

Defining Quality in Technical Colleges

by

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ABSTRACT

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All post-secondary institutions promulgate their compliance with quality standards but offer little data to show support of such a claim. Research has been done regarding the effective implementation of quality measurements in many different industries. Industry sanctioned studies have been contracted and released displaying archaic traditions that serve to re-enforce guidelines and principles that have been carried throughout the mainstream and yet show no signs of ever being appropriate. This document explains the current state of affairs and offers recommendations for instituting quality tools as measurable¹ devices in an effort to better the Wisconsin Technical

¹ Measurable: “a mechanism to assign a quantity to an attribute by comparison to a criterion.” (QualityMeasures, 2004)

College System (WTCS). The focus is on the WTCS primarily due to the tremendous overall impact that this educational system has on the well being of the citizens of Wisconsin and all those that are affected directly and indirectly from its societal contributions. This study offers a current analysis of data collected from a survey of two Wisconsin technical colleges and allows for the extrapolation to the entire WTCS. The study also investigates and evaluates a vast collection of resources and directly compares the information contained, with the current situation. Additionally it offers an opportunity for the effective use of measurable tools for improvement in addition to development and implementation of a quality initiative founded on realistic and achievable requirements necessary in today's educative environment.

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TABLE OF CONTENTS

	Page
ABSTRACT	ii
<i>Defining Quality in Technical Colleges</i>	ii-iii
CHAPTER I: INTRODUCTION	1
<i>Introduction</i>	1
<i>Wisconsin Technical College System Vision</i>	2-3
<i>Chippewa Valley Technical College Mission/Vision</i>	3
<i>Northcentral Technical College Mission</i>	3-4
<i>Statement of Problem</i>	4
<i>Purpose of Study</i>	5
<i>Goals of Study</i>	5
<i>Background</i>	5-8
<i>Significance</i>	8
<i>Assumptions of Study</i>	8-9
<i>Limitations of Study</i>	10
CHAPTER II: LITERATURE REVIEW	11
<i>Summary Statement</i>	11-19
CHAPTER III: METHODOLOGY	20
<i>A Restatement of the Problem</i>	20
<i>Instrument Contents and Problem Connection</i>	20-21
<i>Instrument Development</i>	21
<i>Delivery and Retrieval of Instrument</i>	21
<i>Survey Instrument</i>	22-24
<i>Review of Data</i>	25
CHAPTER IV: RESULTS and CONCLUSIONS	26
<i>Survey Results- CVTC</i>	26-28
<i>Survey Results- NTC</i>	29-31

<i>Cumulative Results</i>	31-35
CHAPTER V: DISCUSSION and CONCLUSIONS	36-37
<i>Delimitations</i>	37
<i>Conclusions</i>	38-39
<i>Recommendations</i>	39-44
References.....	45

CHAPTER I: INTRODUCTION

Introduction

The Wisconsin Technical College System (WTCS) is an integral component of education within the state and has been since 1907. At present there are 16 technical colleges encompassing 47 statewide campuses, which are responsible for approximately 16 thousand graduates yearly. From the cumulative campuses there are more than 300 career programs that have classes and credits most of which transfer into four year institutions in the University of Wisconsin System. (WTCS, 2004) The WTCS wields a \$1billion budget annually. (National Council of State Directors, 2003) and generate approximately \$25million from contract training of 4,600 businesses and 127,000 employees while producing 19,000 jobs (Economic article, 2003) having a significant payroll multiplier² impact on local economies. If the WTCS profile were considered as a for-profit business, then it would meet the criteria of a Fortune 500 company. The WTCS operates without any specific definition of quality or a quality measurement and still has incredible effect on the state, respective counties, local communities, and associated individuals. The WTCS marketing literature and website address the benefits of attending any of the 16 technical colleges throughout the state.

WTCS has listed the top ten reasons to attend a technical college in Wisconsin:

Top 10 Reasons to Attend

- 1) Great-paying careers
Salaries of new technical college graduates are up 30% from five years
- 2) Strong job placement
Only six months after graduation, 94% of Wisconsin Technical College graduates are employed; 80% in their field of study.

² Multiplier (effect): the magnified impact of any initial change in spending, (Rohlf, 1999)

- 3) **Affordable tuition**
Wisconsin technical colleges have the lowest tuition among public post-secondary institutions. Convenient locations often eliminate the need for room and board, saving you thousands of dollars. The ability to receive your degree in less time also results in major cost savings.
- 4) **More career choices than ever**
Wisconsin's technical colleges offer more than 300 programs from which to choose at 16 colleges.
- 5) **Flexible class scheduling**
Class scheduling is very adaptable for students who have busy work schedules or family responsibilities. Many weekend, evening and Internet courses are available.
- 6) **Instructors with real-world experience**
Helping students learn is our top priority, with college instructors bringing a wealth of "real-world" work experience to the classroom.
- 7) **Hands-on learning**
Students are provided with "real-world" environments and experiences to prepare themselves for their careers.
- 8) **Smaller classes**
Smaller class sizes allow for more one-on-one interaction with instructors, and more personal attention for students.
- 9) **Great people and social activities**
Meet friendly people and broaden your social horizons. Take part in lively classroom discussions, student activities, student clubs and organizations, and intercollegiate and intramural sports.
- 10) **Credit transfer to four-year programs**
An agreement with the University of Wisconsin System allows the smooth transfer of credits from many technical college programs to four-year state universities in Wisconsin.

WTCS vision statement:

The Wisconsin Technical College System is the premier provider of technical education. We develop individuals who apply knowledge and skills to enhance quality of life and boost economic vitality. We are committed to extending learning beyond the classroom and throughout life.

To meet each student's educational needs, we:

- Deliver high quality instruction and services that are responsive, flexible and accessible.
- Join talent and technology to make learning generously available and imaginatively delivered.
- Commit to high standards and accountability.
- Create strategic alliances that expand students' learning opportunities.
- Respect each other's dignity, embrace diversity, and offer opportunities for growth.

Currently there is no mission statement for the WTCS. Each of the 16 technical college systems are individually tasked with creating their own version of statements; mission and vision. Subsequently, two technical college's statements were reviewed.

Chippewa Valley Technical College (CVTC):

Mission Statement

Chippewa Valley Technical College delivers superior, progressive technical education which improves the lives of students, meets the workforce needs of the region, and strengthens the larger community.

Vision Statement

Chippewa Valley Technical College will be a dynamic community partner dedicated to adding value through learning and student success.

Northcentral Technical College (NTC):

Mission Statement

Northcentral Technical College facilitates learning of high value to individuals, businesses, industries, and organizations, which builds a competitive workforce in a changing global society.

College Mission

Northcentral Technical College provides quality education, training, and services of high value to individuals, businesses, industries, and organizations – building a competitive workforce in a changing global society.

There are a few points about each of the college's statements that should be briefly addressed:

- CVTC has no mention of quality in either the mission or vision statement.
- NTC has two different mission statements and no vision statement was found. The first mission statement is dated October, 2003 and makes no mention of quality. The second was retrieved from the NTC website April, 2004 and does mention quality education. As of the date of this study NTC was unsure as to which statement is applicable.

The two college statements show semantic similarities but little exactness. (Mission, Vision, and Value, 2004) Their respective mission/vision statements also vary little from the WTCS statement of the "Top 10 Reasons to Attend" one of the 16 technical colleges. Again, nowhere in these 10 reasons is there mention of "quality" in education offered as a reason to attend. (WTCS) Due to the extensive ambiguity description of quality usage among the many campuses, it is obvious to see that these institutions emphasize the impressive financials, program offerings, and graduation percentages without any specific measure of quality education.

Statement of the Problem

Can quality be defined so that integration into the WTCS offers a measurable enhancement for superior education?

Purpose of the Study

The purpose of this study is to develop an operational definition of quality so that its implementation in WTCS leads to the improvement of the system and graduate success. By providing a background in support of defining and applying quality in the WTCS, the application of a defined quality education may be measurably improved upon thereby significantly impacting economic conditions through instructional competency and graduate success.

Goals of the Study

- Show frequency of instructional staff exposure to quality training
- Ability of teachers to incorporate quality concepts into the curriculum
- Comfort of discussing quality issues regularly
- Teacher's current interpretation of quality
- Teacher's estimation of student's involvement in a quality education within the classroom
- Instructor's total years of teaching
- Personal demographics- age, gender
- Instructor's perspective of the importance of quality in American life

Background

“The successful teacher is no longer on a height, pumping knowledge at high pressure into passive receptacles... He is a senior student anxious to help his juniors.” (Osler, 1849-1919)

Education is extremely important especially in today's global culture. All learning institutions acknowledge quality education and all institutions assert their commitment. Although this statement seems elementary and is routinely accepted as the norm, it appears that the use and

definition of “quality” as a re-enforcer with respect to educational excellence offered and received is far from norm in its consideration and application from one college to another. Moreover, these assertions create an entirely different set of issues, difficulties, and rules to deal with on a daily basis. How we accept, reject, modify, and codify the definition and designation of quality and how the integration is successfully implemented must be considered and approached with utmost sincerity by every institution responsible for advanced education.

With “quality” being appropriately defined and applied, instruction will have a significant impact with respect to its graduates and benefiting communities and businesses. Society as a whole will experience a superior level of graduate application thereby increasing productive output and increases revenues to the benefiting areas. This gain will have a tremendous measurable increase in economic impact on employment and subsequently enhance the varying communities and afford their residents a higher degree of quality of life. Considering the price of non-conformance variables as outlined by Philip Crosby there is an estimated financial loss in the service industry of 35% of operating costs. (Quality Without Tears, 1989)

W.C. Deming stated that by providing an increased awareness of quality issues the cost of non-conformance would intrinsically decrease.

New opportunities for implementation and integration of a valuable quality education are always on the horizon. We are in an age with a unique opportunity to grow with the transition of a new educational era as well as assist in its molding. Because of the developing nature of the educational environment never before has quality technology been at such a level to have a positive affect on the lives of everyone within a social structure; the constant is change itself. To discount this phenomenon promotes additional difficulty and community stress in times of

economic strife and uncertain futures due to the global pressure of competitiveness through falling barriers and cultural partnerships.

“Too often teaching methods are mainly a lecture, with follow-up tests that require memorization of data rather than stimulating higher levels of thinking.” (Van Tassel, 2003)

The responsibility for acceptance of creating an era that provides advanced educational mindsets and global opportunities that reflect quality rather than Criterion Referenced or Norm Referenced Measurements (CRM³ and NRM⁴) must take precedence for a productive contribution of everyone that positively interacts with society; this mandate is the responsibility of those institutions with a charter of providing education. Likewise, the “quality of education” terminology has historically been satisfied by supportive statistics of enrollment, graduates, academic tenure, operating budget, and testimonials given by alumni and external enterprises (many times listed as financial contributors, but all political benefactors nonetheless). Consideration of direct intellectual, ethical, cultural, and social impacts of graduates have at best been a modest concern.

Too often students learn at an early age what is required to get by, pass, and receive a diploma/degree and consequently are completely ill prepared to be an active and productive participant in the real world. Several of these “successful” students perpetuate the dilemma by becoming instructors or trainers in various fields thereby solidifying their own ascension and loosening the reigns of academic expectations in their recently created domain.

³ Criterion Reference Measurement, CRM: “a test or other type of assessment designed to provide a measure of performance that is interpretable in terms of a clearly defined and delimited domain of learning tasks.” (Linn, Gronlund, 2000)

⁴ Norm-Referenced Measurement, NRM: “a test or other type of assessment designed to provide a measure of performance that is interpretable in terms of an individual’s relative standing in some known group.” (Linn, Gronlund, 2000)

The observance of instructors and students alike with respect to delivering and receiving a quality education created the underlying foundation and premised the development of this research.

Quality alone as a word is defined easily. It is the concept and cultural influences of quality in the operational standing of an institution of higher learning that is more difficult to identify and embrace. Its difficulty should not be construed as a waste of resources but rather as something that offers challenge and dialogue to decide exactly what is important to the WTCS.

Significance

When quality is specifically defined and applied, technical colleges will have a greater significant productive impact on our educational system. Subsequently, the purpose of instructors will maintain a valuable continued existence with respect to its graduate's knowledgeable contributions to the benefiting communities, employing businesses and enterprises, as well as the educative institutions.

If the instructors and administration are openly receiving of the necessary education in how quality is defined and implemented, then as the expectations of society are fulfilled the student's conversion to the workforce will be smoother with less conflict of what's in the classroom versus real world application. Additionally, the level of instruction of those instructors will maintain and flow as a continuous effort of exponential growth, applicable experience, and knowledgeable demeanor.

Assumptions of the Study

Currently, ineffective measures of quality are accepted within the status quo due to the practiced and entrenched ambiguity of quality's definition in the educational mainstream. There

is no quick fix panacea afforded in this research or its summation. There is little research directly addressing the term “quality” that explores its integration in the technical college educational setting that can be relied upon. Although there is ample supply of reports, briefs, and statements, none specifically offer a plan outside the “norm” of scrutinizing statistics and assigning the outcome of those statistics more weight as if the educational body were a political party instead of an institution of higher learning realizing responsibility to the student as a customer. The 2001 report entitled, “How Should ‘Quality’ Technical Education and Training be Defined?”, (NCOE, 2001)⁵ submitted to the Office of Vocational and Adult Education, U.S. Department of Education is a prime example illustrating the perpetuated ambiguity of vernacular fluff. The entire document is riddled with irregularities, generalization of statistics, and contradictions. Because the definition of quality is ambiguous and left to the discretion of each technical college, it is no wonder that the technical colleges are inconsistent with their own use of quality in the classroom and in dealing with the community in which they have partnered. Referencing a qualified and competent source for quality integration may be complex given the conditions for integration, time consumption, and committing of organizational resources; not to mention upheaval of ingrained cultural paradigms.

⁵ National Council for Occupational Education NCOE: a private, nonprofit, professional organization committed to promoting excellence and growth in occupational education at the postsecondary level. An affiliate council of the American Association of Community Colleges. (ncwe.org, 2004)

Limitations of the Study

This study attempts to apply the concepts and tools of quality as used in manufacturing and production to education. The educational environment would require refinement of tools to fit the particular needs of the WTCS. For example: in application of the concepts and tools to education one measurable tool would be the calculated results of quality nonconformance.

Human dynamics will inhibit or enhance any initiative whether it is one of quality or not. The reaction towards an initiative usually coincides with existing paradigms and personal experiences and therefore may meet with considerable resistance during the initial stages of implementation.

CHAPTER II: LITERATURE REVIEW

Summary Statement

Reviewing an assortment of sources- published papers, reputable websites, journal articles, books, and texts, a consistency of suggested applications and predictive outcomes were found supporting the purpose and necessity of this study.

The lack of quality integration is not an isolated issue that has recently come to light. The report of the Association of American Colleges, *Integrity in the College Curriculum* (1985), made this indictment: “Presidents and deans must first confront the obstacles to faculty responsibility that are embedded in academic practice and then, with the cooperation of the professors themselves, fashion a range of incentives to revive the responsibility of the faculty as a whole for the curriculum as a whole.” (Mayhew, 1990) According to Donald Troyer of Western Illinois University, “[It] is imperative that performance objectives be thoroughly understood as a concept and only then can one formulate and implement. These competencies are applied so that one is capable of discerning measurable improvement while teaching.” (Weigand, Troyer, 1977) James Weigand also illustrates the quality implementation steps in his book *Implementing Teaching Competencies* to teaching success as a total package with objectives being the third step in the process. The total process is in ascending order and is as follows:

- 1) Assessing Intellectual Levels
- 2) Implementing Motivational Techniques
- 3) Implementing Objectives
- 4) Implementing Questioning Skills
- 5) Implementing Sequenced Instruction

- 6) Implementing Diagnostic Evaluation
- 7) Implementing Interpersonal Communication

(Weigand, Troyer, 1977)

There are cases where the personal initiatives of select instructors have passionately engaged in the delivery of quality education within their courses of study to the best of their abilities. In the author's opinion, herein lies the dilemma; these efforts are carried by only a small percentage of the total and represented, in many cases, by a political and social status structure rather than one focused on educational excellence; simply put, the benefits of current quality instruction doesn't get exposure or continued support from colleagues or administration. Thereby the efforts of that select percentage are rarely integrated as value instruction throughout the collegiate culture unless it is politically satisfying for public image sake on behalf of the institution. If colleges and the majority remaining instructors choose to alienate quality integration or provide personal and cultural paradigms as barriers to quality integration then the student also will develop a similar prejudice that will inhibit their personal successes after graduation. Unfortunately, in too many instances this is the case. One can see the results of this mentality in action on a daily basis whether in conversation with another about the declining morality and lack of basic knowledge in the workplace or from personal countless experiences gathered from societal interaction.

Phillip B. Crosby in his book, *Quality is Free*, makes this applicable statement when discussing quality education- "There is a theory of human behavior that says people subconsciously retard their own intellectual growth. They come to rely on clichés and habits once they reach the age of their own personal comfort with the world. They stop learning and their mind runs on idle for the rest of their days. They may progress organizationally, they

may be ambitious and eager, and they may even work day and night. But they learn no more!” (Juran, 1992)

The realization of the lack of quality education is more than a problem; it is a fundamental flaw in the education institution; but still is rampantly used as an adjective promoting excellence, yet abused as a concept, or neglected as a passing encroachment on established perspectives, routines, and comfort zones. In a reflection of his college years, Alexander Astin remarks, “...it has become increasingly clear that the problems of strengthening and reforming American higher education are fundamentally problems of values.” (Astin, 1993) not only are the values flawed but the practices of employment have as well. According to Ronald Stein, the hiring processes for qualified teaching candidates in higher education is managed by happenstance or serendipity and performed by search committees that “are vastly inexperienced and untrained in the art of identifying, recruiting, and hiring faculty and administrators.” (Stein, Trachtenberg, 1993)

As the global arena becomes smaller it is not uncommon for the influences of one culture to meld with another. Education is not immune to this phenomenon but rather is a breeding ground for such influence. Because this is an inevitable occurrence the technical college system should embrace the opportunity of integration with cultural adaptations. “Organizations are identifying their competencies- what is the actual gap and the curriculum needed to conquer competitive advantage.” (Odenwald, 1996)

The classroom environment is the essential element that is well within the control of the instructor, that is to say...design and delivery. An abstract environment is the design of room; furniture positioning, wall hangings, décor, etc. The delivery may be similar to what John Dewey believed in that education lies in the quality and nature of the experience it provides rather than

in the tools used to convey it. The point here is that the best possible scenario for learning is an environment conducive to learning and effective communication. “Students will quickly become disinterested if there is no defined connection between the subject matter and their lives.”

(Cornesky, 1993) A missing link in quality curriculum is the inclusion of the student as a customer. In order to provide this inclusion there are many methodologies that have been successfully used albeit never taken a foothold in mainstream education; some of which are:

- Socratic teaching (Socrates, Plato, circa 375 BCE)
 - The teacher must set the topic of instruction, and the student must agree to this.
 - The student must agree to attempt to answer questions from the teacher.
 - The teacher must be willing to accept any correctly-reasoned answer. That is, the reasoning process must be considered more important than facts.
 - The teacher's questions must expose errors in the students' reasoning. That is, the teacher must reason more quickly and correctly than the student, and discover errors in the students' reasoning, and then formulate a question which the students cannot answer except by a correct reasoning process. To perform this service, the teacher must be very quick-thinking about the classic errors in reasoning.
 - If the teacher makes an error of logic or fact, it is acceptable for a student to correct the teacher.

- Andragogy (Knowles, 1978)

Pedagogy has come to mean the art and science of teaching, even though its Greek root words actually mean leading children. To compensate for this misinterpretation, the word Andragogy was created to refer specifically to the art and science of teaching adults. The following assumptions underlie Knowles' (1984) Andragogical model:

- Adults tend to be self-directing.
- Adults have a rich reservoir of experience that can serve as a resource for learning.

- Since adults' readiness to learn is frequently affected by their need to know or do something, they tend to have a life-, task-, or problem-centered orientation to learning as opposed to a subject-matter orientation.
 - Adults are generally motivated to learn due to internal or intrinsic factors (such as helping their child with homework) as opposed to external or extrinsic forces (such as a raise in salary).
 - A logical outcome of these assumptions is the use of a collaborative teaching model that involves the learners as partners
- Gardner's Multiple Intelligences (1983)

The seven intelligences Gardner defines are:

- Logical-Mathematical Intelligence--consists of the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking.
- Linguistic Intelligence--involves having a mastery of language. This intelligence includes the ability to effectively manipulate language to express oneself rhetorically or poetically. It also allows one to use language as a means to remember information.
- Spatial Intelligence--gives one the ability to manipulate and create mental images in order to solve problems. This intelligence is not limited to visual domains--Gardner notes that spatial intelligence is also formed in blind children.
- Musical Intelligence--encompasses the capability to recognize and compose musical pitches, tones, and rhythms. (Auditory functions are required for a person to develop this intelligence in relation to pitch and tone, but it is not needed for the knowledge of rhythm.)
- Bodily-Kinesthetic Intelligence--is the ability to use one's mental abilities to coordinate one's own bodily movements. This intelligence challenges the popular belief that mental and physical activity are unrelated.
- The Personal Intelligences--includes interpersonal feelings and intentions of others--and intrapersonal intelligence--the ability to understand one's own feelings and motivations. These two intelligences are separate from each other. Nevertheless, because of their close association in most cultures, they are often linked together.

Although the intelligences are anatomically separated from each other, Gardner claims that the seven intelligences very rarely operate independently. Rather, the intelligences are used concurrently and typically complement each other as individuals develop skills or solve problems. For example, a dancer can excel in his art only if he has 1) strong musical intelligence to understand the rhythm and variations of the music, 2) interpersonal intelligence to understand how he can inspire or emotionally move his audience through his movements, as well as 3) bodily-kinesthetic intelligence to provide him with the agility and coordination to complete the movements successfully.

- Synergogy (Mouton, 1984)

Broad applicability:

- Synergogy is applicable to all forms of learning, whether the material to be studied concerns knowledge, attitudes, or skills.
- Synergogy can be constructively used by learners from ten to twelve years of age and older.
- Synergogy does not require learners to be able to read; the material to be learned can be presented on video or audio cassettes or by means of other visual aides.

Modest resources:

- Synergogic teams do not need elaborate physical facilities, only chairs, tables, and a blackboard or flip chart
- Synergogic methods place no significant limitations on class size because the size of the learning team (not the student-teacher ratio) is the significant factor. Thus a class can be as large as the meeting space available.
- Once a design and instruments are standardized, they can be reused unless changes in the subject matter necessitate updating or revision

Increased learning and secondary learning:

- Team groupings can be homogenous or heterogeneous, as needed to promote self-paced learning and meaningful competition.
- Synergogy produces secondary learning gains: as team members develop their interaction skills, they become more socially competent individuals. Similarly as

team members discipline one another, they develop a mature sense of responsibility.

- Team review of member's individual performance enables individuals to identify and rectify misunderstandings.
 - Teamwork in spotting mistakes or misunderstandings permits team members to learn without feeling down-graded by an expert or formal authority figure.
 - The designs promote cooperation and reduce individual competitiveness; even though individual learning may occur when a team's performance is not successful, greater learning can be expected when the team does well.
- Layered Curriculum (Nunley, 1991)

A simple five step solution for differentiating your classroom:

- Step One: Take the mystery out of your lesson plan by handing it to the students in advance. Students receive a copy of the lesson objectives and assignment options at the beginning of each two week period. These unit sheets contain a variety of assignment options that are designed to meet specific core objectives. Each assignment has a point value based on the complexity and time requirement.
- Step Two: Divide the unit sheet into three layers. Each layer will represent a level or depth of study on the topic. The bottom layer is called the C layer because students working strictly within this layer can earn a grade no higher than a "C" on the unit. Students are free to choose the assignments they want, in any order. Different assignments are worth different amounts of points based on the complexity of the assignment. Students can choose any number of assignments for any combination of points up to, but not passing a grade of a C.
- This section represents a basic understanding of the topic and is structured so that any student in the room can achieve this level of success. The greater the diversity in the classroom, the greater the diversity of assignments in the C layer.
- In the first, C layer, offer a variety of basic assignments to meet the needs of every type of learner you may have. This layer includes hands-on activities for the tactile learners, video and art projects for the visual learners and optional lectures for the auditory learners. Include textbook assignments for students who prefer this traditional method of learning. Include at least one assignment that must be done in any language except English. It is really exciting to watch the interaction between the English-only students and the limited-English proficiency students when faced with having the tables turned. Include art or poetry or history assignments which require cross-discipline involvement. For example, ask them

to write a poem describing a conflict found in an amphibian's world. Students then must get written feedback from their teacher. This is the largest section on the unit assignment sheet. There needs to be approximately three times as many assignment choices as required.

- Step Three: Create a second or B layer requiring more complex types of thinking. This layer requires the students to manipulate or apply the information they learned in the C layer. Here students carry their newly learned basic knowledge a step further. Students "play" with information at this layer. They build, design, use, apply, problem solve, create, brain-storm, etc. Other B layer assignments may include interdisciplinary studies, history fairs, application of new words, creative displays of compare & contrast.
- Step Four: Add a final layer called the A Layer which requires the most complex, critical thinking. Here students mix traditional research with other things like values, morality and personal opinion. Offer students several issues in the topic that are currently under debate in the real world. Students must conduct a literature search to find three recent studies on their topic and then write a critical evaluation of that issue. The final product may take various forms such as a letter of persuasion to a legislator on an environmental issue or a two minute oral presentation arguing their position.
- Step Five: The final and most important step to Layered Curriculum is assessment through an oral defense of the students' assignments. As students finish an assignment they spend a couple of minutes, on a one-on-one basis, discussing what they learned. Based on the pre-arranged objectives; ask several key questions and help clarify their ideas and verify that the learning objectives have been met. This is a wonderful way to meet face to face with every student and assure that they are indeed learning. Carry note cards with the objectives on them to use during these discussions. The cards help students understand that there is a criteria involved in assessing their learning experience.

Currently, the primary methodology of choice for instruction is pedagogy. Rational thought would suggest the focus should be on learning styles in order to increase one's ability to maximize education. This antiquated pedagogic method is an ineffective teaching style of education and caters exclusively to those capable of auditory "thought and receptive" learning skills while seriously inhibiting learning by ignoring or circumventing a majority of the individual learning styles that are prevalent in most learners.

In order for the instructor to know and realize the inefficiencies of the current methods of teaching in use, guidelines of instructional competencies must be established and adhered to with the learning being the center of attention and not the teaching. In the paper submitted by the NCOE⁶ it is expressly stated- “[Quality] Assessment must, however, be based in large part not on inputs, such as teacher qualifications and fiscal resources, but on the results: job placement and results, career enhancement, career progression, and personal achievement.” This remark solidifies the supposition that politics, social status, and graduation statistics should be the driving force for quality. Although these may be proxy measures of quality to often they are the only measure considered.

Time and again there rarely is consideration given for the learning environment of the student. Studies such as this from NCOE perpetuate the confusion of establishing goals and inhibit the development of teaching competencies and learning objectives in a quality setting. Too often words ill-defined and inappropriate are used in an effort to overwhelm the reader, thus permitting the reader to walk away with an ambiguous understanding of the entire premise of the study. It only takes a few incoherent studies to discourage the entire culture on quality education issues.

⁶ National Council for Occupational Education NCOE: a private, nonprofit, professional organization committed to promoting excellence and growth in occupational education at the postsecondary level. An affiliate council of the American Association of Community Colleges. (ncwe.org, 2004)

CHAPTER III: METHODOLOGY

A Restatement of the Problem

The statement of the problem of this study was done in Chapter I. However, it is restated to establish the link between the problem and the instrumentation- Can quality be defined so that integration into the WTCS offers a measurable enhancement for superior education?

By providing information in support of defining and illustrating quality measurements in the WTCS, the social productivity and contribution will be measurably improved upon thereby significantly impacting economic conditions through instructional competency and graduate success with more efficient use of college budgets and expenditures. Instructional competence can be monitored through the mandated use of currency education initiatives: follow-up evaluations of in-service education classroom applications, independent evaluations from firms not vertically integrated within the specific college, continual improvement efforts for employing those applicants that have superior qualifications, etc.

Instrument Contents and Problem Connection

A survey addressing quality training, importance of quality, and curriculum application was designed. By using a survey instrument, information was gathered from the teacher workforce of two selected technical colleges (CVTC and NTC). The data collected provided information as to how quality is actually perceived and applied by those participating in the survey.

Analysis was conducted of publications and other sources related to the application of quality from private and public sectors and adjusted to relate to an educational environment.

Attention was given in the finding of significant advances related to the topic in addition to educational trends that may preclude or accept its consideration for inclusion in the mainstream.

Instrument Development

The survey design was reviewed by two staff members at UW-Stout (Dr. Mehar Arora and Dr. John Dzissah) to ensure that neutrality was maintained throughout the instrument as well as future ease of deciphering the data collected. The distribution of the surveys was made at random. This task was completed by the respective mail room departments of each technical college. Also, the completed surveys were returned to the mail room for designated pick-up. For proximity reasons and the inherent differences and focuses Chippewa Valley Technical College and Northcentral Technical College were chosen as viable candidates for survey data collection.

Delivery and Retrieval of Instrument

A total of 100 surveys were hand carried and distributed to each main campus location. The respective mailroom of each college was tasked with randomly disbursing the surveys to full-time contract instructional staff only and collecting them for pick up after a 14-day period. The returned surveys of each college were segregated by college, upon retrieval using separate envelopes, different bond, and colored paper.

*Survey Instrument***Technical College Education Quality Survey**

The purpose of this survey is to gather your thoughts and opinions on the quality of education and its concepts; in technical education and in your personal life. Instructors at CVTC and NTC are being surveyed. . Importance- with “quality” being defined and applied, instruction will have a greater significant impact with respect to its graduates and benefiting communities and businesses.

The results will assist in realizing to what extent the instructor feels that quality plays as an important and integral role in the future of educational life, business life, and personal life

I understand that by returning the/this questionnaire, I am giving my informed consent as a participating volunteer in this study. I understand the basic nature of the study and agree that any potential risks are exceedingly small. I also understand the potential benefits that might be realized from the successful completion of this study. I am aware that the information is being sought in a specific manner so that only minimal identifiers are necessary and so that confidentiality is guaranteed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice.

NOTE: Questions or concerns about the research study should be addressed to Russell Wright, the researcher, (715-232-1220) or Dr. Arora, the research advisor, (715-232-1220). Questions about the rights of research subjects can be addressed to Sue Foxwell, Human Protections Administrator, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 Harvey Hall, Menomonie, WI, 54751, (715-232-1126)

1) What percentage of your continued education is devoted to quality training?

100% 80% 60% 40% 20% 0%
 I _____ I _____ I _____ I _____ I _____ I _____

2) Have you incorporated quality concepts and tools in the design of your curriculum?

_____ Yes _____ No

3) Do you discuss quality issues outside of your employment? (**circle one**)

Never-----Rarely-----Occasionally-----Often

4) How would you define quality? (**check no more than two**)

_____superior _____educational tool _____propaganda/buzz word
 _____requirement _____Other-explain_____

- 5) Other than the classroom, to what degree have you used quality principles for personal use?

(circle one)

100% 80% 60% 40% 20% 0%
 I _____ I _____ I _____ I _____ I _____ I _____

- 6) Have you received training in quality principles within the previous 6 months?

_____ Yes _____ No (if you answer **No** then skip to #9)

- 7) What was the type, style, and/or name of quality training you received?

- 8) At home, how often do you feel quality is an issue? (circle one)

100% 80% 60% 40% 20% 0%
 I _____ I _____ I _____ I _____ I _____ I _____

- 9) As an instructor, how long have you been implementing quality tools? (check one)

_____ 0-3 years _____ 4-7 years _____ 8-11 years

_____ 12-15 years _____ 16-20 years _____ 21+ years

- 10) Estimate the percentage of all your classes combined that students participate in the education of quality principles. If your students never have to deal with issues involving quality then you would circle 0%. If it's everyday then you would circle 100%. (circle one)

100% 80% 60% 40% 20% 0%
 I _____ I _____ I _____ I _____ I _____ I _____

- 11) What is the highest level of education that you have completed? (circle one)

High School Associate's degree Bachelor's degree

Master's degree EdS

PhD/EdD Other-explain _____

12) Your total years of teaching are: (**check one**)

0-3 years 4-8 years 9-12 years

13-16 years 17-25 26+ years

13) Age:

35 or less 36-45

46-55 56+

14) Gender:

Female Male

15) Education for instructors in quality principles and tools will impact the technical college

100% 80% 60% 40% 20% 0%
I _____ I _____ I _____ I _____ I _____ I _____

Additional comments on quality: _____

As you understand it, briefly define quality: _____

Thank you for participating in this survey. Please return to your college mailroom.

End survey

Review of Data

After collection of the surveys, a brief review took place to eliminate those improper surveys containing incomplete and/or illegible responses. Inappropriate responses do not necessarily count as improper survey data but serve to example the uninformed outlook of the quality issue by the academic staffs of the surveyed colleges. An inappropriate response is one that adds no discernible value to the data collected by the instrument, left blank, or marked incorrectly. Examples of inappropriate responses are:

- HUH?
- This is B*****! Nobody cares except to make themselves look good!!!
- Quality principles are given lip service in college wide decision making.
- Spare me!

After question #15 there was an area for additional comments on quality. Some of those comments were:

- Our school puts on the face of quality but our leader does not practice what he preaches! And that hipocracy is very sad!
- Poor survey. Too much focus on “quality”.
- Why are there so many questions about quality? What kind of survey would only ask about quality for everything?
- I’ve had it with silly-*** surveys. It’s all talk. If the survey [results] are bad, we hide it. ie Spring in-service
- You don’t have a clue about quality. If you did want to know about quality go to manufacturing.

CHAPTER IV: RESULTS and CONCLUSIONS

*Survey Results by College-**Chippewa Valley Technical College*

- 1) What percentage of your continued education is devoted to quality training?

100%	80%	60%	40%	20%	0%
	2	4	5	4	4

- 2) Have you incorporated quality concepts and tools in the design of your curriculum?

15 Yes **4** No

- 3) Do you discuss quality issues outside of your employment? (
- circle one**
-)

Never	Rarely	Occasionally	Often
2	2	10	5

- 4) How would you define quality? (
- check no more than two**
-)

5 superior **5** educational tool **3** propaganda/buzz word
4 requirement **7** Other-explain: integrity, state of being, a goal to strive for, work well done, meeting or exceeding

- 5) Other than the classroom, to what degree have you used quality principles for personal use? (
- circle one**
-)

100%	80%	60%	40%	20%	0%
1	4	5	4	3	2

- 6) Have you received training in quality principles within the previous 6 months?

3 Yes **15** No (if you answer **No** then skip to #9)

- 7) What was the type, style, and/or name of quality training you received?

CVTC in-service, college courses, conferences

8) At home, how often do you feel quality is an issue? **(circle one)**

100%	80%	60%	40%	20%	0%
1		3		2	10

9) As an instructor, how long have you been implementing quality tools? **(check one)**

6 0-3 years	5 4-7 years	2 8-11 years
12-15 years	2 16-20 years	4 21+ years

10) Estimate the percentage of all your classes combined that students participate in the education of quality principles. If your students never have to deal with issues involving quality then you would circle 0%. If it's everyday then you would circle 100%.

(circle one)

100%	80%	60%	40%	20%	0%
	3	5	1	1	9

11) What is the highest level of education that you have completed? **(circle one)**

High School	1	Associate's degree	6	Bachelor's degree
	8	Master's degree	2	EdS
	4	PhD/EdD	Other-explain_____	

12) Your total years of teaching are: **(check one)**

1 0-3 years	7 4-8 years	1 9-12 years
3 13-16 years	5 17-25	4 26+ years

13) Age:

2 35 or less	5 36-45
8 46-55	6 56+

14) Gender:

12 Female	9 Male
------------------	---------------

15) Education for instructors in quality principles and tools will impact the technical college

100%	80%	60%	40%	20%	0%
	5	3	3	2	6

CVTC returned 21 surveys or 21%

CVTC Results- 57 % of the respondents are female

Of those responding:

- 92% devote less than 60% of their continuing education to quality training
- 30% have not incorporated quality concepts and tools in the design of their curriculum
- 66% have not received quality training in the past six months
- 42% feel that education for instructors in quality principles and tools will impact the technical college less than 40%
- 58% state that their students participate in quality issues in the classroom less than 60% of the time

43% of the respondents are male

Of those responding:

- 89% devote less than 60% of their continuing education to quality training
- 58% have incorporated quality concepts and tools in the design of their curriculum
- 100% have not received quality training in the last six months
- 56% feel that education for instructors in quality principles and tools will impact the technical college less than 40%
- 100% state that their students participate in quality issues in the classroom less than 60% of the time

End CVTC Results

Northcentral Technical College

1) What percentage of your continued education is devoted to quality training?

100%	80%	60%	40%	20%	0%
2	1	7	2	12	10

2) Have you incorporated quality concepts and tools in the design of your curriculum?

19 Yes **13** No

3) Do you discuss quality issues outside of your employment? (**circle one**)

1 Never **10** Rarely **16** Occasionally **6** Often

4) How would you define quality? (**check no more than two**)

5 superior **10** educational tool **9** propaganda/buzz word

6 requirement **7** Other-explain- degree of excellence, improvement process, not perfection, only if its cheap

5) Other than the classroom, to what degree have you used quality principles for personal use? (**circle one**)

100%	80%	60%	40%	20%	0%
2	5	7	5	11	4

6) Have you received training in quality principles within the previous 6 months?

5 Yes **28** No (if you answer **No** then skip to #9)

7) What was the type, style, and/or name of quality training you received?

EIS, CEU, AQIP, WI. Forward, Experience Engineering

8) At home, how often do you feel quality is an issue? (**circle one**)

100%	80%	60%	40%	20%	0%
1	4	6	2	2	17

9) As an instructor, how long have you been implementing quality tools? (**check one**)

8 0-3 years **9** 4-7 years **5** 8-11 years

5 12-15 years **4** 16-20 years **3** 21+ years

10) Estimate the percentage of all your classes combined that students participate in the education of quality principles. If your students never have to deal with issues involving quality then you would circle 0%. If it's everyday then you would circle 100%.

(circle one)

100%	80%	60%	40%	20%	0%
5	3	4	2	11	6

11) What is the highest level of education that you have completed? **(circle one)**

1 High School Associate's degree **10** Bachelor's degree

20 Master's degree EdS

2 PhD/EdD Other-explain: **CPA**

12) Your total years of teaching are: **(check one)**

6 0-3 years **8** 4-8 years **3** 9-12 years

3 13-16 years **10** 17-25 **3** 26+ years

13) Age:

3 35 or less **11** 36-45

14 46-55 **6** 56+

14) Gender:

21 Female **13** Male

15) Education for instructors in quality principles and tools will impact the technical college

100%	80%	60%	40%	20%	0%
4	7	8	5	4	6

NTC returned 34 surveys or 34%

NTC Results-

47% of the respondents are female

- 69% devote less than 60% of their continuing education to quality training
- 75% have incorporated quality concepts and tools in the design of their curriculum

- 63% have not received quality training in the past six months
- 94% feel that education for instructors in quality principles and tools will impact the technical college more than 40%
- 50% state that their students participate in quality issues in the classroom less than 60% of the time

53% of the respondents are male

- 91% devote less than 60% of their continuing education to quality training
- 64% have incorporated quality concepts and tools in the design of their curriculum
- 100% have not received quality training in the past six months
- 64% feel that education for instructors in quality principles and tools will impact the technical college less than 40%
- 82% state that their students participate in quality issues in the classroom less than 60% of the time

End NTC Results

Cumulative Results

1) What percentage of your continued education is devoted to quality training?

100%	80%	60%	40%	20%	0%
2	3	11	7	16	14

Question used to see how much of the education received after becoming a teacher is spent learning about quality issues. 91% of the instructors use their continuing education 60% or less to learn about quality issues.

2) Have you incorporated quality concepts and tools in the design of your curriculum?

34 Yes **17** No

Asked to find how many instructors actually incorporate any measure of quality in the classroom while teaching. 33% do not use any quality concept or tool in the construction of lesson plans.

3) Do you discuss quality issues outside of your employment? (**circle one**)

3 Never **12** Rarely **26** Occasionally **11** Often

Asked to find the comfort level and applicable use of quality outside of the classroom. 29% do not consider quality outside of work.

4) How would you define quality? (**check no more than two**)

10 superior **15** educational tool **12** propaganda/buzz word
10 requirement **14** Other-explain- degree of excellence, improvement process, not perfection, only if its cheap

This was included to get an idea as to how the teacher perceived his/her definition of quality and also if it was something that was “worn” out as another fad concept. 20% of the respondents thought of “quality” as a buzzword.

5) Other than the classroom, to what degree have you used quality principles for personal use? (**circle one**)

100%	80%	60%	40%	20%	0%
3	9	12	9	14	6

Does the teacher practice what they preach? 77% of the teachers responding used quality principles in their personal lives 60% of the time or less. This appears doubtful. For example- when buying groceries often times quality is considered with the purchase of certain brands. Additionally, when buying a tangible good such as a TV, stereo, car, etc., the perception of quality plays heavily into the buying decision. Perhaps more use the principles than realize due to lack of knowledge as to what the principles are.

6) Have you received training in quality principles within the previous 6 months?

8 Yes **43** No (if you answer **No** then skip to #9)

This responsibility falls on the instructor having interest in maintaining currency of knowledge and the administration for ensuring this takes place. 83% of the instructors have

neither taken it upon themselves to pursue the education of quality nor has it been compulsory for the instructor by the administration.

- 7) What was the type, style, and/or name of quality training you received?

EIS, CEU, AQIP, WI. Forward, Experience Engineering, Work

Asked to see what programs are available and taken.

- 8) At home, how often do you feel quality is an issue? **(circle one)**

100%	80%	60%	40%	20%	0%
1	4	9	2	4	27

Is the instructor employing a quality frame of mind in all aspects of life or only in the classroom with the students. 88% of instructors feel quality is an issue less than 60% of the time in their personal lives.

- 9) As an instructor, how long have you been implementing quality tools? **(check one)**

8 0-3 years	9 4-7 years	5 8-11 years
5 12-15 years	4 16-20 years	3 21+ years

This question goes with question #12. 54% of the teachers have been working in this capacity for more than 17 years. 38% of the instructors have used the “tools” for the approximate same amount of years. Equally, they have not used the “tools” for 62% of the years they have been teaching.

- 10) Estimate the percentage of all your classes combined that students participate in the education of quality principles. If your students never have to deal with issues involving quality then you would circle 0%. If it’s everyday then you would circle 100%.
(circle one)

100%	80%	60%	40%	20%	0%
5	6	9	3	12	15

As part of expectations from an instructor, how much work is expected to be of a quality nature from the students? 78% of the students engage in the use of quality 60% of the time or less in the completion of their assignments and abilities under the direction of the teaching staff.

11) What is the highest level of education that you have completed? (**circle one**)

- 1** High School **1** Associate's degree **16** Bachelor's degree
28 Master's degree **2** EdS
6 PhD/EdD Other-explain: **CPA**

Education is a measurement of currency and openness to change. 49% of the instructors have less than a graduate degree; with 85% having less than an advanced graduate degree.

12) Your total years of teaching are: (**check one**)

- 7** 0-3 years **15** 4-8 years **4** 9-12 years
6 13-16 years **15** 17-25 **7** 26+ years

This question goes with question #9. 54% of the teachers have been working in this capacity for more than 17 years. 38% of the instructors have used the "tools" for the approximate same amount of years. Equally, they have not used the "tools" for 62% of the years they have been teaching.

13) Age:

- 5** 35 or less **16** 36-45
22 46-55 **12** 56+

How many instructors are nearing retirement and will have to be replaced within approximately six years or less? 62% of the current instructional full time staff will be retirement age within the next 6 years.

14) Gender:

- 33** Female **22** Male

60% of the teaching workforce is female leaving 40% as male.

15) Education for instructors in quality principles and tools will impact the technical college

100%	80%	60%	40%	20%	0%
4	12	11	8	6	12

This question focuses on the importance of integrating quality into the WCTS. 70% of the instructors feel that there will be less than a 60% positive impact with the implementation of a quality initiative.

The differences in returned percentages are not considered as a factor in the data summation. This data is a compilation both colleges and interpreted obvious findings that support the literature review and subsequent research of this study.

The responses from the surveys provide an outlook from the teacher's perspective to the importance of quality. By compiling these results it is easy to see that many times quality is of little concern or seriously misunderstood and that the culture of the technical college is extremely resistant to the positive change that quality can provide. Also, administration has rarely taken advantage of opportunities for advancing the teaching staff's knowledge with quality introduction; its effectiveness and appropriate use of tools for measure of a quality delivered and received curriculum.

CHAPTER V: DISCUSSION and CONCLUSIONS

The argument is brought forth that although there is little concern for quality integration with the institution or its teaching staff, the responsibility for quality implementation lies squarely on the shoulders of the administration. Without a supportive infrastructure established by the administration that is totally committed to introducing and monitoring a quality education, the efforts of gaining a strong grasp of its impact will continue to elude these higher learning institutions. The collected data supports the proposition that quality is not taken seriously by the organizational culture of either technical college. This loss of concern and focus or lack thereof, is a direct result of knowledge of not recognizing quality issues and how monitoring and measurement can improve the level of instruction and the entire organizational wellness tasked with delivering a quality education. The survey data illustrates also the lack of seriousness that is taken by the college culture with the assimilation of quality as a fundamental foundation in the education culture. It is disheartening to realize that of the responses collected the greater majority, 83%, had not received any training in quality into their own education in the last six months. Given this alarming statistic it is no wonder that the WTCS website discussing reasons to choose a technical college omits the word quality...it appears only that a small minority are familiar with its intrinsic value throughout the entire technical college system. The data shows that 78% of the students engage in the use of quality 60% of the time or less in the completion of their assignments and abilities under the direction of the teaching staff. With this finding it is difficult to believe that the mission/vision statements are being viewed as goals to strive for. With 40% of what is being done in the classroom being of a quality nature is the interest of the stakeholders being met sufficiently?

Another question that can be asked is, “If the majority of daily activities are not of quality instruction and facilitation then what is the value gained for the student for their time and moneys invested?” 67% of the teachers include a personal measure of quality into their curriculum. Although this is more than half that responded, on what form of measurement is this quality inclusion measured when 83% of the instructional staff has not been exposed to any quality training in recent history (six months)? Obviously consistency is lacking greatly as well as a general knowledge of what constitutes a quality education.

Delimitations

There were a total of 200 surveys handed out, 100 for each of the two technical colleges. More surveys per college would have provided a larger sample size and possibly a more accurate inference of data could have been made. Furthermore, there are 16 technical colleges in the WTCS, if coordinated efforts could be made so that all technical colleges within the system could have received the survey instrument then data could have possibly been collected that may reflect regional trends and agendas in addition to population concerns.

The instrument used in this study was only designed for the instructional staff. Possibly a survey that would also address the students could be developed for a direct comparison of teacher vs. student perspective. In addition, the support staff and administration were not included in the gathering of data. They also, may contribute more information so that a more detailed picture could evolve from the collected information.

Conclusions

The WTCS educational network is severely handicapped without the inclusion of total quality management as a fundamental building block for its continuation. The acceptance of bruising information is difficult when budget issues and enrollment remain at the top of the meeting agendas. The insurmountable gains to be made of including verifiable measurements with a support structure that is committed to training its employees of the benefits of quality integration are immeasurable. Once the entire culture is exposed to the correct interpretation of what quality is then the demand for it among the ranks will be forthcoming.

When there is growing concern of our economic times and the brutality of competition gets closer due to globalization of our markets it is imperative that the response of providing a productive quality learning environment take precedence. Some productive measures of globalization are: labor, capital, management, technology and its application. This study is singular in focusing only on the labor aspect and none of the other factors contributing to the competitiveness of globalization. If related studies were done so that a broader comparison could be made as to the WTCS effectiveness in the global arena then a greater detailed analysis could be created more specific agendas and system goals. The levels of communication would be better and serve a more accurate database for the needs of planning, organization development, supervision, coordination, review, and budgeting. Communication is the answer to many problems. It has been shown within this study how attention to even a general understanding of how quality can be implemented can save millions of tax payer dollars annually by monitoring and minimizing that which is not value added. Although this study does not address the finances of the WTCS it does bring light to the money wasted from one department to another through reducing nonconformance issues. By the various departments becoming aware of their own cost

of non-conformance with respect to the institution's objective, one can surmise that everyone will begin to take ownership for the unnecessary waste that is to save time and money with no impact to the department's functionality. This ownership has the potential to create savings by limiting non-conformance issues. Possibly in an ideal world this would take place. However, when job stress, meeting deadlines, administrative decisions, and student demands become ever increasing, it is more reasonable to assume that the adjustment to a quality culture will continue at a snails pace. Whereas, if quality were understood as it is meant to be then the issues just mentioned could be addressed more efficiently with the problems becoming less repetitive. Again...money can be saved and redirected to other ventures that continue the vision of delivering a quality education.

Recommendations

It is recommended that a more complete and thorough study be conducted with the same focus of investigating the value of integrating a continual heavy dose of quality into the curriculum and institutional culture. The expectation of quality has always been here, therefore a need does exist. The quality tools for implementation and integration are readily available. The responsibility for acceptance of creating an era that provides advanced educational mindsets and global opportunities that reflect quality rather than just relying on CRM⁷ and NRM⁸ must take precedence for a productive contribution of everyone that positively interacts with society; this mandate is the responsibility of those institutions with a charter of providing education.

⁷ Criterion Reference Measurement, CRM: "a test or other type of assessment designed to provide a measure of performance that is interpretable in terms of a clearly defined and delimited domain of learning tasks." (Linn, Gronlund, 2000)

⁸ Norm-Referenced Measurement, NRM: "a test or other type of assessment designed to provide a measure of performance that is interpretable in terms of an individual's relative standing in some known group." (Linn, Gronlund, 2000)

With the importance of quality being apparent and the necessity of its application being widespread it is reasonable the author believes its integration will be difficult. To ease the difficulty it would be best to select primary areas and branch from them later to support departments and service areas. Each of the 16 technical colleges would be best served if an initiative were formulated as a group effort so as to maintain the highest level of quality integrity for a systematic implementation. This approach would provide a system wide consistency and allow for lateral support of each institution's resources during the implementation processes and efforts of continuous improvement.

An obvious adjustment in favor of quality education is to infuse the teacher and student in the learning process, with the teacher taking the role of a learned facilitator rather than a regurgitator of someone else's knowledge. . When quality is specifically defined and applied, instruction will have a greater significant productive impact on our social fabric and continued existence with respect to its graduate's knowledgeable contributions to the benefiting communities, employing businesses and enterprises, as well as the educative institutions.

In direct contrast to the confusing statement given by the NCOE the U.S. Department of Education surmises- "A critical mark of the quality of technical education at the postsecondary level, therefore, is the currency of the faculty. While it may be possible for the faculty at the secondary level to achieve certification and then occasionally update skills or knowledge because they teach foundational skills for which currency of knowledge is not as critical, the presence of a large population of job-savvy, working adults with specific upgrade requirements in the postsecondary student population means that postsecondary faculty must be current; since the adult population is not a captive one, as secondary students are, faculty must serve this population with current knowledge and skills-or risk losing it." (Everett, 2001)

Traditionally, the quality measurement of post-secondary education was the graduation data, operating budgets, test scores, etc. the truth of the reality is that “in higher education the most important performance to measure is student learning. Measuring continuous improvement, therefore, must include measuring the institution’s contribution to student learning.” (Freed, Klugman, 1997) Although this study’s purpose does not cover the value of benchmarking per se, it is applicable at this point to list six benchmarking criteria that will greatly assist in the area of student learning measurement for the enhancement of quality:

- 1) Focus on the scholarship of integration so that research and teaching are linked more closely. Help faculty teach in their area of research.
- 2) Match the department mission with promotion and tenure and merit criteria, so that faculty can set goals within the department framework that are meaningful to them.
- 3) Encourage the improvement of teaching by using promotion and tenure criteria and annual reporting mechanisms that require evidence of effective teaching.
- 4) Carefully attend to the administration of teaching evaluations. These provide departments with information about generally accepted standards for practice, whether that are being met, and factors that may affect reaching and learning in courses and programs. Administrators must show that the evaluations are useful.
- 5) Include items on teaching questionnaires that ensure students’ understanding of their responsibilities as learners. Items may establish student preparation, motivation, and their told as self-regulating learners.
- 6) Use formative assessments of teaching to provide information about where improvement is needed. They may take the form of midterm questionnaires, diagnostic instruments,

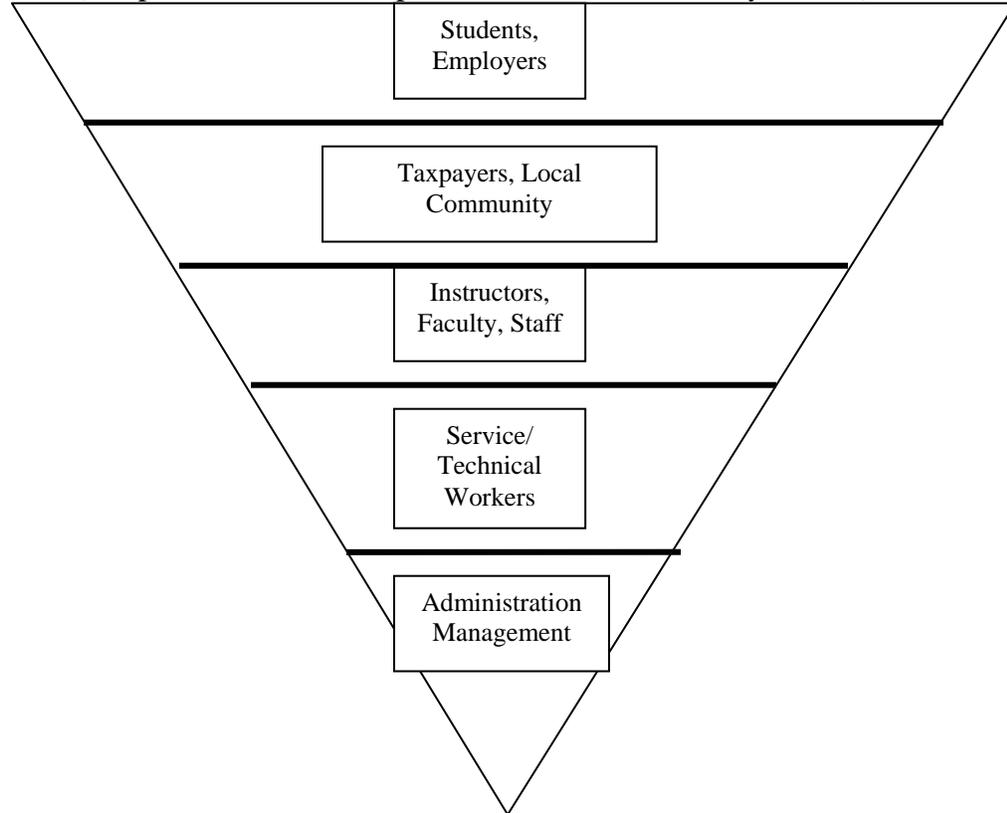
class directed periodic evaluations, or peer evaluations techniques such as the use of a consulting faculty member who works with students in small groups. (Freed, 1997)

William Taylor, a representative of the Council for the Accreditation of Teacher Education in the U.K., is referenced in the book by Robert Cornesky, *The Quality Professor*, as saying, “The quality of education will not be met until a quality culture is developed. Success can only be achieved when everyone involved in higher education has the commitment, the motivation, and the means to embody the culture of quality in every lecture,...every laboratory that is supervised, every essay that is written or paper that is marked.” (Cornesky, 1993)

In technical education the amount of institutional support is a primary quality indicator. All effective educational experiences require the input of good teachers and who show a level of currency. These teachers must be continually supported by the institutions in which they operate especially given the dynamics of today’s students, with their vastly different backgrounds, in the technical colleges. The opportunities for currency must be openly available and in the forefront of support initiatives displayed by the administrators.

Administration controls the reigns of the organization. It is this department that provides the direction of the college and all that is contained within the scope of what is offered how it is budgeted, administered, and supported in the college’s efforts to achieve the mission statement. Karl Albrecht proposes a service-management concept. This model was not designed for schools but the concepts still apply and the model has been appropriately adapted. See figure 1.1 below.

Figure 1.1 Albrecht's Upside-Down Pyramid
(Adapted to Education, Spanbauer, 1992. modified by Author)



Management, or administration, is the fulcrum on which all issues, especially quality, are reliant. “No instructional program or faculty member can provide, maintain, or guarantee the quality of technical education without institutional support; the direct learning experience is only one part of the institutional commitment to quality technical training. “For every hour of learning, there must be five to six hours of institutional commitment to support that experience, roughly equivalent to the requirements of a training organization in the private sector.”

(Broadbent, 1998) This support ratio of five to six hours to one hour of instruction is the scheduling, planning, review, and evaluation functions that ensure the curriculum is up to date and delivered with confidence from a current and competent instructor.

Quality is a culture. It is the belief that acceptance of change is the constant and adjustment to that change should be a continuous improvement process. Traditional

measurements of quality are the use of statistics that show the quantity of successful graduates, budgets, organizational employment, awarded endowments, teaching longevity, etc. Rather than these areas being the measure of quality they should be considered the resources provided to quality. Quality is the meeting of requirements by the customers. The student is also a customer. The student comes to the classroom with the expectations of unwavering support from instructors involved with experience currency, an administrative structure geared in continual assistance rather than bureaucracies of departmental protocol, and mission statements that are reflective of measurable and achievable goals that are echoed in the curriculum, and interaction of everyone that walks the halls. The issues discussed within this research serve as a base for the introduction of a cultural shift promoting cultural values and creating an environment that is focused on continual improvement through measurable results. The impacts of such an educative culture would be no less than considerable to anyone that comes in contact with an institutional employee, representative, teacher, and graduate.

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