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Trust: The Missing Ingredient in Assessment*

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Over a decade of mandated assessment, state-level evaluation requirements, and more recently the ABET Engineering Criteria 2000 have focused attention on the need to systematically assess student learning in engineering curricula. A primary impediment to the usefulness of systematic assessment lies in how the culture of assessment interacts with norms of organizational trust within institutions of higher education. Establishing trust is a necessary first step towards creating sustainable assessment systems. In a research institution in the southeastern United States, the use of focus group methods to explore barriers impeding assessment resulted in the identification of several factors pivotal to successful implementation. These factors were supported in the literature, and emerged strongly in subsequent structured small group discussions attended by faculty and administrators. From these results, comparative characteristics of low-trust and high-trust environments for assessment are developed and presented.

INTRODUCTION

OVER A DECADE of mandated assessment, state-level evaluation requirements, and more recently the ABET Engineering Criteria 2000 [1] have focused attention on the need to systematically assess student learning in engineering curricula, yet excellence in assessment still appears in pockets rather than as the norm for engineering programs. A crucial problem is that the methods and outlook of assessment have often been advanced without developing the requisite basis of organizational trust upon which assessment relies. Assessment, as a long-term strategy, is intended to foster higher performance in student learning through (1) the continuous measurement of processes and outcomes, and (2) the usage of results to further refine curriculum content and pedagogy [2], but does not function well in low-trust environments. Systematic assessment of student learning is the first step in an ascending stairway of structured introspection that enables individual faculty members, programs, and institutions to build a learning organization.

With the long-term goal of building such a learning organization in mind, a large research institution in the southeastern United States has undertaken to develop a broadly based, comprehensive program of academic assessment activity. As a foundational activity to the development of a more effective assessment program, research was undertaken with members of faculty and administration at this institution to ascertain the climate for assessment, to determine the nature of barriers that might impede implementation of assessment activity, and to create consensus-driven recommendations for moving assessment forward.

Assessment, trust, and organizational trust are used in a wide variety of ways and given a wide variety of meanings. It is important to have a basic understanding at the outset of how those concepts have been operationalized in this study. In the present context, the definition of assessment as proposed by Palomba and Banta [3], will serve as a practical guide:

> 'Assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development.'

TRUST

As represented in the literature, trust is a multi-faceted construct. Mayer, Davis and Schoorman define trust as [4]:

> 'willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.'

Whitener *et al.* [5] regard trust as being comprised of three main facets:

- the expectation that in a trust relationship, the other party will act in a benevolent manner;
- the element of risk involved, since one cannot

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control the actions of another to act in a benevolent manner or otherwise;
- a certain level of dependency on the actions of the other party, such that the actions taken by one party influence the outcomes experienced by the other.

Kramer adds that trust is also *choice behavior*, rational or otherwise, and that it is situation or domain-specific, since we trust someone to take action within a specific context or situation [6]. Thus, common elements in a definition of trust appear to be:

- a willingness to accept risk or vulnerability to the actions of another without being able to control those actions;
- the expectation that the trustee will act in a benevolent manner;
- the choice to extend trust;
- the understanding that trust operates within situational contexts.

Organizational trust

When applied to the organizational context, trust may be seen not only as a multifaceted but also a multilevel construct. Nyhan and Marlowe note that the images of trust carried by an individual concerning the whole organization may be affected by the decisions and actions of senior management, whereas trust within the relationship of the employee and direct supervisor may be affected by the *access to information* afforded the employee by the supervisor [7]. Gilbert and Tang see organizational trust as more unidimensional, affirming that [8]:

> 'organizational trust refers to employee faith in corporate goal attainment and organizational leaders, and to the belief that ultimately, organizational action will prove beneficial for employees'

In this same vein, Shockley-Zalabak *et al.* [9] define organizational trust as:

> 'positive expectations individuals have about the intent and behaviors of multiple organizational members based on organizational roles, relationships, experiences, and interdependencies.'

Trust in the literature

Conceptualizations of *organizational trust* adanced in the literature include such elements as [8, 10]:

- open communication;
- involvement in shared decision-making;
- sharing important information;
- honest disclosure of feelings;
- capability and competence to perform;
- commitment to common goals;
- consistency between words and actions.

Similarly, identified *attributes of leadership* and managerial trustworthiness include [5, 9, 11]:

- ability
- benevolence
- integrity
- reliability
- open communication
- explanations
- concern
- shared decision making.

The primary *roles of leadership* with respect to trust are [4, 5, 12]:

- to model attributes of trustworthiness;
- to demonstrate attitudes conducive to building trust;
- to consciously foster trust throughout the organization.

Trust and planned change in higher education

Axiomatic within the organizational change literature is that change cannot take place in organizations without first taking place at the individual level within the organizational membership. Clark affirms that 'Organizations don't transform, people do' [2] Gray applies this theme to change within higher education. He observes that frequently the introduction of innovations or changes such as assessment are perceived as institution-wide events, to take place shortly after being announced by senior leaders. The reality is that the adoption of change and innovation is a process that proceeds from individual to individual, and from department to department.

Thus, the role of campus leadership in this process includes the *managing of trust* through [13]:

- constancy of purpose
- reliability of action.

Constancy of purpose is especially important in guarding against the advent of distrust. Distrust produces a descending spiral within organizations and defeats change processes. Fear abounds especially in times of change, and leaders must continually reassess the organizational climate during change processes to ensure that conditions promoting distrust have not taken root [12, 14]. Purposefully building a high-trust organizational culture involves substantial planned change. Senior organizational leadership has to develop an effective strategy for promoting positive change by first consciously diagnosing the extent of change necessary, and only then proceeding to reorient choices and actions to reflect a determination to build trust [15].

Although the literature is largely silent on the importance and operation of trust within institutions of higher education per se, trust does feature prominently in the prescriptions offered for the introduction of successful planned change efforts in higher education. For example, lessons learned from peer review and self-study at the University of Amsterdam include that 'change must be tailored to the discipline; mutual trust, respect, understanding of the principles, and involvement among all parties is crucial to success; and management commitment is critical' [16].

Managing change during a time of restructuring needs to begin with an examination of organizational values, mission and beliefs. When organizational values are clear, shared, and confirmed through actions, the level of trust held by organizational members will rise and they will be more likely to work towards institutional goals [17]. Discussions of the Knight Collaborative group in 1996 affirmed the necessity of focusing on institutional values, and resulted in the definition of the steps they believe are required for successful organizational change efforts in higher education. Among these, the very first step is establishing a basis for trust with shared faculty and administrative responsibility for identifying priority issues and institutional goals [18].

Trust in assessment

The introduction of assessment into an institution of higher education constitutes a form of planned change intervention, and as such is also subject to the need for establishing trust in the process. The most sustained discussion of the interdependence of trust and faculty involvement in assessment is provided by Schilling and Schilling [19]. They offer a comprehensive examination of the barriers to acceptance of assessment by faculty, and prescribe positive strategies for increasing faculty trust and involvement in assessment processes.

Trust or lack of trust in assessment is played out in at least four ways within institutions of higher education:

- The motives for collecting assessment data may be mistrusted by faculty, who may fear that the data will be used against them or perhaps not at all [19, p. 18].
- The methodological foundation and instrumentation used may be lacking and a source of low trust in assessment. Faculty may have no trust in existing instrumentation, and are in many instances readily able to point out the limitations of methods in use [19, p. 50; 20].
- The questions raised through assessment may not be relevant or interesting to faculty and therefore may not be regarded as trustworthy. A climate conducive to risk-taking is necessary, in which hard questions about curriculum and instruction can be posed without fear of an administrative backlash [19, p. 88].
- The fear concerning the misuse or inappropriate interpretation of the data generated through assessment may cause deep mistrust of the process. Assessment results may not yield a composite picture of the program, may reflect badly on the faculty, or may be given the trappings of precision without the science to support it [19, p. 60; 21].

Several of the positive strategies recommended have to do with building trust, but none more so than open sharing of assessment information and broad-based involvement in planning and setting institutional priorities. Gathering together faculty who are involved in classroom and program assessment to share their concerns, their results, and their recommendations makes it possible to develop a larger picture of those assessment issues germane to an institution [22]. Levy notes that [23]:

> 'Perhaps the most important lessons learned . . . have to do with the planning process. Being patient and persistent, having the broad-based involvement of institutional faculty and administrators, and linking assessment strategies to daily teaching and learning activities are all key elements.'

To summarize, within higher education the importance of trust in assessment lies in this [9]:

> 'Trust matters! Numerous research studies . . . indicate that organizations with high levels of trust will be more successful, adaptive, and innovative than organizations with low levels of trust or pervasive distrust. The implications include not only employee morale and productivity, but extend to stakeholders and the ability to form the networks, alliances, and virtual relationships so significant for the 21st century.'

In a similar vein, assessment, itself an adaptation and innovation strategy based on information about student learning, relies upon shared trust for its effective operation in assisting educational programs to change, grow, and thus to adapt.

METHOD

The long-term goal of a large research institution in the southeastern United States is to develop a broadly based, comprehensive, and effective program of academic assessment activity as a method of moving forward as a learning organization. In 1999–2000, the University Assessment Committee examined the extent to which the goal has been achieved, investigated the potential barriers to implementing a program of assessment activity, and engaged in a participative, structured search for ways to facilitate progress in this arena. A two-stage approach to identifying relevant issues and strategies was used, consisting of focus group research followed by university-wide participative workshops on assessment issues.

Focus groups

In the spring of 2000, researchers convened two focus groups of faculty members with the specific goals of identifying and probing current levels of faculty awareness and perceptions regarding assessment, and to obtain data about faculty attitudes toward current academic assessment initiatives. Focus groups are considered appropriate research tools particularly when the goal of the research is to discover how members of a particular group think about a phenomenon of interest, or when researchers desire to gain a deeper understanding about the range of potential issues around a topic of interest [24, 25].

With the twin considerations of the project research goals and the desire of the University

Assessment Committee to pay particular attention to facilitating open, honest communication, the focus group protocol was developed by members of the Assessment Committee itself. Faculty were invited to attend by their respective deans, and each college in the institution sent two faculty members to each group. Thus, a total of ten faculty members attended each group. As recommended, each session was held in a well-appointed conference room and lasted $1\frac{1}{2}$ hours; the atmosphere was relaxed and informal [25, 26]. To enhance the opportunity for open communication, sessions were moderated by a peer faculty member from the Assessment Committee who was trained in focus group facilitation [24, 27]. Comprehensive notes of comments at each session were recorded, and a transcript of each session was prepared by the Office of Assessment. Thematic content analysis of the comments was then performed by two independent raters: one Ph.D. intern assigned half-time to the Office of Assessment and another rater from outside the institution [28]. Results were forwarded to the Assessment Committee for further consideration.

Workshops

With the aim of inducing a positive change toward assessment at the institution, the Assessment Committee used the thematic content analysis of focus group results to consider next steps. One vital next step they decided upon was to convene two four-hour workshops to seek validation of and expand upon the issues articulated in the focus groups. The following objectives were developed to govern the design and content of the workshop sessions:

1. Increase awareness about the importance of assessment and meaningful alternatives available in developing and using assessment results.
2. Identify and deepen an understanding of the conditions and practices that would build trust in assessment across the campus.
3. Work in partnership to identify and resolve assessment issues, thus facilitating new communication across disciplines.
4. Participate with peers in problem solving to improve the quality of academic assessment.
5. Develop strategies for 'closing the loop'.
6. Compile and distribute to the campus the collective ideas to preserve group intellectual capital.

The use of structured group problem-solving techniques for developing shared problem definitions and generating viable strategies to address organizational problems is widely recommended in the organization development and planned change literature [29–31]. The technique used in this case was a combination of brainstorming and collaborative problem-solving [31–33].

At the outset, participants were informed of a series of ground rules for brainstorming within the small groups, such as suspending criticism or judgment of ideas expressed to generate a wider variety of ideas. Following the identification of a pool of ideas relevant to the assigned topic for each table, participants worked through a collaborative problem-solving model, including:

- defining the assigned problem in terms of the needs of various campus stakeholders;
- selecting from among the ideas brainstormed for best fit to the campus;
- recommending steps to implement the solutions generated.

The principal advantages of using structured group techniques in such situations are that they permit [30, 31]:

- wide involvement and thus generate buy-in among those involved;
- communication relevant to the topic at hand is enhanced among participants;
- superior results to that which could be achieved on an individual basis.

A central principle behind most organizational change is the primacy of leadership support for the change effort [34]. In this case, the University President and Provost invited faculty members, department chairs, and college deans from across the institution to participate in one of two scheduled four-hour workshop sessions that took place over a period of two days in November 2000. Other invited participants included members of the University Assessment Committee, the University Self-Study Institutional Effectiveness Committee, and staff from Graduate Studies, Undergraduate Studies, University Libraries, and the Office for Teaching Effectiveness and Innovation.

The workshop sessions were moderated by a trained facilitator from outside the institution. Each attendee participated in a small group discussion, the topic for which was drawn from the thematic content analysis of focus group data identifying barriers to trust. As a framework to help focus small group discussions, the areas of trust or mistrust in assessment processes derived from Schilling and Schilling's work on faculty involvement in assessment were used [19]. Each small group designated a spokesperson who reported specific barriers and possible solutions developed by that group to developing trust in the motives, questions, methods and data of the assessment process and other related issues as they emerged.

RESULTS

Focus groups

The two faculty focus group sessions conducted in Spring 2000, yielded a rich set of findings. Through thematic content analysis of comments,

a number of barriers to implementing a comprehensive assessment initiative at the institution were brought out. Among these impediments, four implicit thematic areas were identified that centered on issues of fear or mistrust with regard to assessment. These included:

- the motives to undertake assessment;
- the quandary in asking suitable or challenging questions without punitive effects;
- criticism and disdain for the methods used in assessment along with the need for using reliable methods to collect useful data;
- mistrust expressed of the data collected through the assessment process so far for meaningful curricular decisions at the program level.

Representative comments from the focused discussion groups on the motivation to undertake assessment ranged from 'Faculty are told they have to do this', to 'Our faculty are very interested in student outcomes'. Within the range were statements of distrust ('Total lack of trust of the entire assessment concept'), aggravation ('We are given deadlines, threats, and general bureaucratic annoyances') and adoption ('Assessment is encouraged as a part of the faculty responsibility').

Comments describing why suitable or challenging questions are not being asked as a part of the assessment process indicated a lack of trust in the usefulness of the process ('Assessment process serves more to identify deficiencies rather than drive improvements'). Some faculty members focused primarily on assessment of the individual and not programs ('Appraisal—not assessment—documents are not related to program realities'; 'Assessment implies three systems to most faculty: Faculty Activity System, student evaluations, and assessment of classroom activities. Anything else is irrelevant').

Additionally, the participants were critical of the methods of collecting and analyzing data for program assessment. Typical criticisms included 'Assessment tools are not working and are not helpful,' 'What are the judgment criteria?' and 'The things which are measured are usually maximized'. A lack of trust in the process was evidenced by statements such as 'Assessment process has too little or inadequate content', and 'Multiple assessments have fragmentive effect'. Finally, one participant stated 'Assessment does not provide direction, so why do it?'

The final group of comments reflected mistrust in the data that was collected. 'Decisions are not on a level playing field. Judges don't necessarily have the same level of experience as those judged.' The evidence of fear was revealed in statements such as 'Sense of losing control, loss of trust, need to document everything to provide proof that you're doing it'; 'Assessment drives inequality', and 'What if something falls through or you change plans?'

Workshops

A total of 64 participants attended one of the two workshops offered over the two-day period: 36 on the first day and 28 participants on the second. Twenty-two of the participants marked their title as department chair and 23 indicated that they were faculty members. Other participants included deans, undergraduate coordinators, staff members, the Provost, and directors. Participants divided themselves up by table into working groups of 5–7 each for small group discussions.

The close correspondence between the trust barriers to faculty involvement in assessment noted by Schilling and Schilling [19] and the set of issues identified in the focus groups convinced the researchers to use those issues as a means of organizing and focusing the workshop group discussions. Thus, various tables discussed in depth one of four aspects of trust in assessment: the motives, questions, methods, or assessment data itself.

Within each broad trust area discussed in particular groups, the summary remarks below are organized in the same four thematic categories as comments made on the evaluation forms that were used for the workshops:

- the value of assessment;
- useful and usable assessment data;
- faculty involvement;
- resources and rewards.

Using a collaborative problem-solving model, each group was assigned the tasks of identifying current barriers to trust in assessment and of coming up with specific strategies to make assessment of student learning more useful.

The summary of results that follows is drawn from the material presented by each group spokesperson during the presentations that followed the working group discussions, from flip chart notes, and from the information transcribed from videotapes of each workshop. The first question addressed by the group was the topic of trusting the motives for undertaking assessment. Results are summarized in Table 1.

Other participants were asked how to change the culture of assessment to develop trust so those meaningful and difficult questions may be answered through the assessment process. The responses appear in Table 2.

The third question addressed within the working groups was the topic of trusting the methods of assessment by improving the conceptual and methodological frameworks that are used. Results are given below in Table 3.

The final question regarding trust focused on data, feedback, or information used in assessment. Attention was given to whether the data were appropriate and worthy of using to make course or curricula decisions, and results are given in Table 4. The discussions about data did not produce as many comments as the other trust topics.

Table 1. Trusting the motives for undertaking assessment

Value of Assessment
- Routinely and clearly linking the assessment process and results to the mission of the institution.
- Using the assessment results for other purposes than reporting; agreeing upon and identifying needs, strengths, philosophy.
- Ensuring the assessment process and its results will not be used to hurt individual faculty members. This belief is the cornerstone, assuring the anonymous use of the data to examine the programs rather than examine the individual student or the faculty member.

Useful and Usable Data
- Identifying specific curriculum changes that have been made as a direct result of assessment reinforces and builds trust that future assessment data can be used to make needed improvements.
- Using the results in a positive way will engage people and increase the trust in assessment. Using assessment data to increase development and recruiting opportunities stemming from well-founded bragging points.
- Using currently available and familiar information is preferred.

Faculty Involvement
- Participating in assessment is necessary but not sufficient to build trust.
- Focusing and agreeing on what constitutes program strengths by faculty, external persons, and the institution as a whole.
- Changing the culture and attitude to become engaged in routine assessment and include the faculty primarily means changing from old notion that faculty are 'individual contractors' with a sole focus on publications and research to include the notion that faculty have additional valued responsibilities to both the unit and the institution.
- Establishing a goal: Instill a culture of assessment and set routines within the department that will keep us actively enhancing what we do. One such realistic goal is the desire is to do a good job in collecting good data for program improvement.

Resources and Rewards
- Providing and positive incentives. Equally important, removing negative or punitive incentives. Providing nothing to discourage the faculty from participating in the process.
- Rewarding for knowing where you are going and making progress toward the goal. No rewards should be given for setting goals that are already achieved. Incorporating into the process resources to implement identified changes.
- Incorporating the assessment results into strategic planning. Trusting that the assessment results will be useful and used for planning and resource allocation.

Table 2. Trusting the questions asked in assessment

Value of Assessment
- Energetically and openly supporting assessment by leadership at all levels.
- Changing the approach from 'safe' to 'meaningful' questions. Safe questions are characterized by (1) the faculty not asking for resources and not spending time engaging with questions about student learning, and (2) not taking risks: the outcomes will not require significant change, effort or resources. Identifying the real issues regarding student learning.
- Changing faculty attitude that is currently 'fear' based. Faculty may be afraid to find out that they are not teaching effectively and would have to make changes. If faculty do not know that change is needed, then they do not have to take the time or make the effort to adjust current practices.

Resources and Rewards
- Allocating resources (time, money, personnel, support materials) to undertake meaningful assessment; Valuing the process by using resources to make meaningful changes.
- Giving recognition or reward to individuals who participate in assessment through engaging questions.

Table 3. Trusting the methods used in assessment

Value of Assessment
- Linking between the university plans, college strategic plans, and departmental plans need to be made and individual faculty members should know how they belong and how their efforts contribute to the whole.
- Removing barriers to trust of the questions, process, and motives for assessment. Developing a cycle of data gathering and reporting that is reliable and useful. (1) The individual. Participating faculty need to know that their collecting data and continuing to work on assessment would not be penalized. (2) The department/program. Actively participating in the process of data collection without results should not be punished as long as there is a plan for reporting and as long as results are coming.

Useful and Usable Data
- Obtaining good data for assessment may come from faculty outside of the department.
- Expanding insight into student outcomes through new or modified strategies.
- Using assessment instruments that reflect the unique content of the discipline.

Faculty Involvement
- Increasing disclosure or asking for help. Other groups may have solved a similar problem. Asking and sharing.
- Using a familiar format for reporting. Involving the faculty in the framework as well as in designing the collecting of the data. Establishing a detailed departmental time-line for annual assessment steps so that assessment is incorporated throughout the yearly activities rather than something to be done twice a year.

Table 4. Trusting the assessment data obtained

Value of Assessment
• Issues of data are linked with other areas of trust in assessment.
Useful and Usable Data
• Considering the appropriateness of the data source in relation to the questions being asked. All feedback may not be meaningful even if it is accurate. There continues the fundamental issue: are the educational objectives and outcomes clearly and properly defined? Often not. If not, the resulting assessment data cannot be meaningful and will not be trusted.
• Questioning data quality. There are always questionable results and it is easy to measure a lousy job. Two possible data sources are encumbered with limitations: small responses to surveys (bias), and grades (assess essential or central components of the discipline).
• One recommended approach is Primary Trait Analysis whereby the components of assignments are recognized as primary traits to be learned by the student and they are evaluated separately [35].

DISCUSSION

Focus groups

The specific goals of the two focus groups convened as part of this research were to identify and probe current levels of faculty awareness and perceptions regarding assessment, and to obtain data about faculty attitudes toward current academic assessment initiatives. Having the focus groups conducted by a faculty member with training in group process facilitation allowed participants to express their thoughts openly and candidly. This trained facilitation also ensured the collection of relevant data and prevented the sessions from becoming sidetracked on peripheral issues. The end result of this process was the identification of a range of issues that recurred across groups concerned with reducing barriers and enhancing trust in assessment.

These issues were found to have substantial commonalties with the literature on involving faculty in assessment, particularly the work of Schilling and Schilling [19]. Furthermore, having a clear set of issues identified by small groups of faculty members allowed the researchers to proceed with a second stage, that of validating and expanding the issues identified with a larger group and generating potential solutions.

Workshops: process

The development of the workshop sessions was guided by specific objectives for both the design and the content. Because the intent was to effect a positive change in the institutional culture towards the adoption of systematic assessment, it was important that the pool of participants be representative of the faculty of the institution. In terms of attendance, this goal was achieved. The percentage of attendees at the conference closely paralleled the percentage of faculty by college at the university [36].

Three objectives that governed the method for developing the workshop table design and guiding the small group discussions were:

1. to identify and deepen an understanding of the conditions and practices that would build trust in assessment across the campus;
2. to participate with peers in problem solving to improve the quality of academic assessment,
3. to work in partnership to identify and resolve assessment issues, thus facilitating new communication across disciplines.

Rather than assigning participants to specified tables, participants self-selected their tables. They generally sat with others in their discipline or within their college. This collegial structure allowed for interaction during both the formal as well as informal portions of the workshop. New communications were forged by discipline (faculty and program chairman) or by college (dean, faculty and chairs) while working on a common problem, and allowed participants to expand on issues germane to building trust in assessment. Comments on the workshop evaluation sheets included requests for additional opportunities to work on assessment specifically within their program.

Workshops: content

A number of themes emerged from the structured small group interactions in each workshop. Many comments related directly to the four themes derived from Schilling and Schilling's work used by the researchers as a framework to focus the discussion: trusting the motives, questions, methods, and assessment data itself [19]. Other comments, observations, and recommendations were consistent with themes and issues identified within the literature on organizational trust and planned change in higher education.

Comments that dealt with issues around the motives behind assessment tended very strongly towards advocating a wider view of assessment and included demonstrating strong linkage among assessment results, planning at all levels, and the mission of the institution; sharing responsibility for defining institutional goals and priorities through collective examination of assessment findings; and focusing individuals on shared goals such as the desire to collect meaningful data for institutional introspection. Interestingly, this focus on larger organizational goals is one of the salient components of trust as expressed in the literature [8–10].

The theme of trust related to the assessment questions being asked was brought out in at least two respects. The first recommendation received was to shift from 'safe' to 'meaningful' questions

about student learning. This finds a direct parallel in Schilling and Schilling's recommendations [19]. Related to this, encouraging a climate that rewards risk-taking was advocated. Shaw advocates this same strategy, noting that to promote organizational trust, the culture of the organization must be one where risk-taking and experimentation is encouraged and rewarded [11].

With regard to establishing trust in the methodological frameworks and instrumentation used in assessment, a clear recommendation was brought forward to involve faculty in designing the framework as well as the data collection processes. Participants called for a cycle of data gathering that is both reliable and useful, and advocated using assessment instruments tailored to the unique requirements of the discipline. A cornerstone of success in planned change efforts in higher education is to involve in the planning those who will be affected by the change [16]. Schilling and Schilling also note the primal importance of involving faculty in all phases and steps of planning for assessment, to ensure it provides relevant information [19].

Trust in assessment data itself emerged repeatedly as a topic of discussion. Mistrust of assessment data due to factors such as low survey response rates, and giving careful consideration to the data sources in relation to the questions being asked were both noted by faculty participants as factors in this connection. Schilling and Schilling discuss the skepticism inherent in the thinking processes of many faculty members and note that active questioning of assessment data quality is not necessarily a manifestation of mistrust. They do point out however that fear may be a substantial confound in this respect.

Various expressions of fear with regard to assessment were brought forth in both workshop sessions. It was noted that providing positive incentives was important. Viewed as equally important was the necessity to remove negative or punitive incentives. The comment 'provide nothing to discourage the faculty from participating in the process' reflects an underlying fear. Fear of evaluation by others is deep-seated, and perhaps much of the faculty resistance to assessment can be explained by this [37]. Faculty expressed fears about being punished for asking in-depth questions through assessment; they needed to know they would not be penalized through assessment. Again, these notions find direct parallels in the literature [38]. Faculty participants recommended changing the faculty attitude from one that is fear-based to one that is based on inquiry into learning processes—one of the positive strategies mentioned by Ryan and Oestreich to overcome barriers of fear within organizations [12].

The content of the workshops also provides a foundation for examining the opportunity for planned change within this institution. The culture of assessment must be embedded in trust and support the values of the organization [9, 39]. Ideas such as 'assessment is necessary but not sufficient to build trust' and 'trusting that the assessment results will be useful and used for planning and resource allocation' reflect the importance of institutional commitment [10]. Essential and consistent with Shaw's investigation, the faculty and department chairs identified leadership and resources as primary critical elements limiting effective assessment practices [11]. Effectiveness of assessment also rests in being able to trust the goals of assessment.

Where there is fear, trustworthy leadership must support the goals of assessment and demonstrate that assessment results are non-punitive to the individual and the unit [4]. Workshop participants called for energetically and openly supporting assessment by leadership at all levels, and for mutually agreeing upon and identifying needs, strengths and philosophy. This speaks to the integrity between words and actions, openness of communication, and participative decision-making, all cited as elements of trustworthy leader behavior [5]. Trustworthy leadership and an environment of trust based upon common core assumptions provides an opportunity to promote change in the culture of assessment [40]. Chaffee and Johnson point out [39]:

> 'To attempt transformational planning . . . without an understanding of the values and deeper assumptions of those cultures, and the ways in which they may be oppositional, is a project sure to produce conflict and perhaps doomed to failure. Successful transformation planning efforts depend upon both a clear recognition of cultural flash points and the development of inclusive strategies designed to mitigate them.'

The workshops provided insight into the cultural 'flash points' of assessment and initiated a greater involvement in shared decision making, as recommended by Gilbert and Tang [8].

The wealth of commentary provided through the workshops contains specific resources that are needed in order to change how assessment questions are asked. The meaningful questions, according to the participants, are characterized by engaging in questions about student learning and by taking risks that may require change, resources, and effort. Furthermore, they noted that expanded insight into student learning must come from new or modified strategies and that using the data is linked on an integral level with all other areas of trust in assessment. Interestingly, all these recommendations shared agree with similar points made by Schilling and Schilling concerning ways to build trust for faculty involvement in assessment [19].

Workshop participants also called for a positive orientation towards assessment to build trust: using results in a positive way, providing positive incentives to ask difficult questions, and using assessment data to produce well-founded bragging points. Gray contends that far better results can be

obtained in assessment by starting from a positive and realistic assumption [13]:

> 'All organizations need to change and grow in order to adapt to current conditions. Faculty in particular are by education and by their very nature professionals who are curious and intrinsically motivated to question . . . Emphasizing the role of assessment in bringing about continual improvement can help faculty members understand that engaging in assessment can be in their own self-interest, because it can give them information that will allow them to attract and retain students. In addition, by keying into their inclination to question, it is possible to provide a rationale for faculty use of assessment that reduces the level of threat and acknowledges and builds on all the good work that people have done in the past.'

CONCLUSIONS AND FUTURE DIRECTIONS

This research stemmed from a desire to further develop a broadly based, comprehensive program of academic assessment activity as a method of moving a major research institution forward as a learning organization. The immediate goal of the research was to investigate and validate the potential barriers to implementing a program of assessment activity, and to engage in a participative, structured search for ways to facilitate progress in this arena. The two-stage approach employed, consisting of initial focus groups followed by participative workshops, functioned as intended in terms of generating data and potential solutions.

The focus groups allowed initial barriers to the further development of university-wide assessment activity to be identified. Foremost among the barriers that emerged were those concerned with trust. Concentrated discussion within small groups in the workshops on aspects of trust drawn from focus group results and identified in the literature successfully produced a number of suggestions for moving towards a more trusting environment with respect to assessment. This process allowed the researchers to identify a number of characteristics

Table 5. Aspects of trust as characterized in low- and high-trust environments for assessment

Aspect of Trust in Assessment	Low-Trust Environment	High-Trust Environment
Trust in the motives	• Belief that data will be collected ostensibly for one purpose, but used somehow to punish faculty	• Linkage evident between university, college and department plans • Instill culture of assessment and set routines up that will keep everyone focused on enhancing what we do
Trust in the questions	• 'Safe' questions asked whose outcome will not require change	• Meaningful questions asked in assessment to investigate aspects of teaching and curriculum effectiveness
Trust in the methods	• Inadequate methodological basis • Role of faculty in process unclear • Required short-term orientation for reporting results of assessment projects and activities • Methods are not sufficiently rigorous	• Sound methodological frameworks; faculty participate in developing approaches and selecting/developing instrumentation • Using familiar format for reporting • Sense of faculty ownership in process and knowledge of how individual efforts contribute to the whole • Longitudinal, multi-year projects undertaken that may take several years to report • Departmental time line developed, and assessment incorporated throughout yearly activities
Trust in the data	• Low response or participation rates on surveys lead to unusable data grades are unstable and don't provide actionable data	• Clear linkage between data source and appropriate question being asked • Use of Primary Trait Analysis to disaggregate grading data into central components of the discipline [35]
Leadership support	• Little or no public support • Avowed assessment purposes not linked to institutional priorities as expressed in initiatives or budgeting • Assessment results not shared with institution	• Strong, public support • Sharing of data and participatory decision making • Consistency and reliability • Recognition and rewards provided for initiative in assessment projects
Fear orientation	• Fear of punishment for asking difficult questions • Fear of hearing bad news • Fear of finding out that one's teaching is ineffective	• Risk-taking and engagement with questions of teaching and learning encouraged and rewarded • Increasing disclosure and asking for help—asking and sharing
Planned change orientation	• Members unwilling to participate in introspective processes and unwilling to admit possibility of need for change • Vision of faculty role as solo contractor	• Linking results to mission • Agreeing upon and identifying needs, strengths, philosophy • Vision of faculty role includes larger institutional responsibility and goal-setting

of high-trust and low-trust environments with respect to assessment, as both identified in the workshops and supported in the literature base.

A list of these characteristics is displayed in Table 5, and is presented as a point of departure for further research in this vein. It is necessarily incomplete and preliminary in nature, being drawn from the results of only one research study, but it does serve to point out those aspects of the environment for trust that may help or hinder the progress of an assessment initiative.

The results of research are limited to one case study, and as such are not generalizable across institutions. However, for engineering education, the application of the two-stage process reported in this research carries at least two implications. First, this research provides validation to the notion that moving assessment forward from a situation where it is dismissed as fuzzy science to one where engineering faculty consider it a vehicle for acquiring highly useful information will require the building of a foundation of trust in assessment regarding the purposes for which assessment is undertaken, the questions asked, the methods used, and the data subsequently collected. Second, the two-stage process reported in this research constitutes a viable strategy for uncovering pivotal issues of trust or mistrust that could otherwise derail an assessment initiative.

It should be borne in mind that this process is only a first step in building a sustainable assessment system, and needs to be followed by wide, active discussion within engineering programs. The long-term success of assessment at the institution involved in this study, and at any other institution employing a similar strategy to introduce and develop sustainable assessment processes, will depend upon a number of factors and will only be revealed over time. Building trust is a great place to start.

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