Preliminary Development and Validation of the Concern for Improvement Survey

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Preliminary Development and Validation of the Concern for Improvement Survey

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by
Jennifer M. Combs
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I would like to give a special thanks to the members of my committee.

Herb Trenz - Director of Human Resources
   “Quality Expert”

Dr. Richard Wielkiewicz - Associate Professor of Psychology
   “Assessment Expert”

Dr. Stephen Stelzner - Associate Professor of Psychology
   “Overall Expert and Thesis Advisor”

Thanks for all your help and support!
The Preliminary Development and Validation of the Concern for Improvement Survey

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Preliminary Development and Validation of the Concern for Improvement Survey

As competition is seemingly becoming more and more the norm in society today, organizations attempt to push themselves to be "better than the rest." In the past, this has often meant an increase in quantity. Organizations have focused on producing more televisions, selling more cars, and teaching students more information without concerning themselves with the quality of their processes or products. As American industry struggles to regain its position at the front of the economic race, it is becoming more and more obvious that its methods may need some adjustment. Following the success of Japan and European countries, the U.S. is beginning to embrace the concept of quality.

But what is quality? Webster defines quality as a degree of excellence, superiority in kind or a distinguishing attribute.

Quality is not about expense, technical excellence, elegance or durability; quality is about perceptions and expectations. A hand-crafted tortoiseshell fountain pen with an engraved gold nib, costing 300 pounds, is a quality writing instrument, but a mass-produced plastic ballpoint pen that does not leak or smudge, operates until the ink is exhausted and costs 20p is also a quality writing instrument (Thomas, 1992, p.3).

W. Edwards Deming, an American statistician, is considered by many to be the founder of the quality movement. Deming believed that:

Quality was not expensive, rather it leads to lower costs; that defects are not
caused by workers, rather most defects are caused by the system; that a company should not buy at lowest cost, but that they should buy from vendors committed to quality; that fear and reward are not proper ways to motivate, in fact, fear leads to disaster; that a company should not play one supplier against another, rather they should work with suppliers (Aguayo, 1990, pp.17-18).

Deming's ideas and strategies have caught on in other parts of the world, especially Japan. The Japanese have developed a reputation for producing quality products at low cost. Americans soon started seeing the effects of Deming's "Total Quality Management" on the Japanese economy.

The major threat to our economic security, the reason why we are beginning to take quality seriously, is the rapid diminishing market share (in terms of home sales and exports) of our manufactured products in comparison with our major competitors. Our competitor's products are often equal or superior in quality and beat us on price (Thomas, 1992, pp.42-43).

"Does quality pay?" The Minneapolis Star Tribune reported that companies that had implemented quality programs reported profits averaging $4.6 million more than companies without formal quality programs (Oslund, 1995, p.5D). These kinds of visible payoffs from quality initiatives in the corporate sector will surely transfer to educational settings as well in the form of increased graduation numbers, test scores, and the like.

The following sections describe the initial development and validation of a scale intended to measure employee and customer perceptions of processes to improve quality, in an educational setting. The first section discusses the basics of quality,
including examples of the implementation of quality processes in both corporate and educational settings. Next, the Concern for Improvement Survey itself will be described. This section describes both the methods employed to develop the survey and statistical analysis involved in validating it. The paper concludes with a general discussion of the findings.

THE BASICS OF QUALITY

One of the most important components in implementing quality is assessment. This includes assessing overall progress towards quality. This may be done by applying for a quality award. However, in the spirit of Total Quality, organizations should be focusing on the process. An important part of the process, overall acceptance and the perception that the organization is committed to the concept of Total Quality, must not be overlooked. Deming has identified fourteen points that are the foundation for Total Quality Management, they are "Fourteen Points for the Transformation of Management" (Aguayo, p.124). If an organization can make these components the cornerstones of their processes, they will be laying an extremely strong foundation for quality.

The 14 points are the basis for transformation of American industry. It will not suffice merely to solve problems, big or little. Adoption and action on the 14 points are a signal that management intends to stay in business and aim to protect investors and jobs (Deming, 1982, p.23). These fourteen points serve as a guide to the implementation of quality. They are described below.
1. **Create Constancy of Purpose.**
   
   This must be demonstrated through total commitment from every member of the organization. Goals and purposes of the organization must be clearly stated and shared. Every member of the organization must be involved from administration to customers. There must be a commitment to drudge through the difficult beginning stages in order to see the benefits as an organization. This is definitely not something that can be done half way. "The key to quality is, above all else, commitment and commitment must be clearly present in those charged with training and development responsibilities" (Thomas, 1992, p.170).

2. **Adopt the New Philosophy.**
   
   The organization must accept the challenge of quality. It is possible that an organization must be willing to start from scratch. "The win/win model replaces the zero sum model. Dedication often must be given to doing things the new way, not to doing the old way better" (Rankin, 1992, p.68). Individuals must buy into the concept of Total Quality and be willing to work towards obtaining quality.

3. **Cease Reliance on Mass Inspection To Achieve Quality.**
   
   Eliminate the need to constantly redo, do it right the first time. Design processes so that quality is built into them. Designate various checkpoints within the process to catch a problem before it gets out of hand and continually use these checkpoints to improve the process.

4. **End the Practice of Awarding Business on the Basis of Price Tag.**
   
   Minimize total costs, poor quality is expensive to an organization. Develop a long-term relationship of loyalty and trust with suppliers. Look to a single supplier for any one item, not based on price, but based on quality.

5. **Improve Constantly and Forever Every Process for Planning, Production and Service.**
   
   Never decide that it is "good enough." Focus on improving the process every day. Use statistical control as well as suggestions to continually attempt to improve the process. As goals are met, continually raise them and proceed to work toward improving the levels of quality.

6. **Institute Training on the Job.**
   
   Training is needed in order to involve everyone and to develop constancy of purpose. An organization needs to make sure that they are arming their employees with the tools they need in order to succeed. This training needs to occur in at least two areas. "First, there must be training in whatever new processes and process control techniques are developed...Second, there must be training in the principles and techniques of the new system of management" (Rankin, 1992, p.69). Although such training may be expensive, the quality that it precipitates will save the organization money in the long run.
7. **Institute Leadership.**
   Adopt the philosophy that in order to obtain quality every individual must accept responsibility and take on a leadership role. Pre-existing hierarchies must be abolished in order to decrease barriers and foster teamwork. Each individual must take ownership of the process, planning and service.

8. **Drive out Fear.**
   Individuals must not be afraid to make mistakes. They must feel comfortable voicing their opinions and they must believe that they will be taken seriously. Fear only lowers productivity and fosters error.

9. **Break Down Barriers Between Departments.**
   Organizations are extremely interdependent. Once constancy of purpose has been established the organization must work together in order to achieve their goal. Cooperation is the only means to Total Quality.

10. **Eliminate Slogans, Exhortations, and Targets for the Work Force.**
    These things rarely result in motivation and may generate fear due to unrealistic goals. It is important that the process becomes the center of attention. More often than not the problem will be found in the process not the individual.

11. **Eliminate Numerical Quotas for the Work Force and Numerical Goals for the Management.**
    Numerical goals and quotas are often unrealistic, unobtainable, and even out of the control of a single individual. Quotas also often fail to give any mention to quality or how well something was done. The focus must remain on the process and not the outcomes. The substitute for these things are leadership and commitment from the entire organization, this will develop into intrinsic motivation and pride in a job well done.

12. **Remove Barriers that Rob People of Pride in Workmanship.**
    More does not necessarily mean better. Individuals need to be given the opportunity to take pride in what they do. They also need to be intrinsically motivated to perform. Extrinsic or external rewards can get in the way of such pride and even extinguish pride all together.

13. **Institute a Vigorous Program of Education and Self-Improvement.**
    Continuous learning goes hand and hand with Continuous Quality or Total Quality. This training with help spread excitement and confidence in the system throughout your entire organization. Self-improvement will also help your employees to be happy both on and off the job which most likely will lead to higher job satisfaction and organizational commitment as well as a stronger overall commitment to the process.

14. **Put Everybody in the Company to Work to Accomplish the Transformation.**
    "The system cannot be implemented piecemeal; all 14 points must be implemented; they are interdependent" (Rankin, 1992, p.72). As has been stressed in several of
Deming's points, you must establish strong top-down commitment. Develop a team concept and put forth a team effort in your pursuit of Total Quality improvement.

Implementing these fourteen points can serve as a strong foundation for quality in an organization. However, they were intended for application to business settings. Therefore, they must be adapted for application to other settings. As the concept of quality continues to spread, other types of organizations are acknowledging the importance of quality, especially educational organizations. While the actual concept of measuring quality appears to be quite new, there is an abundance of literature on the implementation of Total Quality Management in both business and educational settings.

Applications in Business

Quality initiatives are not a new concept in the business world.

It is generally accepted that the quality revolution began in earnest in Japan during the 1950's. Deming challenged the accepted wisdom that quality adds cost and that doing things cheaper always means doing things better. Deming's Thesis is that in the long term quality always pays (Thomas, 1992, p.5).

One example of a quality initiative in business took place at the Cadillac Motor Car Division. The first car to result from their new system was the 1992 Seville. "The design of the car is literally customer-driven. 'Nearly 8,700 customers and noncustomers participated in the design of the 1992 Cadillac Seville nearly five years ago'" (Brown, 1992, p.292). Cadillac also set up dealership listening posts and
developed simultaneous engineering teams. These efforts resulted in fewer number of parts needed, quicker assembly time and higher customer satisfaction (Brown, 1992, p.292). The quality system that Cadillac put into action was so effective and well done that it earned them the Malcolm Baldrige Award in 1990.

Another company using Total Quality Management is the Toyota plant in Lexington, Kentucky. This plant has definitely managed to break down barriers to quality.

Employees at Toyota work and think together in teams. To a surprising extent, these teams are self-managing: they meet regularly to identify areas for improvement, to set many of their own goals, to gather and interpret their own data, and to check progress and adjust efforts made toward attaining their goals (Schmoker & Wilson, 1993, p.389).

Administration at the Toyota plant also looks to their employees for improvement ideas. In any given year more than 90% of Toyota employees submit at least one suggested kaizen, a Japanese word for a small but significant improvement. That fact is interesting enough in itself. But what is actually more interesting is that more than 90% of these suggestions actually get implemented (Schmoker & Wilson, 1993, p.389).

These are definitely not isolated cases of quality initiatives. The Star Tribune reported that "...nearly two-thirds of Minnesota’s largest publicly held companies say they have adopted formal quality programs,..." (Oslund, 1995, p.1D). The benefits from programs such as these are no longer corporate secrets. Not only has the business world bought into the benefits of quality, but the world of education is beginning to take advantage of its benefits as well.
Applications in Education

Total Quality is not just for the business world. This concept, which is already widely accepted in the corporate sector, is now moving into education. The number of colleges and universities that are implementing formal quality programs is continuously growing. This June the American Association of Higher Education will be holding their Tenth Annual Conference on Assessment and Quality. The conference will focus on the themes of improving learning and forging better connections between assessment, quality, and accreditation. It will consist of nearly 200 sessions presented by more than 300 leaders in assessment and continuous quality improvement (AAHE, 1995, Brochure). Primary school children are also becoming more and more familiar with the idea of Total Quality. "Quality Progress reports that 415 schools, colleges, and universities now use Total Quality Management, up 43% from last year" (Graves, 1994, p.20). This concept is allowing students to take an active role in their education. Individuals who work in education are extremely excited about the possibilities that TQM holds. "Now the federal government is seeking to promote much wider adoption of the concept, by developing a Baldrige Quality Award for education similar to the Commerce Dept. honor for quality in business" (Del Valle, 1994, p.72). This award will be presented for the first time in 1996. Criteria include: "constant improvement and better results, from higher test scores to lower dropout rates. Judges will look for evidence that students are benefiting, not just that the school is teaching TQM principles" (Del Valle, 1994, p.72). Curt W. Reimann, director for quality programs at Commerce's National Institute of Standards & Technology, which is developing the
prize criteria says that, "It's a profound shift to emphasizing learning rather than teaching" (Del Valle, 1994, p.72).

There is definite evidence that this process of quality in education does work. One such example is the George Westinghouse Vocational and Technical High School in Brooklyn, New York. This is a school where

... 62% of the students come from homes below the poverty line and all pass through a metal detector on the way in to class. Frank Schargel, the school's quality coordinator, can point to real results: When the school started its quality program in 1988, the dropout rate was 12.9%; by the end of 1993, it was down to 2.1%. Over 200 parents are members of parent-teacher associations, up from 12. And a lunchtime tutoring program has helped cut the number of failing students from 151 to 11 (Graves, 1994, p.20).

This is not the only example of applying Total Quality principles in education. Central Park East Secondary School in New York is another school that is using this method. This school is focusing on the idea of continuous improvement. They do this by using feedback and open discussion without fear. Meier, the director of the school, makes regular classroom visits and has regular team meetings. Each spring they bring in the school's "external customers," business and community members, to evaluate the process. Also, they receive feedback from past graduates on what was beneficial to them and areas that may need improvement (Schmoker & Wilson, 1993, pp.390-392).

Another school system using a quality approach are Johnson City Schools in New York State. John Champlin, superintendent, arrived in the early 1970's, in a district whose schools were among the lowest performing in the country. However, with the
influence of Deming the results began to show.

By the end of the third year, gains could be seen district wide. After six years, 70% of Johnson City students were achieving at or above grade level -- up from 45% to 50% when Champlin arrived. By 1986, 77% of Johnson City graduates were receiving New York State's prestigious Regents diplomas (Schmoker & Wilson, 1993, p.393).

Some of the methods used at "quality schools" such as these include: a democratic atmosphere, clear and often expressed purpose and goals, a wide use of teams and collaborative efforts along with constant feedback and improvement. This process is extremely similar to the quality processes used in the business world and it can be implemented in much the same way. However, achieving such a goal is no easy task. It takes the redistribution of power, the empowerment of employees, overall acceptance throughout the organization, and a lot of hard work. America needs this process in order to remain successful. So, where better to start teaching the concepts of Total Quality than in our schools?

**Implementation**

The concept of quality and the implementation of this concept into action is a long arduous process. It is a process that requires feedback. The only clear way to obtain an accurate measure of success is through assessment. At present, there are few means of assessing quality in any organization, the most obvious being application for awards. Both businesses as well as educational programs may apply for quality awards such as a Baldrige Award or a Minnesota Quality award. While both of these methods
may bring about well deserved recognition and promote deserved celebration, they do have certain drawbacks. First, submitting an application for such an award is expensive as well as time consuming. Second, applying for such an award forces an organization to put themselves on the line and possibly risk employee morale by coming up short in the running. It also gives an organization no idea of the perception of quality in the organization. This perception involves awareness, appreciation, and confidence in the process of quality improvement. Total Quality Management (TQM), also referred to as Continuous Quality Improvement or CQI, depends on overall acceptance and support from the entire organization. The most difficult component to obtain when working towards quality improvement is employee and management acceptance. Without overall acceptance and a willingness to play a part in improving quality, quality efforts will likely be futile. This perception and acceptance of quality is a critical component that may often be overlooked in an organization's quest for quality. A survey capable of measuring customer and employee perceptions of quality would serve as a useful tool to those who hope to apply for a Quality award in the future. It could give the organization an indication of where they have been, where they are, and where they are going. It would also highlight various strengths and weaknesses within their quality programs that can either be addressed before applying for an award or used to the organization's advantage in the application process.

THE CONCERN FOR IMPROVEMENT SURVEY

There is a need to measure the perception of Total Quality in organizations that are
implementing quality initiatives. This perception includes overall acceptance, belief, and commitment to the quality plan. This measure needs to include input from everyone involved in an organization from administration to customer. To obtain a measure of this perception, focusing on the customer and employee, the Concern for Improvement Survey was created. It was constructed to serve as a measuring device for organizations. It can be used as a benchmark as well as to measure an organization’s progress in their journey towards quality. However, in order to do this the instrument must be shown to be valid and reliable.

Method

Participants

A sample of students, faculty, staff, and administrators from the College of Saint Benedict and St. John's University participated as the original sample. Approximately 31.6% of the respondents were first-year students, 29.2% were sophomores, 16.5% were juniors, 17.9% were seniors, .2% were graduate students, 1.7% were faculty members, 2.1% were administrative staff, and .7% were support staff. The College of Saint Benedict, a women’s college, and St. John's University, a men’s University, are two private, Catholic schools, that operate as cooperative, coeducational institutions. They are located six miles apart in central Minnesota, seventy miles northwest of a major metropolitan area. The survey was completed by approximately 424 faculty, staff, and students at these two colleges. Approximately 40% of the participants were students randomly selected through their living areas and offered an incentive, valued
at $3.50. Another 40% of the participants were students in introductory psychology courses who were offered extra credit if they would agree to participate. The remaining 10% of those who responded were members of a working group on campus that was interested in, and has been working on, concepts of quality and leadership. They were not offered an incentive.

Another sample consisting of 61 students was obtained from another educational institution. This institution is a private, four year, Lutheran university. It is located on the west coast of the United States in a major metropolitan area. It is also different from the College of St. Benedict and St. John's University in that it is a coeducational institution. The survey was given to introductory psychology students who were offered extra credit for participating. Approximately 55% of those who responded were first-year students, 15% were sophomores, 25% were juniors, and 5% were seniors.

**Procedure**

In order to develop the Concern for Improvement Survey: Higher Ed form (Appendix A), a modified version of Deming's Fourteen Points that was more applicable to an educational setting was used in combination with the original 14 points. The CSB/SJU Fourteen Points were developed by the Continuous Quality Improvement (CQI) Steering Committee at the College of Saint Benedict and St. John's University (Appendix B).

The Concern for Quality Survey was attached to another instrument, the Leadership Attitudes and Behavior Survey (LABS). The LABS, which is also in the initial stages of
development, measures attitudes and behaviors as they relate to beliefs about leadership. Of the 200 total items, the Concern for Improvement Survey consisted of the last 45. Initially, items were created based on Deming’s fourteen points. Next, the CSB/SJU fourteen points were used to create additional items which were slightly more applicable to an educational environment. All of the items were then reworked and edited for clarity and composition. The surveys were then administered and individuals were asked to respond based on the degree to which they agreed or disagreed according to an anchored rating scale, with one or “A” being strongly agree and 5 or “E” being strongly disagree. Once the surveys had been completed and returned they were mechanically scored. Any participants who did not follow directions, gave an impossible response, or failed to complete the survey were eliminated from the data base.

Results

A factor analysis was performed on the original sample from CSB/SJU which identified twelve factors. In order to strengthen the interpretability of factor loadings the number of factors were limited to three and nine items were deleted, due to the fact that they did not load strongly on any scale. A varimax rotation was done which converged in six iterations (see Table 1). The three factors that emerged from this analysis were then labeled as: Commitment to and Processes for Improvement, Involvement in the Quality Effort, and Barriers to Quality, based on the items that composed the factor.

A second factor analysis was performed with the responses from both samples in
order to determine if the second sample strengthened or weakened the existing factors. Eleven factors were identified, one less than when the factor analysis was done with the original sample. In order to get a better idea of the consistency of the factors, a second factor analysis was done forcing the items into three factors. A varimax rotation was done which converged in 6 iterations (see Table 2). Of the forty-five items only one did not load on the same factor that it loaded on in the original sample. It is possible that this item is either too ambiguous and should be eliminated, or perhaps it is simply important to both factors and thus loads on both factors. Further analyses of this item should be explored in the future. Nevertheless, this second factor analysis provided confirmation of all three factors in another setting, which validates the factors and may also be an indication of overall validity of the Concern for Improvement Survey.

Reliability

Internal consistency was assessed for each of the three factors. This evaluates the extent to which the different items within a factor are measuring the same trait. Factor 1, Commitment to and Processes for Improvement, was composed of 13 items with an alpha level of .83. Factor 2, Involvement in the Quality Effort, was composed of 13 items as well, with an alpha level of .80. The third and final factor, Barriers to Quality, was composed of 10 items with an alpha level of .80. The alpha levels for all three factors are considered to be quite high.
Correlations

Correlations were computed between the three factors that make up the Concern for Improvement Scale and the four factors which make up the LABS Scale (Leadership Attitudes and Behavior Scale). The four sub-scales that make up the LABS scale were: Cooperation and Relationship Orientation, Orientation Toward Control and Authority, Personal and Social Responsibility, and Attitude Toward Gender-Related Issues. The coefficient alpha for each of the LABS sub-scales were also high. Table 3 shows correlations between the factors on the two scales. The LABS “Cooperation” factor “Cooperation” correlated significantly with the CIS factor, *Commitment to and Processes for Improvement*. This is an initial indication of the Concern for Improvement Survey’s construct validity, because orientation toward cooperation is a sign of an organization’s commitment to quality. According to Deming, lack of cooperation in problem solving is considered a barrier. The second factor of the LABS scale, “Orientation toward control and authority,” correlated significantly with the CIS factor, *Barriers to quality*. This confirms construct validity as well. According to Deming, misuse of control and authority are barriers to quality. Things such as these do not allow for overall acceptance, empowerment of employee and customer, or freedom to express opinions without fear, all of which are essential to quality. “Personal and social responsibility,” the third factor on the LABS scale, correlated with the first and second CIS factors, *Commitment to and Processes for Improvement*, and *Involvement in the Quality Effort*, respectively. This also serves as an initial indication of the construct validity of both scales. Based on Deming’s fourteen points it would appear that
personal and social responsibility should be the byproduct of the implementation and involvement in quality.

Correlations were also computed between the three factors of the CIS scale (see Table 4). This indicated that the first two factors, *Commitment to and Processes for Improvement* and *Involvement in the Quality Effort,* are the most highly correlated. The third factor, *Barriers to Quality,* was negatively correlated to the first two factors. If an organization has a high level of commitment and processes for quality, along with a high level of involvement in quality, then they must not have significant barriers standing in the way of quality implementation.

**Campus Differences**

A oneway analysis of variance was done to determine if there were significant differences between the ways that the schools responded to the factors of the CIS. The faculty and staff members were not included in this analysis because the second sample was composed entirely of students. Therefore there was no second sample of faculty and staff to be used in comparing responses. The students sample from CSB and SJU were combined because these are separate campuses that function as a single institution. (They are two cooperative, single-gender, coeducational institutions, where students attend classes on both campuses). There was no significant difference between the combined CSB/SJU and the third school on any of the three factors. This is not surprising considering the stages the schools are in regarding their quality implementation. Both schools are in the beginning stages of implementation focusing
on goal setting, mission statements, and multiple year implementation plans.

Gender Differences

An analysis of variance was performed to determine if there were significant differences between the ways that gender responded to the factors of the CIS. There was a significant difference found in both the first and third factors, *Commitment to and Processes for Improvement* and *Barriers to Quality*. Males believed that there were more barriers to quality while women believed that there was a greater commitment to quality.

A series of t-tests were performed to compare the means for each gender on each of the scale’s items in order to further investigate the gender differences. Due to the number of items that make up each of the scales, 10 to 13, the level of significance was lowered to .005, a Bonferroni correction. Significant differences were found on 5 of the 45 final CIS items (see Table 5).

Differences by Class

A oneway ANOVA was performed to determine if there was a difference in responses to the three factors based on class (first-year through senior). The differences obtained on the first factor were not statistically significant, meaning that the probability that the differences could have simply occurred by chance was greater than .05 or 5%. However, the differences in responses to the second factor, *Involvement in*
the Quality Effort, were statistically significant. The means were progressively larger from first-year (37.9341) to senior year (42.4903). The third factor, Barriers to Quality, also showed significant differences. Sophomores reported the lowest mean (33.8421), followed by first-year students (34.5329), juniors (35.0471), and seniors (35.1139).

Summary

The present study shows strong evidence indicating reliability and validity of the Concern for Improvement Survey. However, much additional research is needed. The CIS has also revealed some interesting differences as a function of gender and class standing. Although only inferences can be made regarding their causes, this information may be useful in evaluating the quality, and perceptions of quality, on these two campuses.

DISCUSSION

The initial validity and reliability of the Concern for Improvement Survey appears to be quite good. The internal consistencies of the scales ranged from .7979 to .8274 for the three sub-scales. The construct validity was supported by consistent factor analyses, and correlations that imply appropriate relationships between the CIS and LABS scales without indicating that they are measuring the same constructs. The lack of significant differences between schools is also an indication of construct validity because the schools are at similar stages in their implementation of quality processes.
Significant gender differences were found in the responses to six of the forty-five items. Women felt a greater commitment to quality improvement on campus; that there is a clear effort to improve the quality of educational programs and services on campus; and that there are a variety of leadership opportunities on campus (although this item was eliminated due to poor factor loadings, it is still quite interesting). Men, on the other hand, felt more strongly than women that leadership on campus is unable to adjust to a rapidly changing world; that performance in this organization is measured by “how much” rather than “how well”; and that fear of voicing concerns is part of the daily experience on this campus. The items that the women scored significantly lower on (showing greater agreement with) were all part of factor 1, *Commitment to and Processes for Improvement*. The items that the men scored significantly lower on (showing greater agreement with) were all items contained in factor 3, *Barriers to Quality* (item 37 was recoded so that a low score would indicate high perceptions of barriers which is consistent with the rest of the items in factor 3). One possible explanation for these findings may be that the College of Saint Benedict is an all female school which pays special attention to gender issues and opportunities for women. This may result in a socialization or philosophy that women must be proactive. They must take an active role in, and responsibility for, their education. They are trained to overcome and break down barriers. The women at CSB may, in fact, be more proactive in their committed to quality, especially as it involves their education. The fact that gender issues are stressed at CSB/SJU may have influenced both genders. Perhaps, the women see this as breaking down barriers to quality and equality, while
men have been socialized to be sensitive to gender issues. This may make them
tentative about saying that the level of quality at CSB/SJU, which they may be
associating with equality, is fine. Further research may be appropriate in order to
address this issue. These differences, however, appear to have nothing to do with the
"number of organizations" women versus men are involved in, or the "percent of time
that they spend in leadership positions," both of which were variables measured by the
survey. (A t-test was done between gender and the previous two variables and the
results were not significant for CSB/SJU students).

Differences in responses to the factors by class, or year in school, were also
addressed. In the second factor, Involvement in the Quality Effort, the means
progressively increased from first-year to senior year, which is an indication of
decreasing satisfaction with the levels of involvement in quality efforts. Perhaps the
longer that a student is in school the less he/she feels that there is an overall
involvement in the quality effort. Students may have a greater willingness to get
involved and may feel that there are not adequate opportunities for them to do so.
Graduate students, support staff, faculty, and administrative staff were also included in
the ANOVA, however their sample is so small that no inferences about their responses
could be made.

Barriers to Quality, the third factor also resulted in significant differences. This
factor is such that the lower the mean the more they believe that barriers to quality
exist. Sophomores reported the existence of the most barriers. Perhaps this is
because they have experienced their first real confrontation with "the system." They
have just declared their majors, are registering for classes that are not considered
generals, and may be closed out of classes that they need. They are also over their first year feeling of going to summer camp and realizing that they are in this thing for the “long haul.” Seniors and juniors reported the least amount of barriers respectively. This may be due to the fact that they have seen some improvement of processes take place over the years or at least have seen an effort to improve processes. Or perhaps they have simply learned how to beat or at least deal with the system. First-year students reported a mean between that of sophomores and juniors. Perhaps this is because they are beginning to realize that college is not all fun and games, and they are a little intimidated by the system. Once again the sample of support staff, faculty, and administrative staff was too small to make inferences.

An attempt is being made to further validate the Concern for Improvement Survey against a sample from another setting in the private sector (see Appendix C). However, this has been quite difficult. Many organizations simply were not interested in administering the survey, while other organizations felt that 36 items was too long and time consuming. A test-retest analysis of reliability is also in the process of being performed. This will help to establish whether or not the factor scores remain stable over time.

In order to further validate this survey a number of things could be done. First, the content validity could also be increased by adding additional items to the survey and attempting to obtain a factor structure consisting of 14 factors, one for each of Deming’s points. This would be extremely difficult due to the fact that many of Deming’s points are closely related. Adding additional items to the survey may also increase its reliability, however, this may be detrimental due to the fact that its relatively short length
is one of its strengths. An attempt could also be made to establish predictive validity. It may be possible that if an organization reports high levels of commitment and involvement and few barriers to improvement that this would predict: high employee satisfaction, increased profit margin, lower costs, and increased sales and service.

Once acceptable reliability and validity has been established, this survey may be used as a tool in the implementation of quality initiatives in any setting with slight modification of its content, depending on the organization and whether it is a business or a school. It could serve as a benchmark for organizations so they will be able to measure progress. It will also be useful in determining what aspects of an organization's quality program need more emphasis. For example, perhaps barriers to quality have been removed, but commitment to quality is still low. This survey can be used as a device to help an organization determine when they are ready to invest the time and money into application for a quality award. Quality initiatives can be an asset to any organization willing to invest the time and effort today in order to experience benefits in the future. Deming illustrates this point by saying that,

A system of quality improvement is helpful to anyone that turns out a product or is engaged in service, or in research, and wishes to improve the quality of his work, and at the same time to increase his output, all with less labor and at a reduced cost (Deming, 1982, p.183).

The Concern for Improvement Survey can definitely be an asset to any organization that is in pursuit of delivering quality services or products, particularly those organizations that have accepted the need for customer and employee support.
APPENDIX A

The Leadership Attitudes and Behavior Survey (LABS)
Richard M. Wielkiewicz
College of Saint Benedict/Saint John’s University
A Project Sponsored by the Kellogg Leadership Program

GENERAL DIRECTIONS
Please use the ANSWER SHEET provided with this survey to mark your responses to each question. DO NOT MARK on this survey. Others will use it after you are finished.

For each question you are to choose the option which best describes your experience or perceptions. You can do this by first reading the question carefully and then selecting the circle which corresponds to your response. Follow the example below to correctly mark your answer sheet.

All responses should be recorded on the answer sheet you received with this survey. Begin answering on SIDE 1 of the answer sheet at the UPPER LEFT-HAND corner.

Do NOT write your name on the answer sheet. The survey is anonymous. A survey ID number has already been entered to help with analysis of your responses, but it will not be used to identify you.

SPECIAL CODES SECTION
Use the space labeled SPECIAL CODES to provide the following information about yourself, using the numbers in the columns just below the letters A through J.

Please darken ONE of the circles under COLUMN A to indicate your approximate AGE, using the following response options.

0 = 17 to 22 years
1 = 23 to 25 years
2 = 26 to 30 years
3 = 31 to 40 years
4 = 41 to 50 years
5 = 51 to 60 years
6 = 61 years or older

COLUMN B: Indicate the extent to which you are FAMILIAR with the KELLOGG LEADERSHIP PROGRAM:
0 = I have never heard of this program
1 = I have heard about the program but know nothing about it
2 = I have heard a little bit about the program
3 = I have heard or read a lot about the program
4 = I have learned about leadership through the program
5 = The program has changed my understanding of leadership

COLUMN C: Indicate your GENDER.
0 = Male
1 = Female

COLUMN D: Indicate your CLASS or GROUP using the following codes:
0 = First year student
1 = Sophomore student
2 = Junior student
3 = Senior student
4 = Graduate student
5 = Faculty member
6 = Administrative staff
7 = Support staff

COLUMN E: Indicate if YOU OCCUPIED A POSITION OF LEADERSHIP DURING THE PAST YEAR?
0 = Yes
1 = No

COLUMN F: Indicate whether you have been ELECTED to a position of leadership in the past FIVE years.
0 = Yes
1 = No

COLUMN G: Indicate approximately what PERCENT of time you now devote to leadership activities.
0 = 0% to 20%
1 = 21% to 40%
2 = 41% to 60%
3 = 61% to 80%
4 = 81% to 100%

COLUMN H: Indicate whether you are NOW AN ACTIVE MEMBER of the Kellogg Leadership Program.
0 = Yes
1 = No
COLUMN I: Indicate the campus with which you are enrolled or employed.
0 = CSB
1 = SIU

COLUMN J: Indicate how many organizations or groups you were involved with during the past year (include teams, clubs, student government, standing committees, ad hoc committees, etc.).
0 = none
1 = one
2 = two or three
3 = three or four
4 = five or more
THIS PORTION OF THE SURVEY IS DESIGNED TO ASSESS YOUR PERCEPTIONS OF LEADERSHIP BEHAVIORS AND THEIR INFLUENCE SEEN AT CSB/SJU. AS IN PRIOR ITEMS, INDICATE THE EXTENT TO WHICH YOU AGREE, OR DISAGREE, USING ONE OF THE FOLLOWING RESPONSES:

A = I STRONGLY AGREE with this statement
B = I AGREE
C = I NEITHER AGREE NOR DISAGREE
D = I DISAGREE
E = I STRONGLY DISAGREE with this statement

150. Efforts to continuously improve student services are part of the normal experience on campus.

151. This organization is NOT able to keep up with competing institutions in providing a quality education.

152. Problems on campus are anticipated and resolved before they have a major impact on the quality of student life.

153. There is leadership on campus dedicated to improving teaching.

154. I receive the training/feedback I need to improve the quality of my work.

155. There are processes for determining the causes of problems on campus.

156. Barriers to teamwork make it difficult to solve problems on campus.

157. The continuous development of all members of the campus community is an overriding philosophy of this organization.

158. Problem-solving and planning on campus are done by groups/teams of individuals.

159. The quality of student learning and development is used to indicate whether this organization is successful in its mission.

160. There is leadership on campus concerned with improving student learning.

161. There is leadership on campus concerned with improving extracurricular experiences for students.

162. Barriers in this organization prevent individuals from feeling pride in their work.

163. There is a commitment to continuous quality improvement on campus.

164. Leadership on campus is unable to adjust to a rapidly changing world.

165. Individuals on campus are aware of the commitment to quality by members of the
organization.

166. Adversarial relationships interfere with the decision making processes on campus.

167. Performance in this organization is measured by "how much" rather than "how well."

168. There are processes on campus for finding solutions to problems.

169. The mission of this organization is a useful guide to decision making.

170. There are processes on campus for making problematic issues more manageable.

171. Ideas about how to do things better are welcome on this campus.

172. Students are actively involved in policy making decisions on campus.

173. There is a process for making organizational procedures more efficient.

174. This organization has developed long-term relationships with graduate schools.

175. There is a clear effort to improve the quality of educational programs and services on this campus.

176. This organization has developed a long-term relationship with the primary and secondary schools from which our students graduate.

177. There is a clear commitment to continually improve quality on campus.

178. There is an emphasis that more is better in this organization.

179. There are opportunities for every member of the organization to learn about and use Continuous Quality Improvement.

180. There are a variety of leadership opportunities on campus.

181. Members of the organization are able to develop their leadership abilities to the fullest extent.

182. Risk taking which encourages growth or improves organizational procedures is expected on campus.
A = STRONGLY AGREE
B = AGREE
C = NEITHER AGREE NOR DISAGREE
D = DISAGREE
E = STRONGLY DISAGREE

183. Fear of voicing concerns is part of the daily experience on this campus.
184. Teamwork is part of any project on campus.
185. Slogans or cliches are the primary means by which quality is expressed on this campus.
186. Organizational policies are often discussed but not acted upon.
187. Quality improvement efforts are geared toward the long-term, rather than the short-term.
188. There is leadership on campus dedicated to improving student services.
189. There is an emphasis on quick, easy solutions to problems or issues.
190. I feel valued as a member of this organization.
191. People in this organization are encouraged to take pride in their work.
192. When the organization develops a policy or philosophy, it becomes a reality.
193. This organization has made an effort to understand the needs of those who will employ our graduates.
194. Members of the organization are encouraged to use their leadership abilities.
Appendix B

CSB/SJU 14 Points

1. Continually improve the educational programs and services for our students.

2. Affirm a college-wide philosophy of commitment to quality.

3. Cease sole dependence on increasing available resources to improve results; focus on the effectiveness of institutional processes.

4. Establish a long-term relationship of loyalty and trust with the educational institutions from which our students came and the graduate schools and employers to which our students go.

5. Eliminate waste and minimize lost opportunities.

6. Institute CQI training for all employees.

7. Cultivate the leadership abilities of all members of the communities to their fullest ability.

8. Drive out fear and encourage risk-taking.


10. Eliminate empty rhetoric.


12. Create an environment that communicates respect for each individual and allows faculty, staff, and students to feel pride in their work.

13. Initiate a vigorous program of employee development including; a) orientation to the coordinate environment, b) training in specific skills required for a person’s job, and c) opportunities for self-improvement of all employees.

14. Walk the talk.

June 20, 1994
The Concern for Improvement Survey

College of Saint Benedict/Saint John’s University

GENERAL DIRECTIONS
Please use the ANSWER SHEET provided with this survey to mark your responses to each question. DO NOT MARK on this survey. Others will use it after you are finished.

For each question you are to choose the option which best describes your experience or perceptions. Although some of the questions may be difficult for you to answer, please answer them the best you can. You can do this by first reading the question carefully and then selecting the circle which corresponds to your response. Follow the example below to correctly mark your answer sheet.

EXAM PLES

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<thead>
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</table>

IMPORTANT DIRECTIONS FOR MARKING ANSWERS

- Use black lead pencil only (No. 2)
- Do NOT use ink or ballpoint pens
- Make heavy black marks that fill the circle completely
- Erase cleanly any answer you wish to change
- Make no stray marks on the answer sheet

All responses should be recorded on the answer sheet you received with this survey. Begin answering on SIDE 1 of the answer sheet at the UPPER LEFT-HAND corner.

Do NOT write your name on the answer sheet. The survey is anonymous. A survey ID number has already been entered to help with analysis of your responses, but it will not be used to identify you.

SPECIAL CODES SECTION
Use the space labeled SPECIAL CODES to provide the following information about yourself, using the numbers in the columns just below the letters A through J.

Please darken ONE of the circles under COLUMN A to indicate your approximate AGE, using the following response options.

0 = 22 years or younger
1 = 23 to 25 years
2 = 26 to 30 years
3 = 31 to 40 years
4 = 41 to 50 years
5 = 51 to 60 years
6 = 61 years or older
COLUMN B: Indicate the extent to which you are FAMILIAR with the concept of CONTINUOUS QUALITY IMPROVEMENT:

0 = I have never heard of this concept
1 = I have heard about this concept but know nothing about it
2 = I have heard a little bit about this concept
3 = I have heard or read a lot about this concept

COLUMN C: Indicate your GENDER:
0 = Male
1 = Female

COLUMN D: Indicate your present standing with this organization using the following codes:
0 = Customer
1 = Employee

COLUMN E: How long have you been with this organization?
0 = Under 1 year
1 = 1 - 3 years
2 = 3 - 5 years
3 = 5 - 7 years
4 = 7 or more years

COLUMN F: How would you rate your overall satisfaction with this organization?
0 = Very Dissatisfied
1 = Not Satisfied
2 = Neutral
3 = Satisfied
4 = Very Satisfied
THIS SURVEY IS DESIGNED TO ASSESS YOUR PERCEPTIONS OF CONTINUOUS IMPROVEMENT AND ITS INFLUENCE SEEN AT THE ST. CLOUD OPTOMETRY CLINIC. INDICATE THE EXTENT TO WHICH YOU AGREE, OR DISAGREE, USING ONE OF THE FOLLOWING RESPONSES:

A = | STRONGLY AGREE with this statement
B = | AGREE
C = | NEITHER AGREE NOR DISAGREE
D = | DISAGREE
E = | STRONGLY DISAGREE with this statement

1. This organization is NOT able to keep up with competing institutions in providing a quality service.
2. Problems are anticipated and resolved before they have a major impact on the quality of service.
3. There is leadership in this organization dedicated to improving service.
4. There are processes for determining the causes of problems in this organization.
5. Barriers to teamwork make it difficult to solve problems in this organization.
6. The continuous development of all employees of this organization is an overriding philosophy of this organization.
7. Problem-solving and planning are done by groups/teams of individuals.
8. The quality of service and development is used to indicate whether this organization is successful in its mission.
9. There is leadership within the organization concerned with improving customer service.
10. There is leadership within the organization concerned with improving customer satisfaction.
11. Barriers in this organization prevent individuals from feeling pride in their work.
12. There is a commitment to continuous quality improvement in this organization.
13. Leadership within this organization is unable to adjust to a rapidly changing world.
14. Adversarial relationships interfere with the decision making processes in this organization.
15. Performance in this organization is measured by “how much” rather than “how well.”
16. There are processes within this organization for finding solutions to problems.
17. The mission of this organization is a useful guide to decision making.
18. There are processes in this organization for making problematic issues more manageable.
19. Ideas about how to do things better are welcome in this organization.
20. Customers are actively involved in policy making decisions in this organization.
21. There is a process for making organizational procedures more efficient.
22. This organization has developed long-term relationships with other health care organizations.
23. There is a clear effort to improve the quality of products and services in this organization.
24. This organization has developed a long-term relationship with its suppliers.
25. There is a clear commitment to continually improve quality in this organization.
26. There is an emphasis that more is better in this organization.
27. There are opportunities for every customer and employee of this organization to learn about and use Continuous Quality Improvement.
28. Members of the organization are able to develop their leadership abilities to the fullest extent.
29. Risk taking which encourages growth or improves organizational procedures is expected in this organization.
30. Fear of voicing concerns is part of the daily experience in this organization.
31. Teamwork is part of any project within this organization.
32. Slogans or cliches are the primary means by which quality is expressed in this organization.
33. Quality improvement efforts are geared toward the long-term, rather than the short-term.
34. People in this organization are encouraged to take pride in their work.
35. When the organization develops a policy or philosophy, it becomes a reality.
36. This organization has made an effort to understand the needs of its customers.
### Table 1. Loadings on the Three Factors

*Note: Items that loaded below the .30 level do not appear in the table.

**Factor 1 - There are processes for improving the quality of this organization.**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
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</thead>
<tbody>
<tr>
<td>4. There is leadership on campus dedicated to improving teaching.</td>
<td>.4005</td>
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<tr>
<td>6. There are processes on campus for determining the causes of problems on campus.</td>
<td>.50698</td>
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<tr>
<td>8. The continual development of all members of the campus community is an overarching philosophy of this organization.</td>
<td>.36964</td>
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<tr>
<td>9. Problem-solving and planning on campus are done by groups/teams of individuals.</td>
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<tr>
<td>10. The quality of student learning and development are used to indicate if this organization is successful in its mission.</td>
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<tr>
<td>11. There is leadership on campus concerned with improving student learning.</td>
<td>.54816</td>
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<tr>
<td>12. There is leadership on campus concerned with improving extracurricular experiences for students.</td>
<td>.59675</td>
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</tr>
</tbody>
</table>
14. There is a commitment to continuous quality improvement on campus.

19. There are processes on campus for determining the solutions to problems.

21. There are processes for making problematic issues more manageable on campus.

26. There is a clear effort to improve the quality of educational programs and services on this campus.

28. There is a clear commitment to continually improve quality on campus.

35. Teamwork is part of any project on campus.

**Factor 2: There is involvement in the quality effort.**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Factor 1</th>
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<tbody>
<tr>
<td>3. Problems on campus are anticipated and resolved before they have a major impact on the quality of student life.</td>
<td>.44533</td>
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<tr>
<td>20. The mission of this organization is a useful guide to decisionmaking.</td>
<td>.43065</td>
<td>.44466</td>
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<tr>
<td>22. New ideas about how to do things better are welcome on this campus.</td>
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<td>.45014</td>
<td>-.3386</td>
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<tr>
<td>23. Students are actively involved in policy making decisions on</td>
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<td>.44730</td>
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</tbody>
</table>
24. There is a process for making organizational procedures more efficient.

25. This organization has developed a long-term relationship with graduate schools.

27. This organization has developed a long-term relationship with the primary and secondary schools from which our students graduate.

30. There are opportunities for every member of the organization to learn about and use Continuous Quality Improvement.

32. Members of the organization are able to develop their leadership abilities to the fullest extent.

33. Risk taking which encourages personal growth or improves organizational procedures is expected on campus.

41. People in this organization are encouraged to take pride in their work.

43. When the organization develops a policy or philosophy, it becomes a reality.

44. This organization has made an effort to understand the needs of those who will employ our graduates.
**Factor 3: Barriers to Quality**

<table>
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<tr>
<th>ITEM</th>
<th>Factor 1</th>
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<tbody>
<tr>
<td>2. This organization is NOT able to keep up with competing institutions in providing a quality education.</td>
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<td>.52376</td>
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<tr>
<td>7. Barriers to teamwork make it difficult to solve problems on campus.</td>
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<td>.46711</td>
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<tr>
<td>13. Barriers in this organization prevent individuals from feeling pride in their work.</td>
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<tr>
<td>15. Leadership on campus is unable to adjust to a rapidly changing world.</td>
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<td>.56380</td>
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<td>17. Adversarial relationships interfere with the decision making processes on campus.</td>
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<td>.54984</td>
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<tr>
<td>18. Performance in this organization is measured by “how much” rather than “how well.”</td>
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<td>.62396</td>
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<tr>
<td>29. There is an emphasis that more is better in this organization.</td>
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<td>.57239</td>
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<tr>
<td>34. Fear of voicing concerns is part of the daily experience on this campus.</td>
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<td>.62158</td>
</tr>
<tr>
<td>36. Slogans or cliches are the primary means by which quality is expressed on this campus.</td>
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<td>.46020</td>
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<tr>
<td>37. Quality improvement efforts</td>
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<td>.48607</td>
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</table>
are geared toward the long-term, rather than the short-term.

* Note: Items 1, 5, 16, 31, 38, 39, 40, 42 & 45 were eliminated after the factor analysis due to the fact that they did not load strongly on any of the factors. Also, for ease of interpretation, items that loaded below the .30 level do not appear in the table.
Table 2. Loadings on the Three Factors with Entire Sample and Items Deleted

*Note: Items that loaded below the .30 level do not appear in the table.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Factor 1</th>
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<tbody>
<tr>
<td>4. There is leadership on campus dedicated to improving teaching.</td>
<td>.43186</td>
<td></td>
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<tr>
<td>6. There are processes on campus for determining the causes of problems on campus.</td>
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<td>.52359</td>
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</tr>
<tr>
<td>8. The continual development of all members of the campus community is an overriding philosophy of this organization.</td>
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<td>.43127</td>
</tr>
<tr>
<td>9. Problem-solving and planning on campus are done by groups/teams of individuals.</td>
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<td>.52233</td>
</tr>
<tr>
<td>10. The quality of student learning and development are used to indicate if this organization is successful in its mission.</td>
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<td>.42167</td>
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<tr>
<td>11. There is leadership on campus concerned with improving student learning.</td>
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<td>.56244</td>
</tr>
<tr>
<td>12. There is leadership on campus concerned with improving extracurricular experiences for students.</td>
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<td>.58172</td>
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<tr>
<td>14. There is a commitment to continuous quality</td>
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</table>
improvement on campus.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Factor 1</th>
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<tbody>
<tr>
<td>19. There are processes on campus for determining the solutions to problems.</td>
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<td>.52088</td>
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<tr>
<td>20. The mission of this organization is a useful guide to decision making.</td>
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<td>.46290</td>
<td>.38884</td>
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<tr>
<td>21. There are processes for making problematic issues more manageable on campus.</td>
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<tr>
<td>26. There is a clear effort to improve the quality of educational programs and services on this campus.</td>
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<td>.46815</td>
<td>.30192</td>
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<tr>
<td>28. There is a clear commitment to continually improve quality on campus.</td>
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<td>.47148</td>
<td>.38164</td>
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<tr>
<td>35. Teamwork is part of any project on campus.</td>
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<td>.46173</td>
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</table>

**Factor 2- There is involvement in the quality effort.**

<table>
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<tr>
<th>ITEM</th>
<th>Factor 1</th>
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<tbody>
<tr>
<td>3. Problems on campus are anticipated and resolved before they have a major impact on the quality of student life.</td>
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<td>.47864</td>
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<tr>
<td>22. New ideas about how to do things better are welcome on this campus.</td>
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<td>.42652</td>
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<tr>
<td>23. Students are actively involved in policy making decisions on campus.</td>
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<td>.40799</td>
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<td></td>
<td>Description</td>
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</tr>
<tr>
<td>24.</td>
<td>There is a process for making organizational procedures more efficient.</td>
<td>.31742</td>
<td>.45802</td>
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<tr>
<td>25.</td>
<td>This organization has developed a long-term relationship with graduate schools.</td>
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<tr>
<td>27.</td>
<td>This organization has developed a long-term relationship with the primary and secondary schools from which our students graduate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>There are opportunities for every member of the organization to learn about and use Continuous Quality Improvement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32.</td>
<td>Members of the organization are able to develop their leadership abilities to the fullest extent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td>Risk taking which encourages personal growth or improves organizational procedures is expected on campus.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>People in this organization are encouraged to take pride in their work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.</td>
<td>When the organization develops a policy or philosophy, it becomes a reality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>This organization has made an effort to understand the needs of those who will employ our graduates.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Factor 3: Barriers to Quality**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. This organization is NOT able to keep up with competing institutions in providing a quality education.</td>
<td></td>
<td></td>
<td>0.56302</td>
</tr>
<tr>
<td>7. Barriers to teamwork make it difficult to solve problems on campus.</td>
<td></td>
<td></td>
<td>0.52089</td>
</tr>
<tr>
<td>13. Barriers in this organization prevent individuals from feeling pride in their work.</td>
<td></td>
<td></td>
<td>0.71855</td>
</tr>
<tr>
<td>15. Leadership on campus is unable to adjust to a rapidly changing world.</td>
<td></td>
<td></td>
<td>0.57379</td>
</tr>
<tr>
<td>17. Adversarial relationships interfere with the decision making processes on campus.</td>
<td></td>
<td></td>
<td>0.52396</td>
</tr>
<tr>
<td>18. Performance in this organization is measured by “how much” rather than “how well.”</td>
<td></td>
<td></td>
<td>0.64609</td>
</tr>
<tr>
<td>29. There is an emphasis that more is better in this organization.</td>
<td></td>
<td></td>
<td>0.60001</td>
</tr>
<tr>
<td>34. Fear of voicing concerns is part of the daily experience on this campus.</td>
<td></td>
<td></td>
<td>0.64674</td>
</tr>
<tr>
<td>36. Slogans or cliches are the primary means by which quality is expressed on this campus.</td>
<td></td>
<td></td>
<td>0.49947</td>
</tr>
</tbody>
</table>
37. Quality improvement efforts are geared toward the long-term, rather than the short-term.
Table 3

Correlations Between Scales from the Concern for Improvement Survey And The Leadership Attitudes and Behaviors Survey

<table>
<thead>
<tr>
<th>Factor</th>
<th>Commitment/processes for improvement</th>
<th>Involvement in quality</th>
<th>Barriers to quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cooperation</td>
<td>.4561</td>
<td>.2292</td>
<td>-.1945</td>
</tr>
<tr>
<td>2. Orientation toward authority</td>
<td>-.0749</td>
<td>.1790</td>
<td>.3272</td>
</tr>
<tr>
<td>3. Personal/social responsibility</td>
<td>.4491</td>
<td>.4003</td>
<td>-.1362</td>
</tr>
<tr>
<td>4. Attitude toward gender issues.</td>
<td>.0003</td>
<td>-.0201</td>
<td>.1188</td>
</tr>
</tbody>
</table>
### Table 4

**Correlations Between Concern for Improvement Factors**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Commitment to and processes for improvement.</td>
<td>--</td>
<td>.7059</td>
<td>-.3653</td>
</tr>
<tr>
<td>2. Involvement in the quality effort.</td>
<td>--</td>
<td></td>
<td>-.2382</td>
</tr>
<tr>
<td>3. Barriers to quality.</td>
<td>--</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5

T-Tests Demonstrating Gender Differences in Item Response

<table>
<thead>
<tr>
<th>Item</th>
<th>Means Male</th>
<th>Means Female</th>
<th>2-Tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14*</td>
<td>2.3886</td>
<td>2.1453</td>
<td>.001</td>
</tr>
<tr>
<td>15</td>
<td>3.2400</td>
<td>3.4913</td>
<td>.002</td>
</tr>
<tr>
<td>18*</td>
<td>2.9200</td>
<td>3.2249</td>
<td>.001</td>
</tr>
<tr>
<td>26*</td>
<td>2.4800</td>
<td>2.2318</td>
<td>.001</td>
</tr>
<tr>
<td>31**</td>
<td>2.1314</td>
<td>1.8997</td>
<td>.002</td>
</tr>
<tr>
<td>34*</td>
<td>2.9429</td>
<td>3.3010</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note: Lower mean indicates a higher level of agreement.

**Note: This item was deleted due to poor factor loadings.

* These differences remained significant when t-test was performed with only original sample (CSB/SIU).