up a very quality education system whereby reading and arithmetic formed the basic curriculum. The goal of this paper was basically to have researches on the status, contents and strategies for humane quality education.**

Keywords—Status; Content; Strategies; Humane quality education; university of science and engineering

I. INTRODUCTION

A. The spirit of Humane and its development

Developing humane attitudes is not a recent problem. Today, however, man lives in complex groups in a highly technological society. Not only is the population increasing, but it is concentrating in major metropolitan areas. Students of social and personal space see the dense centers of population and the rural to urban migration patterns as causal factors for major problems in human relations. Hall (1966:155) states that urban residents are not only facing a space problem but also an adjustment to the introduction of people from differ at cultural backgrounds. Following the introduction of the strange mice, erratic, agonistic, and aggressive behaviors began to occur. The adjustment of rural people, who have relocated to a major area of population concentration where cultural values differ from theirs, thus becomes a major social problem. Both the increase in the density of population and the conflicts created by the introduction of a different culture into an established community requires an adjustment that is more than economic. An entire life style is involved. If man cannot learn to adapt more readily then did the Southwick mice, we are facing, in Hall's (1966:155) words, "some terrible consequences. . more lethal than the hydrogen bomb." In addition, man now possesses the hideous potential annihilation of all life forms currently existing on this earth. Our air is polluted to the point where the problem is visible to any one who cares to look. Our rivers and streams move sluggishly toward their ocean destinations, fouling that immense body of water beyond believability. Our land is scarred, our timber supply dangerously low, and the energy crisis is upon us. As a result, millions of dollars are spent monthly to put homeless, unwanted animals out of their misery. Man's inhumanity does not stop with man. It extends to all things.

Never before in the history of mankind have conditions been so right for humanitarians to impart their message of humaneness to all of mankind. The felt need for solutions to the many current problems facing man has created a climate conducive to the growth of humane attitudes. The door is open, the message of humaneness is there, and the medium for that message, education, is available. Yet, very little humane education can be found in the school curricula or the materials of our colleges. According to most authorities, education in China's colleges should extend beyond the humane quality education. Educators need to be concerned not only with schooling, but also with a broader sense of the educational process. This process includes a commitment to viewing education as a deliberate, systematic and sustained effort to transmit and evoke knowledge, attitudes, values and skills, which is called humane quality education. Currently, it has long been felt that humane education should go hand in hand with the cultivation of the mind, that humaneness is enlightened with a cultured education in China's university of science and engineering.

B .The Meaning and Structure of Humane Quality Education

1)The Meaning of Humane Quality Education

Dr. Amy Freeman Lee (1974:4) also makes this point when she says: How can you tell if the heart that beats under the sackcloth or the satin is that of an educated human being? You look for specific salient characteristics such as individuality, communicativeness, creativity, concern and, above all else, humaneness. P. P. Claxton (Reynolds 1926:9), United States Commissioner of Eduction from 1911 to 1921, stated that humane education is an "inalienable right" of students in the educational process if we wish to attain the goals of "freedom and brotherly love." He adds: How much richer and fuller is the life of the man or woman who has learned to sympathizes with all nature and to treat all creatures kindly and mercifully. He feels humane education

should be with a thinking, emotionally stable individual question the idea that kindness and compassion towards sentient creation, in fact all creation, are hallmarks of enlightenment and culture, which are the basic contents of humane quality.

These attributes are basic to the intellectual, emotional, social and spiritual development of the students. Since the creation of humane attitudes goes hand in hand with the cultivation of the mind, Superintendent Hyatt's observation is a good one. Accordingly, humane education might well form an important part of the curriculum of the colleges. Although humane education has been recognized as a significant area of educational programming, powerful in its potential effects upon the ultimate character of a college student, it has been largely ignored in China's universities of science and engineering. Mr. Oliver Evans (Westerlund 1965:2-3) recognized this travesty as follows: The desire of humanitarians to impart their ideals to the next generation has always been intense. Many efforts have been made with China's universities, school administrators to have humane education programs inaugurated. In all but a very few :uses, these efforts have been frustrated because of the lack or teaching materials and the total unfamiliarity with the subject on the part of teachers and school administrators. There was a complete failure to win recognition for humane education from those universities prominent in the field of education. As qualifications of teachers and as method and content of classroom activities have developed in this century, the humane movement has found itself increasingly isolated from the education process.

C. Main Contents and Characteristics of Humane Quality Education in Universities of Science and Engineering

Humane education has the potential of being a vital, dynamic force at the cutting edge of societal change. For nearly a hundred years it remained largely, if not wholly, outside-the education community. As a result, humane education never really made a significant impact on or within the universities of science and engineering. Recently, however, proponents of humane education have helped to generate an unprecedented interest in this important aspect of education. Never before in the history of mankind has the climate been more conducive to instilling the basic precepts of humaneness in the young people of China. In order to more fully understand humane education, its content and methodologies, several areas need to be considered. Historical perspective is important when introducing anything new and this is particularly true of education. An overview of early programs and materials by humane societies and related organizations indicates that many attempts have been made to introduce humane education into the universities curricula. Such an understanding will, hopefully, result in the development, diffusion and adoption of sound humane education instructional methods and materials.

Humane education can make an important contribution to the development of a mature and emotionally stable adult. An educational tool which for some reason has been neglected. Exploitation of this tool will certainly serve the purposes of both educators and humanitarians with reference to organized groups. It would appear that this is an area where the interests of these two groups logically converge.

D. Significant of Strengthening Humane Quality Education in Universities of Science and Engineering

From the outset, humane education has been an important part of the humane movement in China's universities of science and engineering. Many humanitarians and educators agree that humane concepts should be a part of the teaching-learning process in colleges. A variety of methods and materials have been used, some of them successful, others not so successful. But at no time have these efforts penetrated the total ,educational community to the extent that it has become integral part of the education process. The term "humane" has been the subject of much misunderstanding. In some circles, it is equated directly with the alleviation and prevention of suffering in humans with no stated concern for other living things. Herbert A. Thelen (1969:2) expresses this view when humaneness is "not only caring for each other but for our common plight." In his view "a humane person is a kind of superman who possesses two major attributes: enlightenment and compassion." It is impossible to "define a humane person apart from the society." Accordingly, it is not possible to be truly humane without extending the full implications of the term to all life forms.

In other words, a humane person does not feel kindly toward animals and unkindly toward humans, nor is the reverse possible. The true humanitarian is sensitive to the needs, both physical and psychological, of humans. In addition, because of the interrelationship between the animate and the inanimate in this world, the humane attitude must, by necessity, be extended to include all things--living and non-living. Humaneness (to be humane), however, is a theoretical term. Like most theoretical terms of behavior, humaneness refers to a construct, the abstract element of a theory. Some modern psychologists express doubt about the usefulness of such constructs. Nevertheless, such theories have a strong group of supporters. In other words, although we can see only behavior, we build the linking mechanism which now allows us to explain the entire process. This linking mechanism is known as a construct.

II. CURRENT SITUATION OF HUMANISTIC QUALITY EDUCATION IN UNIVERSITY OF SCIENCE AND ENGINEERING

A. Connotation of humanistic quality of contemporary science and engineering students

1) Adult Higher Education

Humaneness, is a construct. As such, it is not a real and observable entity. It is not a specific substance nor can it be measured directly. It cannot be observed. Only the behavior that results from these characteristics is observable. The term balance also becomes vital to the definitive understanding of the word humane. The degree of emphasis in each area, both animate and

inanimate, is created through awareness of the importance of each component to the total. Therefore, the following broad definition of "humane" is recommended: humaneness is a construct which describes an attitude on the part of an individual whereby he exhibits behavior patterns reflective of a balanced sensitivity to all things, i. e., a respect or reverence for all sentient creation. The goal is not only the survival of life forms but survival in a world where cruelty and suffering are minimal. Humanizing Education In education circles the term "humane" is now experiencing wide popularity as a direct result of the current efforts t humanize education.

2)Charles Kellar (1972:18), a proponent of humanizing education, provides a good understanding of humanistic education when he says, "Education must be man centered, both in things studied and in the way it is directed at the individual. . ." He stresses the stand taken by humanistic educators when he says that students must be made to feel that they count as individuals. The process of humanizing education is based on humanistic psychology and humanism as a philosophy. Humanistic psychology and humanism as a philosophy allow each individual the privilege and right to be human. Accordingly, a human has the right of freedom of choice with responsibility, but more important, a human is recognized as finite and fallible. Therefore, to be human does not necessarily imply humaneness unless Rousseau's belief that man is innately good is the basic philosophy. Humanistic educators also refer to making the classroom more humane rather than merely humanizing the education experience.

3) Funderburk (1972:16) defines a humane school as follows: . . . one which attempts to stress the ideal psychological atmosphere for each student to learn in school--a place where a student can learn to like himself better, to understand himself better, to get into society, to be able to work with others, and to be able to learn in diverse ways in different fields. It is a place where he is not only free to learn but learns that freedom is not doing as he pleases--where that freedom carries with it grave responsibilities a happy place where there is order without regimentation, where there are teachers who have empathy who do care where there is a curriculum and methodology which stimulate the ability and the disposition to learn, where the student has a feeling of worth wholeness and belonging and where the teacher and administration dare to care and dare to act.

Rutherford (1972:59) on the other hand defined humaneness in education relative to science teaching. He states: This total school science experience is humane if it is marked by compassion, consideration, and respect foil7 each and every student and responsiveness to the needs of each. Rutherford (1972:60) suggests that operationally the criterion of humaneness requires that two kinds of conditions be met: First, a science program is not humane if it does not regard all students in the school as being equally important persons. Second, students cannot be impressed with the essential humanity of science if their experience in science classes diminishes or demeans them in their own eyes. Based on the first condition, Rutherford objects to favoritism implied by counseling girls out of science and the use of superior teachers for superior students. He justifies the second condition by his belief that science courses should be pleasant, rewarding experiences. He sees this principle violated whenever the students are graded by some abstract standard or when the focus is on grades and not on values. He adds bookish activities, teachers as lecturers, and lack of flexibility as other inhumane acts. Rutherford's interpretation of making education more humane is not unique.

B. Status based on the Humane Quality Education of University of Science and Engineering

1) A fact that accounts for at least some of the confusion whenever the conversation turns to humanizing the universities, an idea that can mean either humaneness or humanness. More and more the term has become restricted to senses involving moral qualities and a disposition to treat other human beings, with kindness or compassion. Therefore, according to Snider, humaneness provides humanistic education with a specific direction. It designates what behavior pattern is desirable whether the educational process is educating Locke's blank tablet or reeducating Rousseau's innately good individual who has been corrupted by his culture. It is important to note, however, that when used in this capacity, the construct of humaneness is treated in a one-dimensional manner. The desired humane relationship is between the teacher and the student, within the structure of the school and is limited to inter-human relationships. In fact, most proponents of "taking the hurt out of the classroom" deal mostly with the teacher's attitude toward the student and, in many cases, the idea of creating a humane school deals largely with curricula and ignores the human interaction of the classroom completely.

2) Distance education programs abound in universities, particularly in degree programs in undergraduate education, and in certificate and graduate programs in education and business. Currently, about 56% of all regionally-accredited colleges and universities offer courses or degree/certificate programs through distance education and learning models (CHEA 2002). Although individual courses or other forms of curriculum are offered through distance learning technology in most fields of study, including the professions, relatively few professional degree programs outside the fields of education and business are available through distance education. Exceptions to that are the nursing and social work professions, each of which have in their professional training accreditation standards provisions for distance learning (National League for Nursing Accreditation Commission, 1998-99 Winter; Council on Social Work Education, 2000).

Regional accrediting bodies have been working in concert with the Council of Higher Education Accreditation (CHEA) to develop guidelines in distance education for application to colleges and universities in general. From these efforts, in collaboration also with the Western Interstate Commission on Higher Education (WICHE), the Council of Regional Accrediting Commissions (2001) has summarized what it considers to be best practices for electronically offered degree and certificate programs. Other higher education associations also have offered policy guidance related to distance learning in an effort to develop “industry guidelines.” Examples exist in the American Association of University Professors (1999) statement on distance education, the Council of Graduate Schools (1998) policy statement on distance education, and the Institute for Higher Education Policy (2000) benchmarks for success in Internet-based distance education.

3) While several degree programs offered through distance education in professional areas of psychology are currently in effect, only one is currently accredited through the APA Committee on Accreditation (CoA). That is the doctoral program in clinical psychology offered by The Fielding Institute. Faculty of that institution have pioneered models of distance learning for many years (Rudestam and Schoenholtz, 2002). Other programs, even those already accredited through more traditional education models, may be reluctant to experiment with distance education without some guidance as to how to assess quality in a manner that the CoA and other credentialing organizations in psychology (e.g., the Association of State and Provincial Psychology Boards, the National Register for Health Service Providers in Psychology, etc.) would find acceptable. Although the Association of State and Provincial Psychology Boards (ASPPB) has expressed interest in guidelines pertaining to evaluating both foundational and continuing professional education offered through distance learning formats, principles for assessing quality in doctoral programs offered in professional psychology through distance education have simply not been developed.

4) Yet, there continues to be a demand for such programs among place-committed persons who wish to complete their professional education and training in psychology but are not residing in an area close to a campus-based program and for any number of reasons cannot move. Requests for information about opportunities to obtain doctoral degrees for professional practice through distance education models continue to be received, especially from those with master's degrees in psychology or related areas who are providing psychological or other human services in rural, frontier, or off-shore communities. At the October 2000 Surgeon General's Conference on Mental Health, participants highlighted the need for part-time, distance education programs of quality for upgrading professional credentials and continued professional education in new areas or roles within the health professions (e.g., re-training for primary care roles). Much the same rationale has been used in the APA's initiatives of the past few years to develop guidelines for telehealth services in the practice of psychology (Jerome *et al*, 2000; Reed *et al*, 2000).

In psychology, there is a paucity of literature on distance education models and little more on the use of electronically-mediated education (Hansen & Gladfelter, 1996; Rudestam & Newton, 1992, Stadtlander, 1998). There is a BEA Task Force on Technology in Education, but is focus to date has been more on applications to undergraduate than to graduate and professional education. Indeed, professional psychology is at the early stages of engaging in either distance education or electronically-mediated education as defined above. From the perspective of the Task Force, further advancement in each of these areas of pedagogy will enable the profession to meet several challenges.

It would increase access to professional education and training among those for whom this is not currently available, *e.g.*, to "place-committed" individuals located in isolated rural, frontier, and off-shore locations, as well as those who simply prefer this option. This will entail addressing a series of other challenges discussed below.

It would allow electronically-mediated education to be used as a resource to upgrade the quality of traditional residential programs. For example, instruction in didactic courses might be improved by using an on-line platform to post lecture notes which have hyperlinks to full-text journal articles. Another example: using chat rooms and electronic bulletin boards to help integrate the diverse training experiences of advanced students on their internships. This challenge would come under the heading of "distributed education," as defined above, and in its most ambitious form would involve pedagogical efforts to match the goals of specific parts of the curriculum to the available and emerging technology.

It would allow application of the "best practices" in telehealth care to the challenge of providing clinical supervision of appropriate quality to place-committed students in remote locations (Kanz, 2001).

C. The main problems of humanistic education in Universities of science and technology in China

1) The absence of humanistic quality leads to the standard of humanistic quality training for College Students

Even now at the beginning of the new millennium, the second wave is still the major trend of education reforms. Accountability to the public, quality assurance for stakeholders' satisfaction, school monitoring and review, parental choice, student coupon, parental and community involvement in governance, school charter, and performance-based funding have become popular initiatives in education policy making. For example, many countries are now promoting school-based management as the major school reform that include most of these initiatives for ensuring interface quality and effectiveness between the school and the community (Cheng, 1996a).

2) The lack of humanistic training atmosphere leads to the lack of humanistic quality training in Universities

Traditionally, the discussion of education quality in this first wave focuses heavily on the effectiveness of internal education processes particularly teaching and learning in classroom. In this line of thinking, *education quality* mainly refers to the achievement of planned education goals particularly in terms of students' education outcomes. The higher achievement in planned education goals implies the better quality in education. In this sense, education quality is not different from education effectiveness. Also, *quality assurance* often refers to the efforts for improving the internal environment and processes such that the effectiveness of learning and teaching can be ensured to achieve the planned goals (Cheng, 1997a). This type of quality assurance may be named as "Internal Quality Assurance". As shown in Figure 1, the structure of effectiveness in teaching and learning can provide an useful overall view on how strategies and initiatives can be conceptualised and organized to ensure internal quality in education (Cheng, 1995a, 1998).

3) The curriculum system of humanistic quality is unitary, which leads to the lack of humanistic quality and the lack of attraction in the classroom

E*ducation relevance to the future* is one of the critical elements in the discussion of education quality. It means that in addition of internal quality and interface quality, we should have education quality for the future in terms of education relevance. We may define *future education quality* as the relevance of education to the future needs of individuals and the community to meet the

coming challenges in the new millennium. Therefore, *future quality assurance* refers to the efforts to ensure the relevance of aims, content, practices, and outcomes of education to the future of new generations in a new era.

III. THE REASONS FOR RESTRICTING THE QUALITY EDUCATION OF COLLEGE STUDENTS OF SCIENCE AND ENGINEERING

A. The fundamental reason for restricting the humanistic quality education of science and engineering students.

In the past decade, there have been numerous education reforms and initiatives following the paradigm of second waves of education reforms. The use of the interface quality assurance models to ensure education quality and effectiveness in a changing and demanding environment and meet the needs of key stakeholders has been very evident and popular in different parts of the world.

1) External factors restricting the humanistic quality education of students majoring in science and Engineering

Recently, the rapid globalization, long lasting impacts of information technology, drastic shocks of the 1997 economic downturn, and strong demands for economic and social developments in both international and regional competitions have stimulated deep reflection on current education reforms in the Asia-Pacific region and other parts of the world. Policy-makers and educators in each country have to think how to reform curriculum and pedagogy and to prepare their young people to more effectively cope with the new era (Dalin & Rust, 1996; Gardner, 1999). Unfortunately, the environment is changing too fast and full of uncertainties and ambiguities. In such a context, most policy-makers and educators get confused with numerous novel but conflicting ideas and lose their directions in the rapid globalization.

They begin to doubt whether the second wave of education reforms can meet the challenges in a new era of globalization, information technology, and new economy. They are concerned with how interface education quality and internal effectiveness are relevant to these challenges. Even though the existing stakeholders are satisfied with the quality of education services and the education institutions are accountable to the community, education is still ineffective or “useless” for our new generations in the new millennium if the aims, content, practices, and outcomes of education are nothing to do with the future needs and challenges in such a rapidly changing environment.

2)Internal factors restricting the humanistic quality education of students majoring in science and Engineering

Education effectiveness in classroom is a comprehensive conception even though it is often assessed by the quality and quantity of achieved student learning experiences and outcomes. The structure shows how the key internal factors such as teacher factors, curriculum factors, contextual factors, and student factors are related to student learning experiences and educational outcomes. It assumes the following procedural inter-relationships among the components of internal education effectiveness (Cheng, 1998; Medley, 1982): Student learning outcomes are the product of the interaction between curriculum characteristics, student learning experience and individual characteristics; Student learning experience is affected by teacher performance, curriculum characteristics, and classroom environment; Teacher performance is determined by the interaction between teacher competence, curriculum characteristics and school organizational environment; External teacher education, school-based teacher education, and pre-existing teacher characteristics can contribute to teacher competence; and teaching evaluation based on the information from teacher performance, student learning experience and learning outcomes can be used to facilitate development of teacher competence through staff development activities.

IV. THE MAIN CONTENT OF HUMANISTIC QUALITY EDUCATION IN UNIVERSITY OF SCIENCE AND ENGINEERING

A. Take the physical and mental quality education as the foundation, the humanities foundation

Humaneness becomes desired quality in the classroom but is not specifically incorporated into the learning process as subject matter for the students and it is certainly not extended to all sentient creation. Humane Education Almost every organization which has been involved with humane education has attempted to define humane education. The following definitions have been and are currently being used by various humane organizations and ether interested groups. They have been taken directly from printed materials distributed by the organization to the general public. The American Humane Education Society (AHES) (pamphlet) states that humane education builds: . . . character by awakening and fostering, especially in the hearts of the young, the principles of justice and compassion toward all sentient life. . . It seeks to awaken in the heart of the child principles of kindness and justice toward his fellow beings. Humane education has frequently been referred to as "education of the heart" by AHES and others. The American Humane Association (AHA) refers to humane education as "the instrument by which Albert Schweitzer's philosophy may be applied. . . In short, it is the application of the Golden Rule to all living creatures. . (It) means reverence and justice for life." The World Federation for the Protection of Animals (WFPA) (pamphlet) defines humane education as "the awakening and fostering of the principles of justice, fair play and compassion toward every form of life capable of suffering."

B.Humane education which promotes humane behavior.

It deals with behavior that promotes the kind of life in which the suffering, both physical and psychological, of all living things will be ameliorated. Implication is not intended that humanizing education or making education more humane is not a part of humane education. Actually, it is a very integral part of humane education. In order to effectively foster the concept of humaneness, the environment must be humane and the teacher of humane concepts must be a humane person. Practically speaking, humaneness must pervade the entire educational process. It is difficult to imagine effective learning taking place in an

inhumane surrounding and it is impossible to imagine humane education having any kind of impact on students who are learning in an environment that is inhumane. Therefore, the concept of humanizing education and making the education experience more humane is an important aspect of humane education. Conservation education, environmental education, and outdoor education have frequently been confused with humane education. A closer look at them and their background will reveal their likenesses and differences. Clearly, they are closely related but many proponents of one do not recognize the other.

C.Cultural functions refer to the contribution of the education system to the cultural transmission and development at different levels of society.

At the individual level, education helps students to develop creativity and aesthetic awareness, and to become familiar with the dominant values underpinning their society. At an institutional level, education institutions act as agents for systematic cultural transmission, cultural integration among their multiple and diverse constituencies, and cultural re-vitalization. At the community and society levels, education institutions often serve as a cultural unit carrying the explicit norms and expectations of the local community. Again, Conflict Theory provides an alternative view. It suggests that schools and teachers socialize students from different levels of society with different sets of values and beliefs and, in the process, benefit some groups more than others. At the international level, education can encourage appreciation of cultural diversity and acceptance of different norms, traditions, values, and beliefs in different countries and regions. For the long term development of individuals, the community, the society or the whole world, the education relevance to cultural functions is inevitably a key concern in future quality assurance.

D.Human-social functions refer to the contribution of the education system to human development and social relationships at different levels of the society.

At the individual level, education helps students to develop as fully as possible psychologically, socially and physically. At the institutional level, schools or education institutions help invent and reinforce the quality human relationships which frame organizational behavior. From a Functionalist perspective, education serves certain social functions in their local community. These functions include social integration of diverse constituencies, facilitation of social mobility within existing class structures and reinforcement of social equality. From the alternative viewpoint of Conflict Theory, education reproduces the existing social class structure and perpetuates social inequality (Cheng, 1995a; Blackledge & Hunt, 1985). Due to the growing global consciousness (Beare & Slaughter, 1993), education needs to prepare students for international harmony, social co-operation, global human relationships, and work toward the elimination of national, regional, racial, and gender biases at the international level. Given the importance of human-social functions of education to developments at different levels, how to ensure education relevance and quality in this aspect is often the hot topic in education policy making and debate.

E.Education functions refer to the contribution of the education system to the development and maintenance of education at different levels.

Traditionally, education has been perceived as a means to achieving the economic, social, political, and cultural values only. Rapid and widespread change, however, has prompted now an acceptance that education in and of itself is a crucial goal. The content, system, and structure of education, then, need to be developed and maintained. At the individual level, education helps students to learn how to learn, and teachers to learn how to teach. At the institutional level, education institutions serve as a place for professionals working together to improve learning and teaching through mutual support and shared innovation. At the community and society levels, education provides services for different educational needs within their communities, facilitate developments of education as a profession, disseminate knowledge and information to the next generation, and contribute to the formation of a learning society. In order to encourage mutual understanding among nations, education can contribute to the development of global education and international education exchange and co-operation. The increasing importance of continuous life long learning to the future development reinforces the relevance to education functions as necessary component in quality assurance.

V.THE MAIN METHODS AND WAYS TO IMPROVE THE HUMANISTIC QUALITY EDUCATION IN UNIVERSITIESOF SCIENCE AND TECHNOLOGY

A. Take development as the center and do "two strengthening"

This approach focuses on improving the quality of some components of the structure with a hope to enhance or ensure the quality in student learning outcome. For example, many improvement initiatives take teacher competence as the key factor for internal quality and make effort to improve teacher competencies such as language skills, pedagogic knowledge, subject knowledge, use of information technology in education, etc. In the past years, there have been different types of improvement efforts for internal quality assurance in education such as school management improvement, classroom environment improvement, teaching improvement, learning improvement, curriculum improvement, evaluation improvement, and teacher education and quality improvement. All these efforts focus on improvement of the quality of certain components with aims to achieve planned education goals. Table 1 shows some examples of this component quality approach.

Currently, based on this approach, there is a strong emphasis on using the benchmarking concept (Bogan & English, 1994) to ensure the quality of each component of the education effectiveness reaching at a certain standard.

B. Renewing ideas and insisting on the humanity-oriented teaching system.

Students' training must be standard, appropriate and be marketable in the labour market and will incorporate relevant life skills, both spiritual and character training, to become a vital component of student's training. The program also provides short term skill training courses, employment information and dissemination programs, to assist young people make appropriate career choices from options available.It encourages parental and community support in rural areas. The emphasis is on specialized farm training in dairying, beef cattle, piggery, taro/cassava production, ginger, short term crops, aqua culture, farm management, agricultural trades, mechanical skills and motivational training for discipline.

C. Praktisch and Coordinated development of theory and Practice

Early proponents of conservation measures quickly realized that in order for conservation to become a part of our cultural value system, like so many other concepts, it must be introduced into our educational system. Conservation was first introduced into science curricula but it soon became apparent that conservation was more than a science problem. The National Conservation Education Association (Williams 1961:287) believes that a major goal of conservation education is "the recognition by man of his interdependence with his environment and with life everywhere, and the development of a culture which maintains that relationship through policies and practices necessary to secure the future of an environment fit for life and fit for living." Conservation is as much a problem of people as of resources; the subject needs to be incorporated into the entire social sciences curriculum. Art, music, and literature are all related to man's appreciation of the natural world, its infinite variety and basic unity. Teachers in every subject matter area have found that they can strengthen the contents of their courses by relating them to resources and conservation.

Despite many and varied attempts at introducing conservation into the curricula of the nation's schools, Hobart, Smith and others contend that conservation education has not been successful. Thomas Smith (1971), assistant director of one of the national conservation organizations, maintains that conservation education has failed because "there has been virtually none of it." The failure, in Smith's view, has been primarily due to the lack of understanding of the educational process and how it relates to conservation. According to Smith, conservationists have failed to seek good counsel relative to designing the process and content of their educational programs. Too frequently, professional educators merely told them what they wanted to hear. Griffith et al (1971:7) criticize conservation education in that "basic ecology and how man must make decisions predicated upon ecological relationships" is not found in most conservation education programs. They ask the provocative question. "Why should kids or any one else not be exposed to the conflicts arising in society between economic motivations versus ecological sanity?" Smith (1971) maintains that we cannot :all a program conservation education unless it does show these relationships. He says: When we practice resource management based on ecology, we often do it against the traditional exploitations of resources and in the process get some mighty powerful forces mad at us., If conservation education does not offer the opportunity for students to Understand and discuss those socio-economic-ecological conflicts, then it's a hoax. Environmental Education John G. Broughton agrees with Smith with regard to the value of ecology but he maintains that, with the inclusion of ecology, conservation education becomes environmental education. Broughton (1972:8). states: Honest skepticism is a strong bulwark but a clear understanding of the underlying principles of ecology is best. This is the contribution which environmental education must-make pervading every corner of elementary and secondary education and continuing until we truly understand the complex balance between man and nature and what we must do to preserve it. Hobart (1972:23) and Griffith et al (1971:7) see environmental education as an outgrowth of, and a direct result of, the failure of conservation education. Hobart continues with the view that environmental education can learn from the mistakes that conservation education made and, by so doing, better serve the cause. The Ninety-first Congress enacted the Environmental Education Act on October 30, 1970 (Steidle 1971:21). In the view of the legislators who developed the Environmental Education Act, environmental education is: . . . the educational process dealing with man's relationship. with his natural and man-made surroundings, and includes the relation of population, pollution, resources allocation and depletion, conservation, transportation, technology, and urban and rural planning to THE TOTAL HUMAN ENVIRONMENT. ARNSTEIN (1971:7-8) RELATES ENVIRONMENTAL EDUCATION TO OTHER education areas. He states that environmental education is an expanded version of conservation education and outdoor education; a new version of science education; an enlargement of biology into ecology; a modification of geography into something broader and deeper; an addition to English courses as they will include a composition on how we left our picnic areas unlettered; the constructive use of field trips to national landmarks and to the environmental study areas being set up by the National Park Service; and the use of the American country side (and urban settings) to tie together nature, history and an appreciation of our heritage. Arnstein concludes that we must view environmental education in a broader context than has been done in the past by well meaning. We must see the environment as a whole. He says, "That, if we hope to survive, is what environmental education should be all about." Robert E. Collins (1969), director of Environmental Science Center in Golden Valley, Minnesota,. states: "environmental education views natural resources as a commodity of which man is a part, not as a commodity for man to exploit." According to Collins, environmental education points out choices for land and water use and relates them to general values and social objectives. It also provides approaches to management consistent with ecological principles, economic facts, and esthetics. Environmental education is defined by Griffith et al (1971:9-10) as "an integrated process which deals with man's interrelationships between his natural and man-made surroundings. It is intended to promote among citizens the awareness and understanding of the environment, our relationship to it, and the concern and responsible and action necessary to assure our survival and to improve the quality of life."

D. All-round Developing students' individual quality

Conservation education becomes a part of environmental education. The Soil Conservation Service of the United States Department of Agriculture, however, joins environmental education with conservation education. They do not see environmental education as a separate subject but as environmental-conservation education. It is a "synthesis of knowledge from many disciplines and deals with the relationship between man and his physical biological environment in a social-cultural context." Careful inspection of all the definitions for both environmental and conservation education suggests that the concepts for both are fundamentally the same. Both are striving to achieve a way of life based on careful husbandry of natural resources, elimination of waste and over consumption, and respect for natural systems above those that-are man made. Both realize the necessary involvement of societal and economic problems of the nation. Outdoor Education Outdoor education initially occurred. at Round Hill School for Boys between 1823 and 1834. Activities included walks of twelve to sixteen miles every Saturday afternoon, annual trips by horse and wagon to see places and people of interest, geological expeditions and fishing trips. The boys also started their own village. They constructed huts and spent many hours shooting rabbits with bows and arrows. (Bennett 1965:60-61) According to the American Camping Association, at present 15,000 camps have been established by private agencies, churches, schools and other interested' groups for the purpose of outdoor education (Mand 1967:24-25). At the outset, outdoor education provided wholesome recreation activities in the summertime. It evolved, however, to include activities such as art, music, crafts and nature interpretation. The 1960's brought the social orientation phase of outdoor education. Outdoor education camps were used to provide a laboratory for social value formation. (Mand 1967:25-26)

More recently outdoor education has been defined as: An educational method within which a natural and experimental atmosphere for teaching, learning, and ultimately living is realized. Desirable knowledge, attitudes, and skills are developed through an approach that utilizes the out-of-doors in a natural plain direct and simple way. Outdoor education includes all educational activities under the direction of the school conducted beyond the four walls of the classroom and school building. Outdoor education may include extended classroom experience on the school ground and in the neighborhood field trig to community resources, such as outdoor field exper ience, trips to a fire station, trips to a market and school camping. (hand 1967:29-31) Environmental and conservation education, which are concerned with the quality of the outdoor physical environment, may be viewed as the "end" of the educational efforts and outdoor education as the "means" to reach the end. Conservation and environmental education deal with an attitude--"an attitude of stewardship toward resources, both natural and human." Whereas, outdoor education is a method-- a method whereby direct experience in the environment is given. Math, English, History, or any of the subject areas may be taught by using outdoor education. (Harrison 1970:46) Commentary Outdoor education thus is considered a valuable tool available to all types of education. The outdoor laboratory, according to Clausen (1968:278), enables the child to "see, feel, hear, smell, and even taste what they study." Proponents of outdoor education see the great outdoors as the greatest teacher.

Conservation education and environmental education are both concerned with the continuation of life on the planet earth and the quality of that life a clean environment and a healthy, stimulating and rewarding surrounding for future generations of mankind. They are concerned with the preservation and wise use of our natural resources. They, like the concept of humanizing education or making the schools more humane, tend to be human centric (human centered). Concern for all of life deals with the economic and esthetic qualities of future existence as they relate to man. Nothing is stated relative to the rights of all sentient creatures nor is any mention made with regard to the amelioration of suffering, both physical and psychological, in both man and animals, The environment of our world is protected to insure the continuation of life forms and the natural resources are managed for future generations to use and enjoy. Interrelationships between humans receive concern but the human-animal relationship is not mentioned except that animals are a part of the necessary ecological balance.

On the other hand, humane education makes a deliberate attempt to foster the attitude of humaneness in the student as well as the teacher. The ultimate goal of humane education is to create an awareness in the student of the needs of all other living things. Implication is not intended that conservation, environmental and outdoor education conflict with the concept of humane education. When the broader definition of humane is incorporated into the curricula, conservation and environmental problems will be dealt with as a normal chain of events. Humane education uses conservation and environmental education concepts within the framework of education for humaneness. Outdoor education is one of the many tools available to the humane educator. Humane education, therefore, is the gestalt (the whole) approach and by necessity it is a conscious attempt to build and/or alter attitudes. 'Humane education is that which seeks to promote humaneness through the educational process. Humane education, like all education, is both a process and a product. It is on-going--an act which never fully attains the goal at any given point but methodically and systematically moves toward it.

VI. Conclusion

Educational activities have long been recognized by humanitarians as an important part of their work. Imparting practical knowledge about the construct of humaneness became a part of the humane movement activities at the outset of their development and continues to be their major emphasis to the present. Through the years, three areas of education toward humaneness have developed: education of children through formal education programs in the schools and as an extra-curricular activity, and education of the public and the instruction of those persons working for humane societies (McCrea 1910:89-90). Humane education for the public and for humane workers is important.The George Washington University Study In 1964, The Humane

Society of the United States began an extensive and pervasive drive toward the introduction of humane education into the school curricula. The study was an attempt to determine what was being done in China's universities relative to humane education; to foster an awareness of the problem; to obtain professional opinions with regard to the need for, and the feasibility of, the development and implementation of programs of humane education and to obtain a sample relative to humane attitudes.
The following conclusions were drawn from the results of the study and the conference: At the time of the study very little was being accomplished in the schools regarding the subject of humaneness; Humane education can and does make a meaningful contribution with regard to the development of students; Considerable interest and enthusiasm was shown in connection with the subject of humane education; There is a readiness on the part of many to support humane education; Educators at all echelons feel a need for humane education; The implementation of humane education in China's universities is feasible; People's attitudes differ toward the physical and psychological suffering of both people and animals; 8. Since humane attitudes are not the product of one dominant factor but the product of many factors, it is difficult to generalize about humaneness; 9. Balance must be sought relative to the development and implementation of programs of humane education in order that desired results may be realized; The development of an awareness is a prerequisite to humane attitude development; No single teaching method or material will produce the desired results; therefore, numerous methods and materials must be developed for use in the schools with regard to the development of humane attitudes.

The Future of Humane Education Never before in the history of mankind have conditions been so right for making humaneness a part of the cultural value systems throughout the China's universities. Many people are needed to work on ways of preventing humanity's destruction by balancing the contracture and defusing the potential holocaust. Today's youth are tomorrow's citizens. What we teach today will determine the quality of life in the future. Once humaneness as a value becomes part of the cultural heritage of this nation, and hopefully of the world, it will normally and naturally be taught as a value in the universities.

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