

## **Ascertaining the Impact of the Business-Oriented Malcolm Baldrige National Quality**

### **Award (MBNQA) Model on Educational Institutions:**

#### **From the Voices of Educational Leaders**

**Ned D. Young, Ph.D.**

**Sinclair Community College**

The Malcolm Baldrige National Quality Award (MBNQA) criteria, established by the National Institute for Standards and Technology (NIST) in 1987, has become a recognized framework to measure, assess, and improve manufacturing, service, and small business performance. In fact, the NIST (2000b) suggests that the companies comprising the Baldrige award winners have reported average compounded annual growth rates exceeding nine percent and Kosko (2001) reports that, for the past 7 years, the Baldrige award winners have consistently outperformed the Standard and Poor's 500 stock index by 4.4 to one. Additionally, Ettore (1996) noted that over 40 states and locales have created similar award programs based on Baldrige criteria and that Japan is considering a Baldrige-like award program.

Based in part on the success of the business oriented Baldrige program, the NIST (1999b) "successfully" piloted, in 1995, an education-based version of the award program in which 19 education institutions participated (p. 7). The NIST's 1999 budget included provisions for the nationwide introduction and full implementation of the Malcolm Baldrige National Quality Award for Education program.

The North Central Association of Colleges and Schools (NCA) began, in July 1999, a Baldrige-based improvement project with the goal of designing an innovative, more challenging alternative to current re-accreditation processes and one based on the Baldrige criteria and other quality improvement principles (Spanghel, 2000). In 1999, the National Alliance of Business (NAB) joined with the American Productivity & Quality Center (APQC) to form the Baldrige in

Education Initiative (BiE IN) an organization adopting the mission to make the Baldrige framework available to all states, districts, and schools nationwide.

Based partially on the aforementioned events, the growth in the use of quality management principles in the education sector has, over the last decade, significantly increased. As a foundation for this growth, the MBNQA system, and its inherent criteria, are becoming a widely employed system used as the basis for educational organizational leadership and management. However, only a small amount of research concentrating on the advantages and benefits witnessed by educational organizations employing the Baldrige system, has been published. Therefore, the overall intent of this research was to better understand the effects of employing such a system in an educational organization with particular emphasis on the effects of such a leadership framework on the teaching and learning systems.

The nature of the MBNQA framework is systemic and encompasses all the processes and subsystems comprising an organization's environment. Included in this framework are major elements associated with strategic planning, organizational structure, operational processes, results, information gathering, analysis, and use. It was important, therefore, to ensure that this study included a holistic perspective on the managerial and leadership systems employed by educational institutions. To this aim, the research employed case studies of six educational organizations (two school districts, two community colleges and two universities) that had not only employed the Baldrige-based quality management system in their organizations, but had been singled out, by a representative of their peers, as outstanding total quality organizations. Specifically, this study addressed the following objectives:

1. Determine which educational institutions have been seriously engaged in the quality management philosophy and which of these institutions have been awarded their state's highest level Baldrige-based award.
2. Analyze the perspectives of key organizational leaders relative to the impact of the Baldrige framework on selected learning systems within their institutions.
3. Determine areas within the learning systems that have been impacted (positively as well as negatively) by the presence of the Baldrige criteria.

### **Prominent Actors**

Several prominent associations and alliances have aided the growth of the Baldrige program within education. Among these are the North Central Association of Colleges and Schools' Academic Quality Initiative Program (AQIP), the Baldrige in Education Initiative (BiE IN), and a host of state and local quality award programs. Each of these efforts has attracted the interest of many educational leaders.

As of November 14, 2000, 28 higher education institutions from across the region have applied for, and been granted, AQIP pilot status and 105 more have expressed interest in participating. Additionally, the National Alliance of Business (NAB) suggests that early successes in using Baldrige in education prompted their organization to lead, along with several business and education groups, the successful effort that convinced the United States Congress (in 1998) to extend the MBNQA to the education and health care sectors. In 1999, the NAB joined with the American Productivity & Quality Center (APQC) to form the Baldrige in Education Initiative (BiE IN). Since its inception, the BiE IN has grown to a partnership of 26 national education and business organizations, six state pilots, and growing numbers of states and communities that are using the Baldrige framework as a medium to raise student achievement and to transform American K-16 education into a "high performing" system (Baldrige In Education, 2001). Lastly, as of September 2000, the National Institute of Standards and Technology reported that 43 state level and nine regional or local level Baldrige-based award programs were in existence and that the majority of these programs accepted educational institution applications.

### **Research Methodology**

These three major categories of actors share, as their foundation, the Baldrige improvement model. Although the MBNQA for Education, the AQIP and the BiE IN programs are directed squarely at the educational sector, they represent the future of using the Baldrige model in education. Due to their adolescent status and their self-prescribed timetables for implementation, these programs will not, for a number of years, provide useful comprehensive data. However, the state and local quality award initiators did, for the most part, include education in their early plans and have awarded prizes to educational institutions.

### Selection Criteria

To develop an appropriate inventory of institutional candidates to study, it was imperative that a list of educational institutions that had applied for, and been awarded, state or local Baldrige-based awards be developed. All known state and local Baldrige-based award agencies were contacted and a request was made to identify educational award winners. From this research a database, which includes the recipient name, the state or locale associated with the award and the award level, was constructed, and from this inventory a sample of institutions to be studied was procured. To select the sample, four major criteria for institutional selection were adopted based on the type of inquiry and the nature of the Baldrige model. These four selection criteria include (a) highest level state award category, (b) multiple educational types, (c) comparative organizational levels, and (d) length of engagement.

### Institutions Selected for Study

Based on the previously discussed criteria, six educational institutions were selected for further study. Profiles of the selected institutions follow:

#### K1

K1 is a large county-based K-12 school district located in the southeastern United States serving a “vast metropolitan and multicultural community” (Shipley, 1993, p. 2). The district employs in excess of 13,000 employees and enrolls more than 97,000 students in its 79 elementary, 21 middle, and 15 high schools, which positions its size in the top 25 of all school districts nationwide.

#### K2

K2 is a large K-8 school district located in the northern Midwest United States serving a diverse student population where its students’ families speak more than 50 languages (Ewy, 1999). The district employs in excess of 1,700 employees and enrolls more than 12,000 students in its 15 elementary, 4 junior high, and 1 special education schools.

C1

C1 is a public comprehensive community college located in the northwest United States. The annual enrollment is approximately 9,200 credit and 5,900 non-credit students and the institution offers 26 Associate of Arts and Associate of Science degrees as well as Associate of Applied Science degrees in 34 fields. Additionally, 17 vocational certificate programs are offered (Henderson, 2000).

C2

C2 is a publicly supported 2-year community college and area vocational technical school located in the central United States. The annual enrollment is approximately 3,800 credit students and the average student age is 31 years. In addition to the 14 building main campus, the college supports over a dozen “off-campus” sites to accommodate the needs of its 68,000-person community.

U1

U1 is a comprehensive, state-assisted regional university located in the central United States. The primary focus of U1 is undergraduate education thereby offering 100 undergraduate majors although 32 master’s programs, three specialist degree programs and a doctoral program in Educational Leadership are also provided. The institution enrolls in excess of 5,000 undergraduate FTEs and 300 graduate FTEs with over 80% of the student body comprised of traditional age 18-24 year-olds and 46% of the freshman class are first-generation college students (Hubbard, 2001).

U2

U2 is a state-assisted, comprehensive engineering and science university (over 95% of all graduates in science or engineering) located in the central United States. The student body size is approximately 5,000 with over 75% of all students attracted from within the state boundaries. Incoming freshmen rank in the top 1% in the nation for ACT scores and the university is one of the top 15 sources of engineers in the United States.

### Sources of Data

Determining specific effects the Baldrige framework may have on educational institutions is made difficult by confounding variables such as other organizational initiatives, students and stakeholders served, faculty and staff focus, and budgetary factors. However, it is important to understand the leaders' perspective on the impact of the Baldrige framework and criteria on the organization since it is, in part, the leader's perspective that helps to form organizational communication and creates, as Bolman and Deal (1997) suggest, frames through which the leader views his or her world and ultimately helps the leader to decide the organizational course of action.

As a source of data, selected organizational leadership personnel including the highest ranking administrative manager (e.g., President, CEO, Superintendent), the school board or trustee member associated with the quality program, where present, the quality or accreditation coordinator responsible for the award application, and the head of faculty governance groups such as faculty senate president or union head, were to be interviewed and asked a series of the standard questions.

In total, 22 interviews were conducted, transcribed, and analyzed. U2, compared to the remaining five institutions, posed an anomaly and, therefore, the reason only two informant interviews were held (retired university chancellor, and a department chairperson who was responsible for the award application). Since winning the award, the majority of the institution's administration, including the chancellor and his direct reports, are no longer part of the university management. The quality coordinator suggested that the award was simply a goal to be achieved and the Baldrige framework was not driving the strategy or the operation of the organization. In fact, he felt that the systemic nature of the Baldrige framework and the continuous improvement concept valued by the model were already concepts integrated into the university management system. Therefore, winning the award was more of an outcome of a properly constructed and implemented management system regardless of the specific chosen model (U2 QC, 8/28/01). Of course, continuous improvement of processes and an unrelenting focus on the needs of the customer are two tenets of the Baldrige framework and may suggest that the general Baldrige criteria were included in the university's performance management system. Therefore, although

the university members may not explicitly adhere to the Baldrige framework, there is, by admission of the quality coordinator, an adherence to, at least, some major portions of the model.

### Areas of Inquiry

The major tenets of quality management include focusing on the needs of the stakeholders, creating organizational systems and processes that meet the stakeholders' needs, and continually improving the organization to ensure changing stakeholder needs are understood and met. It was necessary, therefore, to ensure that the analysis associated with this research adequately addressed institutional areas that focus on maximizing these tenets. To this end, selected items from the actual Baldrige criteria (Table 1 lists each category, its associated items, and a maximum point value allotted for each item) were employed as the foundation from which the institutional leaders were queried and were used to procure the appropriate data. The two major categories of the Baldrige criteria that best addressed these areas (and which comprise over half the total award point value) were Category 6 - Process Management and Category 7 - Organizational Performance Results. Each category was further divided into "items" and "areas to address" that provided a micro view of the tenets and helped reveal areas of improvement and betterment associated with each of the selected institutions.

**Table 1**  
**2001 Education Criteria for Performance Excellence – Item Listing**

2001 Categories and Items	Points	Total
1. Leadership		120
1.1 Organizational Leadership	80	
1.2 Public Responsibility and Citizenship	40	
2. Strategic Planning		85
2.1 Strategy Development	40	
2.2 Strategy Deployment	45	
3. Student, Stakeholder, and Market Focus		85
3.1 Knowledge of Student, Stakeholder Needs	40	
3.2 Student/Stakeholder Satisfaction	45	

4. Information and Analysis		90
4.1 Measurement/Analysis of Org. Performance	50	
4.2 Information Management	40	
5. Faculty and Staff Focus		85
5.1 Work Systems	35	
5.2 Faculty and Staff Education/Training	25	
5.3 Faculty and Staff Satisfaction	25	
6. Process Management		85
6.1 Education Design and Delivery	50	
6.2 Student Services	20	
6.3 Support Processes	15	
7. Organizational Performance Results		450
7.1 Student Learning Results	200	
7.2 Student and Stakeholder-Focused Results	70	
7.3 Budgetary, Financial and Market Results	40	
7.4 Faculty and Staff Results	70	
7.5 Organizational Effectiveness Results	70	
TOTAL POINTS		1000

#### Areas of Questioning

The Baldrige criteria establish three major items associated with Category 6 (Process Management). Combined, these three items provide the focus on the key processes that create the environment necessary for student learning, faculty effectiveness (including development) and the interface to other educational institutions, employers and pertinent stakeholders.

The Baldrige criteria establish five major items associated with Category 7 (Organizational Performance Results). This Category accounts for the largest Baldrige point value (450 of the 1,000 total points) and aims at providing measures and indicators of progress that can be used to evaluate and improve the effectiveness and efficiency of educational services. For purposes of this study, areas of inquiry and questioning relative to Category 7 were limited to those associated with purely academic endeavors.

It was determined that three additional areas of questioning, not specifically included in the Baldrige model, would be necessary in order to establish a stronger analytical foundation. The

first area establishes the interviewee's perspective as to her or his role relative to the Baldrige and quality systems. The second area would aid in establishing whether the Baldrige criteria had impact on how the institutional leaders view their external environment specifically related to other educational institutions. Finally, the third area of questioning was needed to better understand how the interviewee accepts and communicates the Baldrige terminology to his or her constituents. Appendix A provides a summary of the questions posed during the interviews.

## **Findings**

### Review of CEO Interview Transcripts

The findings from the CEO interviews are less oriented to the individual Baldrige category and more toward emerging themes that crossed organizational and categorical boundaries. The themes constructed from reviewing, analyzing and categorizing the CEO interviews and which, to varying degrees of contribution, were associated with the Baldrige framework included (a) a propensity by institutional members to focus the bulk of their efforts toward students and other stakeholders, (b) the fact that stakeholder input was the major driver for strategic planning, (c) the use of the Baldrige framework creates a need for alignment, and uniformity of institutional processes; (d) operational focus was driven by a desire for continuous improvement based on data driven decision making, (e) the use of data for assessing institutional progress provided the institutions with a level of accountability in the eyes of internal and external stakeholders, and (f) the use of the Baldrige framework required a greater degree of cross functionality (including information sharing and collaboration).

### Review of Quality Coordinator Interview Transcripts

The second analysis to be discussed resulted from analyzing the transcripts of the quality coordinators of the six institutions. "Quality Coordinator" is a label used as a convenient method of identifying the employee responsible for the development and maintenance of the institution's state Baldrige-based application and may not reflect the individual's official job title.

By design, and out of necessity, the quality coordinator was involved at the institution, and with the Baldrige criteria, more tactically than is the CEO. Therefore, the discussions resulting from the quality coordinator interviews were more oriented to operational detail than were the

discussions with the CEOs. The major themes developed after coding and analyzing the voices of the quality coordinators included (a) issues of educational design, delivery, support, satisfaction, and performance were part of a larger system of continuous improvement developed and implemented in order to satisfy stakeholder needs and requirements; (b) the Baldrige framework stressed the importance of not only focusing on the needs and requirements of the stakeholder when designing or delivering curricula, but that the system actually began with the identification of stakeholder requirements; (c) the Baldrige model required the development of a set of strategic goals (based on stakeholder input) for which to strive and the development of deployment objectives that would help satisfy the strategic goals which, in turn, became the vehicles for organizational communication, activity, and measurement; (d) the above noted goals and objectives required implementation, and the focus of the implementation activities was toward the individual learner in an effort to better understand and satisfy learner needs; (e) once implemented, the Baldrige framework insisted on logical and methodical assessment (with the inclusion of pertinent measures and metrics) of the goals and objectives; (f) the system of continuous improvements included a final step of taking corrective action based on the results of the previously describe assessment theme.

Additionally, one can construct, from the voices of the coordinators, an environment built within a Baldrige-based organization having its foundation rooted in the Plan-Do-Study-Act (PDSA) cycle. The PDSA cycle (sometimes referred to as the scientific method) is a technique designed to help ensure continual improvement in any process or system. Although the quality coordinators seldom referred to the cycle specifically by name, the aforementioned five steps of the continuous improvement system, constructed from the voices of the quality coordinators, can be superimposed on to the PDSA cycle (see Figure 1) thereby demonstrating a direct relationship.

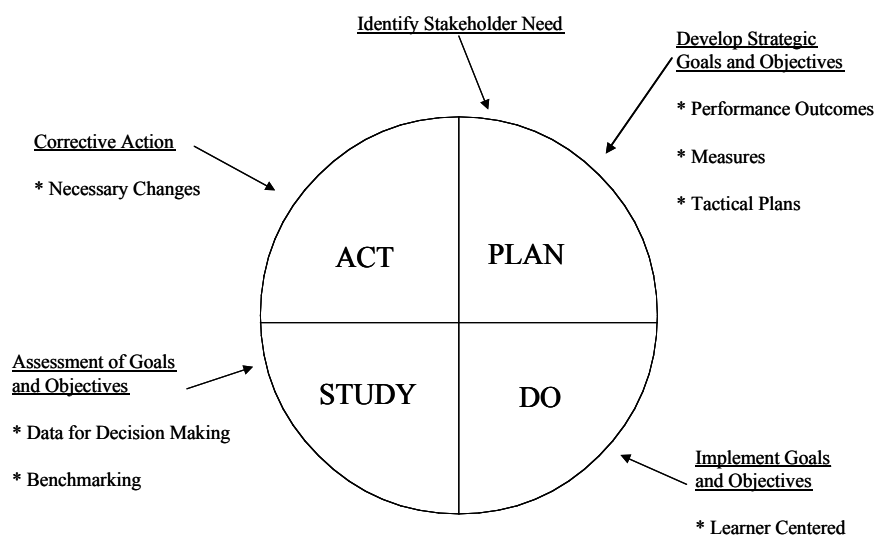


Figure 1. Relationship to the PDSA Cycle. From the Voices of the Quality Coordinators

### Review of Faculty Interview Transcripts

The third interview analysis to be discussed results from analyzing the transcripts of the institutions' faculty leaders. For the K-12 districts, the "faculty leader" is the teachers' union president. For the post secondary institutions, the "faculty leader" is the head of the faculty or college senate or association.

Like the previous discussion concerning the interpretation of the quality coordinators' transcripts, the faculty leaders expressed, throughout the interviews, how the Baldrige framework aids the institution in developing a system for continuous improvement. There was consensus, in the voices of the faculty leaders interviewed, that the Baldrige framework mandates a systemic view of the organization and requires each organizational member to be cognizant of her or his individual role in facilitating the organization to execute strategic plans that ultimately satisfy stakeholder needs and requirements. This triangulates with the previous CEO and Quality Coordinator interviews as well as with the analysis of the institutional state applications. There was, however, disagreement among the faculty leaders as to the level and magnitude of the Baldrige contribution across differing categories (i.e., educational delivery versus educational

support). Therefore, it is important to discuss the commonalities and differences across organizations and categories.

#### Educational design and delivery.

Although the level of contribution differed among the faculty leaders, two common themes, relative to educational design and delivery, were constructed from their voices. These themes include a shift, in dialogue and thought, by faculty from one of teaching to one of learning and a perceived need to develop new and different measurement and assessment methods. These two themes relate directly to the previous discussion from the CEO interviews relative to the alignment and uniformity of institutional processes.

#### Educational support.

In each case, the faculty leader discussed how educational support staff members are encouraged to better understand how institutional roles contribute to the fulfillment of stakeholder need. This focus on the stakeholder needs helps drive the actions and processes of institutional members in an attempt to improve ultimate outcomes. Interestingly, three respondents commented that since adoption of the Baldrige model, their institutions have modified hiring criteria. The adjustments created an influx of new employees who are more receptive or knowledgeable in quality and learning techniques and philosophy and, in turn, an increase in stakeholder focus has been observed.

#### Student performance results.

The first theme was described by each of the faculty leaders and relates to producing an educational design and delivery environment that is based on learning outcomes and competencies. While the actual outcomes or competencies vary among courses, programs, disciplines, and institutions, the concept of the outcomes as a foundation for designing, delivering, and measuring curricula and pedagogy was universal.

These outcomes become critical to the second constructed theme that suggests that the assessment of results requires multiple indicators. In other words, a single indicator rarely measures student performance associated with a particular outcome or competency. The faculty

leaders revealed many forms of indicators including tests, portfolios, team-based projects, and presentations as well as the need to compare the result of local indicators with national norms and benchmarks to better gauge outcome performance.

#### Student and stakeholder satisfaction.

Constructed from the voices of the faculty leaders was a single theme relative to student and stakeholder satisfaction, but the theme is complex and multi-faceted. In its basic form, the theme encompasses the realization, by organizational members, that stakeholder, particularly student, satisfaction is critical to organizational success and that satisfaction data must be collected, analyzed, and shared in order to improve processes, systems, and organizations. The Baldrige model, with its intentional concentration on stakeholder need and satisfaction, aligns with this changing environment.

Interestingly, constructed from the voices of three of the faculty leaders (U1, C2, and K1) was a concept that collecting, analyzing, and sharing satisfaction information not only provides feedback for improvement but aids in building relationships with stakeholders. Much like Mayo's Hawthorne experiments of the 1920s and 1930s, perhaps the act of asking for feedback from, and sharing results with, stakeholders produces a sentiment-behavioral relationship where the stakeholder perceives heightened interest from the educational institution's members (Robbins, 1993).

#### Faculty and staff results.

As was the case with stakeholder satisfaction, each faculty leader commented how his or her institution includes processes for collecting, analyzing, and sharing information relative to faculty and staff satisfaction. Each of the faculty leaders discussed his or her institution's methods for taking the results of the analysis and feeding these results back into strategic planning goals and objectives. Additionally, three of the faculty leaders (K1, C1, and U1) discussed how the processes associated with collecting and analyzing the data and then taking improvement action promotes a collegial atmosphere while lessening combative and potentially harmful antagonism between faculty and administration.

The Baldrige model's contributions associated with faculty and staff performance were less evident than were the contributions associated with faculty and staff satisfaction. Only three of the faculty leaders (K1, C1, U1) suggested changes contributed by the Baldrige model and these contributions ranged from slight to significant. Although each institution employed differing methods, Baldrige-based contributions to employee performance results were noted.

#### Faculty leader role.

An interesting theme developed from the voices of three (K1, C1, U1) of the faculty leaders; a theme that connects directly to stakeholder focus. Although the original intent of this discussion area was to gain insight relative to the individual faculty leader and his or her role in institutional governance and quality leadership, a more systemic theme was constructed. The three leaders discussed how the Baldrige framework's insistence on stakeholder focus drives institutional members, at all levels, to better understand the processes, resources, and employees that are needed to satisfy stakeholder requirements.

This focus allows the faculty member to concentrate on improving outcomes and student performance that, in turn, satisfies many institutional goals. In fact, the faculty leader of K1 discussed how many student performance results have improved beyond the upper control limits and "that is exciting because we have never seen performance like that before" (K1 FL, 7/11/01).

#### Review of Board Member Interview Transcripts

The fourth analysis to be discussed results from analyzing the transcripts of the interviews with institutional board members. Due in part to the strategic focus of the board member position, the interviews drifted away from specific, more operationally oriented Baldrige contributions to higher level, more strategic, institutional contributions. This provided construction of two multi-faceted general themes derived from the voices of the board members including the systemic or institutional-wide nature of the Baldrige model and how the model aids continuous improvement through its focus on stakeholder need, goal setting, and performance assessment and measurement and, how the acceptance of the Baldrige by the larger business and industry community provides an advantage to the educational institution creating a type of translation, of the often confusing educational lexicon and practices, into one that is more familiar and

acceptable to business and community leaders. These thoughts triangulate with the review of literature relative to the increasing educational accountability dialogue and business-oriented processes and address the issue of increased business and industry presence on school and trustee boards. By being a known and acceptable framework to the business, industry, and legislative communities, the Baldrige, as noted by the board members, creates a level of commonality and acceptability.

### **Comparing Across Informant Categories**

The final analysis to be discussed results from analyzing the transcripts of all interviews and comparing the themes across the four categories (CEO, Quality Coordinator, Faculty Leader, Board Member) of informants in order to identify commonalities and differences across the category types.

#### Commonalities

Constructed from each of the four categories of informants was a common theme suggesting that the Baldrige framework creates a system that requires institutional members to identify and understand stakeholder requirements, create strategic and operational goals that will aid in satisfying the stakeholder requirements, and develop appropriate measurement and assessment systems that will guide the institution in making change that will improve the service provided to institutional stakeholders.

Related directly to the previously mentioned theme and, perhaps, in actuality a sub theme, is a consensus that many decisions within the Baldrige framework are dependent on the purposeful and logical collection and analysis of data.

#### Differences

Although areas of agreement among informant categories and associated with the benefits derived from the use of the Baldrige model exist, worth noting, also, are areas of difference. Interestingly, the theme of accountability existed in all four areas, but the focus of the accountability differed greatly between category members.

A second noted difference was in the discussions relative to the transformation of the institution from a paradigm of teaching-centered to one of learner-centered. It must be noted that there was little evidence (with the exception of one comment from C1 quality coordinator) to suggest that the incorporation of the Baldrige model within the institution's management system would lead to this type of paradigm shift. However, there were numerous occurrences, particularly within the faculty leader, quality coordinator, and CEO categories, of discussions suggesting that the Baldrige model, with its concentration on stakeholder needs, aligns and supports an institutional shift to a learner-centered paradigm.

### **Conclusions**

There are several conclusions, supported by qualitative as well as some quantitative data, which can be reasonably derived from this study.

#### In Use by Numerous Educational Systems

Numerous educational systems are employing the Baldrige model and there are data that suggest the number of institutions using the model is increasing. This researcher discovered, since the inception of Baldrige-based state awards, 150 institutions in 29 states have garnered a total of 174 awards with 28 of the awards designated as the highest granted. Of the 174 applications, 83 were from primary or secondary schools or districts, 15 were from technical schools or colleges, 23 were from two-year colleges, and 29 were from universities. Although the actual numbers of institutions employing the Baldrige is unknown, data relative to the number of awards granted suggest that the numbers are rising. The number of awards granted in the year 2000 totaled 51, which doubled the 1999 total of 26 and tripled the 1997 total of 17. There was a decrease from 47 in 1998 to 26 in 1999, but the positive trend continued with the 2000 total. For all years prior to 1997 the total awards granted to educational institutions totaled 38.

#### A System for Continuous Improvement

Themes derived from all four categories of informants support the concept, described by the National Institute of Standards and Technology (2001b), that the Baldrige framework is systemic in nature (i.e., supports the managerial functions of the entire organization) and that each major organizational function and role is required to support the organization's outcomes. From the

strategic discussions relating to alignment of institutional processes offered by the CEOs to the more operationally oriented discussions concerning the plan-do-study-act cycle offered by the quality coordinators, each category of informants related how the Baldrige model requires organizational members to understand how individual roles contribute to a larger system that is designed to continually improve outcomes that satisfy stakeholder requirements.

#### An Organization Built on the Principle of Satisfying Stakeholder Requirements

The themes derived from the voices of the institutional informants and the contributors and indicators identified and summarized from the state award applications support the suggestion that the Baldrige framework reinforces this foundational principle of stakeholder satisfaction.

The voices of the informants, throughout all four category types, identified stakeholder focus as a foundational element of the Baldrige framework. In fact, several individual informants suggested that focus on the stakeholder was the largest contributing factor of the Baldrige model.

#### Management by Fact Aids Accountability and Decision Making

The majority of informants discussed how the Baldrige framework leads an organization to develop, analyze, and use measures and metrics to aid decision making relative to both areas of strength and areas requiring improvement. Numerous examples of outcome-oriented metrics were presented and discussed suggesting that the Baldrige model has a major impact on ensuring that institutional members concentrate on performance of outcomes as well as the more historic educationally-oriented focus on gathering and measuring process inputs (e.g., number of books in the library, number of tenured faculty). There is evidence to suggest that this insistence on measuring and analyzing critical outcome metrics (i.e., management by fact) provides not only a means for improved decision making, but an avenue for establishing institutional accountability and credibility with external stakeholders, the business community, and with legislative bodies.

#### Potential for a Three-level Enculturation

The analysis of the interview transcripts suggests that an institution employing the Baldrige framework may progress through three distinct, but interrelated, levels of enculturation. A number of informants suggested that during the early years of the Baldrige framework adoption,

the institutional member's attentions and activities were focused on using the Baldrige as a tool for administrative management, control, and betterment. During this period, operational employees (e.g., faculty, educational support staff, and even students), while being introduced to the framework, philosophy, and techniques, did not necessarily identify benefits of use in their own processes and span of control. Therefore, the influence of the framework generally remained at a more strategic or administrative level with little daily impact on the operational levels. As the framework became more familiar to the faculty and educational support staff, these members began to dialogue and consider how the categories, areas, philosophy, and techniques comprising the Baldrige framework could translate into an improvement model for use in the academic learning systems. Cornesky (1993), Arcaro (1995) and others provided a catalyst to professors and teachers by translating the administrative terminology and perspective of the Baldrige framework into one that directly impacted the classroom. Cornesky's (1992) model of teacher as CEO, student as worker and learning as output in conjunction with his translation of Baldrige categories, areas, and items into the language of the classroom provided an avenue for use of the Baldrige model in the classroom. In several of the institutions the Baldrige became an instrument for faculty member self-assessment and reflection. This second level of enculturation was a major step in incorporating the Baldrige core values and concepts into the learning systems.

The third level of enculturation discussed by informants at four of the six institutions (U1, K1, K2, and C1), directs the core values, concepts, and techniques of the Baldrige into the minds and the hands of the students and, therefore, becomes directly ingrained into the students' own learning systems. The student begins to take charge of his or her own learning often developing individual, team, and classroom learning goals and missions and, by measuring and assessing progress, makes suggestions and develops plans for continuous improvement. The quality coordinator of K2 suggested that this level of enculturation creates four main classroom questions including: (a) how does the Baldrige system work in the classroom?, (b) how does one use quality tools in the classroom?, (c) how does one employ the PDSA model constantly in the classroom?, (d) how does one use the Baldrige model to self-assess progress in the classroom? (QC K2, 11/5/01). This level of enculturation shifts the focus of the institution from one of teaching to one of learning. The goal is for these new techniques and behaviors, learned by the

student, to remain with the student as he or she progresses to other academic institutions or employment.

Although this third level of enculturation is no doubt the most difficult to attain, this may be, from an academic perspective, the most valuable contribution of the Baldrige model. However, this is also where a simple language and basic concept translation from the business-oriented Baldrige model to one for education becomes problematic.

### The Focus of Leadership Differs Between Education and Business

Even in the most complex for-profit business organization, the ranks of leaders, from the highest presiding member of a board of directors to the lowest level operational supervisor, are organized and aligned to ensure the most efficient and effective production of products or services. Although certainly complex and requiring numerous decisions, this constancy of purpose provides a practical method for which to align employee goals and objectives. However, the “product” provided by the comprehensive school district, college, or university is much more complex as it includes processes associated with the identification, acquisition, creation, and analysis of knowledge -- inherent elements of the human mind. To support and service this knowledge product requires an array of social, behavioral, academic, physical, and protection services seldom witnessed by even the most complex for-profit companies. Additionally, in the for-profit business model, the organizational leaders (associated with upper and middle level management) have a great deal of impact on the results component associated with the ultimate product and service. This is evident in the Baldrige model that demonstrates a direct line of impact from the first three categories (known as the leadership triad) to the final three categories (known as the results triad). In essence, leadership has a direct effect on organizational results.

But, can one simply substitute, in the Baldrige framework, educational administrators (i.e., Board members, vice presidents, presidents, superintendents, deans, directors, principals) in place of for-profit organizational leaders and expect the same direct impact of leadership on results? The voices of this study’s informants would suggest otherwise.

The analysis of the data suggests that the educational “leadership” associated with category one and, that which has the direct impact on the critical aspects of category seven (organizational performance results), is not the traditional administrative management (as it would be in the business model) but the faculty and staff directly related to the classroom and other learning systems. In fact, multiple informants at every leadership level of the educational institutions suggested that the main function of the administrative leader was to support the learning areas (including the resources, processes, and systems). In an academic environment, therefore, leadership directly impacts student results, but the leadership component is not the traditional administrative line of management but the faculty and staff directly associated with the learning systems. This is why those institutions who have begun to reach the third level of enculturation are witnessing higher levels of improvement in student learning results than were previously thought possible. Enculturation at level one may provide improvement in areas ancillary to the learning systems, but would generally have little impact on the student learning results. Likewise, employing the business Baldrige model in education without first understanding the shift of focus from administrator leader to classroom leader is likely to result in a frustrating experience. Unfortunately, the majority of research studies have not progressed beyond level one leaving the majority of educational institutions struggling with a model that cannot be directly translated (without modification) to education.

Likewise, this shift of focus from administrative leader to faculty leader directly impacts the previous discussions concerning the use of the Baldrige criteria for academic accreditation. Traditional methods of accreditation emphasize an accounting of resources (e.g., faculty credentials, library holdings, financial stability) and a comparison of specific institutional results to those from a previous accreditation visit. Visits by accreditation examiners are infrequent and may occur only once every 10 years. The basic assumption is one where a quality institution demonstrates stability (or growth) in population, consistency in results, and financial solvency.

However, a quality institution as depicted in the Baldrige criteria is focused on the needs of the stakeholders and uses previously determined measurements of results to ensure stakeholder satisfaction. Not only must results be determined, measured, and analyzed, the institution must demonstrate how the knowledge and understanding of the results create changes in institutional

resources, processes, and systems that respond to changes in stakeholder needs. This continuous improvement cycle, often depicted by the plan-do-study-act cycle, focuses on the institution's learning systems and, therefore, the needs of the students, faculty, and staff leaders. As a continuous model, institutional resources, processes, and systems must be constantly measured to ensure adherence to standards. This, from an accreditation standpoint, eliminates the large gap in time between accreditation visits requiring much more frequent visits.

## **Questions and Recommendations for Further Research**

### Testing the Model within the Classroom

Additional studies must be undertaken to better understand the combinations of the relationships of the various Baldrige categories, especially how leadership (academic as well as administrative) affects student and organizational results. A valuable study would be to test the Baldrige model by assuming category one (leadership) is the faculty member, category two (strategic planning) as the set of learning objectives to be accomplished, category five (faculty and staff focus) as the student, category six (process management) as the learning tools and other pedagogical aids, and category seven (organizational performance results) as the measures of student assessment and learning.

### Increased Sample Population

An increased sample population would provide the potential for an increased understanding of the effects of the Baldrige on learning systems and the possible discovery of additional indicators, contributors, and themes.

### Communication and the Business Model

The NIST (2001b) states that a major benefit derived from using a common (business generated) framework across business, healthcare, and educational sectors is to foster cross-sector cooperation and best practice sharing. While some data collected from board member and CEO informants suggest that the Baldrige brings closer alignment between the educational institution and the business community, informants at the quality coordinator and faculty leader

levels discussed the toil associated with incorporating a model into an academic organization comprised of employees that preserve negative perceptions of business-oriented management models. Therefore, warranted is further research into a possible dichotomy between the benefits derived from positive business sector employee perceptions and detriments caused by negative educational sector employee perceptions.

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## Appendix A

### Areas of Questioning

#### Category 6 Process Management

1. How has the Baldrige criteria impacted the way faculty and other curricula designers devise, develop and prepare program and course offerings for student use?
2. Estimate the percentage of faculty that have modified their design methodology due to the installation of the Baldrige criteria.
3. How has the Baldrige criteria impacted the way faculty deliver and how they assess the outcomes of their program and course offerings?
4. How has the Baldrige criteria impacted the manner in which your institution provides and monitors vital educational support processes that support the needs of students, faculty, partnering institutions, and other vital institutional stakeholders?

#### Category 7 Organizational Performance Result

1. How has the Baldrige criteria impacted the manner in which your institution currently determines student performance and student success?
2. Relative to these areas and based on the installation of the Baldrige criteria, comment on any improvements witnessed by your institution.
3. What impact has the Baldrige criteria had on the method in which your institution determines the level of student, employer, community and other stakeholders' satisfaction relative to your educational offerings and services?
4. What impact has the Baldrige criteria had on the method in which your institution determines the level of faculty and staff satisfaction?
5. How has the Baldrige criteria impacted the manner in which you measure the performance of your faculty and staff relative to meeting or exceeding student, employer, community, and institutional expectations?

#### Miscellaneous Questions

1. What is your role in your institution's quality endeavor specifically related to the Baldrige criteria and the quality system?
2. How has the Baldrige system impacted your relationship with local K-12 institutions? (posed to higher education institutions)
3. How has the Baldrige system impacted your relationship with local higher education institutions? (posed to K-12 institutions)
4. Do you communicate to your institutional members specifics of the Baldrige program (including criteria) or do you generally avoid the use of the Baldrige terminology?