The Measure of Student Learning Outcomes

An action research study on the measurement of student learning outcomes at San Juan Diego Catholic High School in Austin, Texas

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ABSTRACT

During the two-decade history of outcome-based education, many institutions of learning have shifted from a focus on instructional delivery, to a focus on student learning and performance. This new educational paradigm esteems student learning outcomes, the changes or consequences occurring in students as a result of the educative process. In the present action research study, the perspectives of various voices are solicited with respect to possible learning outcomes for the students of San Juan Diego Catholic High School in Austin, Texas. It is the researcher's hope that the present study might assist the leadership of the school community in formulating the student learning outcomes which might assist them in measuring the proximity of actual outcomes to desired outcomes.

FOCUS AND FRAMING

Introduction

Daft (2007) defines organizations as social entities which are goal-directed. He states, "An organization exists when people interact with one another to perform essential functions that help attain goals" (p. 11). Because they exist for the realization of certain goals or outcomes, organizations often articulate a variety of desired outcomes. Once formulated, the desired outcomes of an organization provide a standard against which organizational performance might be assessed and measured.

The performance of any particular organization might be assessed in varying ways. The performance of for-profit organizations, for instance, is often expressed in terms of profitability, and is frequently measured in terms of net income, earnings per share, growth, volume output, and return on investment. Non-profit organizations, on the other hand, "do not have goals of profitability, but they do have goals that attempt to specify the delivery of services to clients or members within specified expense levels" (Daft, 2007, p. 57).

The Client Organization

San Juan Diego Catholic High School in Austin, Texas is a co-educational, college-preparatory school which, according to its stated mission, provides highly motivated students the opportunity to earn a Catholic, college-preparatory education enriched by an innovative internship program. Sponsored by the Roman Catholic Diocese of Austin, San Juan Diego was the second school in the nation to replicate the Corporate Internship Program of Cristo Rey Jesuit High School in Chicago. All San Juan Diego students participate in the school's Corporate Work Study Program (CWSP), in which they gain on-the-job experience at entry-level positions in the corporate world while subsidizing the tuition of their Catholic, college-preparatory education. Since its inception, the school has worked to brand itself as "The School That Works," a double entendre which points to the value of the school's internship program for students, as well as the academic success toward which the school aspires.

During the 2007/08 academic year, the student population at San Juan Diego Catholic High School grew 19.2%, from 165 students to 194 students in grades nine through twelve. Founded in 2002, the school has graduated three classes of students, 92% of whom, according to a recent

alumni survey, are presently enrolled in postsecondary studies. Interestingly, 49% of alumni who are attending four-year universities presently study at Catholic institutions, and 44% of alumni are presently pursuing majors in the fields of business or healthcare.

Demographic data from the 2007/08 academic year reveal that 95% of San Juan Diego students represent the minority populations of Central Texas. 90% of the school's students represent the Hispanic community, and it is believed that roughly 40% speak Spanish at home. 62% of students are male, and 38% are female. 94% of students self-identify as Catholic, and 6% as members of varied non-Catholic Christian denominations. 73% of students come to San Juan Diego from the public schools of Austin, and an additional 19% from Catholic middle schools. The families of San Juan Diego students raise an average of 2.6 children on a median household income of $36,601. Lastly, 72% of students qualify for free/reduced federal lunch.

Any researcher immersed within the context of San Juan Diego Catholic High School would do well to keep in mind that, in addition to the above demographic factors, San Juan Diego students are also distinguished by the following variables:

Age. All San Juan Diego students are presently between the ages of 14 and 18 years-old.

Developmental level. All students presumably fall within a small range of developmental levels, which might be closely correlated to such variables as age and education.

Generation. All students were born between August 15, 1989 and August 15, 1993, such that they are generationally classified as Millennials (Oblinger, 2003).

Geography. All students live in the United States, in Central Texas, with 94% residing within the city limits of Austin.

Citizenship. Because of their participation in the school's Corporate Work Study Program, all students legally reside in the United States, with 99% possessing U.S. citizenship.

Socio-economic level. All students hail from middle-class or lower-class backgrounds (Payne, 1996).

Educational self-selection. All students (and/or their parents) have made the decision that they will study in this school, rather than in any public school or other private school. Because all students graduate from the school with an Advanced Diploma (of 30 credits), four years of experience in the corporate world, and over 100 hours of service learning, many prospective students and nearly 20% of present students self-select out of the school.

Work experience. All students work five full days per month (8:30 a.m. to 5:00 p.m.) among adults in the corporate world or non-profit sector.

Organizational Challenges

At present, San Juan Diego Catholic High School is experiencing assorted challenges. During the 2008/09 academic year, enrollment is projected to be down, such that for the first time in the school's seven-year history, and in light of having lost students through graduation and attrition, the school will begin the academic year smaller than it was the previous year. Such lack of growth results in a higher cost-to-educate per student at a time when the school must expend additional resources for such accreditation needs as a school nurse, library, and librarian. In May and June 2008, the school's Board of Directors and the Diocese of Austin began an examination of the school's efficiencies, with particular attention on the quality of the school's academic and internship programs.

The school's Board of Directors and the leadership of the Diocese of Austin have recently challenged the president of San Juan Diego Catholic High School to formulate the necessary metrics by which the school might measure its advance toward desired organizational outcomes. Having only recently recast its mission statement, the school is presently lacking clearly-formulated student learning outcomes. The present study is thus deemed timely by the school's president and his leadership team as they discern how best to continue guiding their school community toward the realization of desired outcomes.

Research Question

Considering the client organization's history, mission and current challenges, the researcher proposes the following question as a guide for his research: In light of the measures of organizational success perceived to be important by various stakeholder groups, how might the leadership team of San Juan Diego Catholic High School best define and measure learning outcomes for the students they serve?

Purpose of the Present Research

The purpose of the present action research study is to explore as objectively as possible the perceptions of various key stakeholder groups concerning the factors by which San Juan Diego Catholic High School might define and measure its advance toward desired organizational outcomes. In this way, the researcher hopes to be able to present to the leadership team of the client organization various recommendations which might guide its attempts to define and measure organizational success within the unique context of the client organization.

The present research does not presume to address the particular challenges faced by the client organization, apart from its attempt to formulate measures and metrics of advance toward student learning outcomes. Neither does the present research presume to forecast future success with respect to student learning outcomes, nor does it offer a curriculum by which desired student learning outcomes might be achieved. Rather, it is hoped that the present research might serve as a springboard from which the client organization might continue to go forward, fulfilling its mission of providing highly motivated students the opportunity to earn a Catholic, college-preparatory education enriched by an innovative internship program.

Assumptions

In any context and with any investigation, the researcher naturally brings to his or her study various assumptions and biases concerning the research project he or she is undertaking. The author of the present study begins his research with the following assumptions.

Feasibility of the research project. The researcher assumes it is possible for persons like those representing various stakeholder groups of the client organization to collaboratively work toward the formulation of preferred student outcomes and to create the measures and metrics by which such outcomes can be assessed within the context of organizations similar to the client organization.

Limitations of the research project. The researcher assumes that the present study will not be exhaustive, but rather will provide a snapshot of the school community which might yield implications for future research.

Worth of the research project. The researcher assumes that the topic of this study is worthy of research, and that the results of this study may well benefit the client organization.

Ability to complete research within a limited timeframe. The researcher acknowledges that the perspective of this study may be influenced by the limited amount of time afforded him for this study, and that an extended time of research would likely result in additional insights and conclusions.

Objectivity. The researcher assumes that despite his biases, as outlined below, he can achieve sufficient objectivity for the purposes of the present study.

Blurring of the researcher's role by study participants. The present researcher presumes that various participants in this study may be challenged to separate his role as researcher in the present project, from his relationship to them as president of the client organization under consideration. This blurring will most likely be evidenced in the personal interviews conducted by the researcher of persons who, in some instances, report to him in his role as their direct supervisor.

Bounding by and grounding in literature. The researcher assumes that extant literature might be of assistance in bringing perspective to the present situation of the client organization.

Necessary involvement of representatives of key stakeholder groups. The researcher assumes that representatives of various stakeholder groups might provide insight into possible measurements and metrics for advance toward the desired student learning outcomes at the client organization.

Adequacy of data collection methods. The researcher assumes that the data collection methods chosen for this study, and the questions contained therein, will provide a fair overview of the perceptions of those who participate in the study.

Data analysis resulting in insights and recommendations. The researcher assumes that the analysis of collected data will assist him in adding value to the client organization through insight and recommendations.

Biases

The author of the present study also wishes to make clear his own inherent biases concerning the present action research project.

Researcher relationship to client organization. The researcher confesses his own personal belief in the worth of the client organization. The researcher admits that he supports the client organization through the sharing of his time and financial resources, that he would personally like to see the client organization succeed in the fulfillment of its mission,

and that he has championed the client organization in several public settings in the past.

Researcher bias toward certain definitions, measurements and metrics. The researcher confesses his own personal biases toward certain desired outcomes for the organization and toward certain measurements and metrics within the context of the client organization. In addition to exercising extreme personal vigilance, the researcher has asked his research advisor to help ensure that the collection, interpretation and analysis of data in this project might be as free as possible from bias.

Researcher bias toward data and data-driven change efforts. The researcher confesses his own personal bias toward data, data-driven change efforts, and the formulation of such measures and metrics of performance as student learning outcomes.

Importance of the Present Study

Despite any limitations, including the assumptions and biases of the researcher as noted above, the present study is important for the fact that it provides a snapshot of the perceptions of various stakeholder groups concerning the desired student learning outcomes of the client organization. It is also believed that the present study may uncover implications for future research in the field of student learning outcomes and outcome-based education.

LITERATURE REVIEW

Desired Organizational Outcomes

Daft (2007) defines organizations as social entities which are goal-directed, which exist as a collective of persons desiring a specific outcome. In an organization, people interact with one another to perform essential functions which contribute to such outcomes. As such, organizations form with the intent of attaining certain goals or outcomes. Many organizations articulate their primary desired outcome, or mission, from which ancillary outcomes, or operative goals, are derived. Similar to Argyris' (2000) distinction between espoused theories and theories-in-use, an organization's mission is described by Daft as the communication tool which states what an organization stands for and the primary outcome it is trying to achieve, while operational goals are "the ends sought through the actual operating procedures of the organization and explain what the organization is actually trying to do" (Daft, 2007, p. 55).

Organizational design is effected to concretize the way in which organizations intend to realize desired outcomes. Such organizational design, Argyris (2000) warns, is crafted upon an obvious premise concerning intended and actual outcomes:

> Human action is produced by human beings using their mind/brain. No meaningful action is possible without an internally consistent design, script, or scenario that specifies—for a given set of conditions and a given set of governing values—intended outcomes, as well as the actual behaviors required to produce those outcomes. Thus, the heart of each design is a causal claim: if we act in such and such a way, the intended consequences will likely occur, subject to the constraints of the underlying values (Argyris, 2000, p. 52).

The fields of leadership and management are thus intended to lessen the gap between "intended outcomes" and "actual outcomes."

It is thus the responsibility of leaders to assist with the articulation of the desired outcomes of their organizations, to formulate and implement the necessary strategies by which their organizations might attain such outcomes, and to measure and assess their organizations' advance toward the realization of their desired outcomes. Importantly, then, the desired outcomes of an organization become the measuring stick against which leaders might measure actual outcomes.

Student Outcomes and Student Learning Outcomes

Different organizations possess differing missions and operational goals. Educational organizations and institutions, for instance, presumably exist for the mission of educating individuals. Presumably, one of the key desired outcomes with respect to the services such organizations offer, then, is that those who participate in the educative process provided by those organizations and institutions will learn and grow and, in some way(s), be different than they previously were. The English word "education" descends from the Latin root e ducere, meaning "to lead toward" (Harper, 2001). In the original sense of the word, education was the leading of a person toward knowledge of the Platonic Forms. Thus, the very definition of education implies some movement, some "leading toward" the acquisition of desired knowledge, skills and behaviors.

Various ends or outcomes are thus associated with the educative process. Anderson, Moore, Anaya and Bird (2005) note that in the context of education, outcomes are "the consequences or results associated with instructional experiences, the end results of institutional program, or curricular goals" (p. 257). They also cite Davis (2003), who writes that in an educational setting, an outcome is "a culminating demonstration of learning; it is what the student should be able to do at the end of a course" (p. 257). In line with Argyris (2000), these authors are quick to distinguish between intended and actual outcomes. They write, "Intended outcomes are those desired and planned, whereas actual outcomes are those that have been achieved" (p. 257).

The terms which currently enjoy great popularity for their succinctness in expressing the desired outcomes for educational organizations and institutions are "student outcomes" and "student learning outcomes." Student outcomes are aggregate statistics on an institution-wide basis (e.g., graduation, retention, transfer and employment rates) and are used to gauge year-to-year organizational performance. Dugan and Hernon (2002) suggest that such outcomes might more correctly be termed "outputs," since they reflect what the institution has accomplished and not what students have learned.

In contrast, student learning outcomes measure the change in cognitive and affective attributes and abilities within students as a result of their educational experience. Ewell (1983) defines student learning outcomes as "any change or consequence occurring as a result of enrollment in a particular educational institution and involvement in its programs." Dugan and Hernon (2002) note that student learning outcomes "reflect how the student experiences at the institution supported their development as individuals" (paragraph 6). The

achievement of student learning outcomes, they suggest, might be assessed by questioning what students know that they didn't know before and what students can do that they couldn't do before. In this way, student learning outcomes aim to articulate the concrete ends toward which particular instruction is aimed, thus allowing one to measure and assess how similar the actual outcome(s) of the learning process is (or are) to the desired outcome(s) of the same. Maki (2004) provides a helpful, even if extended, overview of the characteristics of student learning outcome statements, as compiled in Table 1.

Table 1
Maki's (2004) description of student learning outcome statements

A learning outcome statement is a sentence that:

- Describes what students should be able to demonstrate, represent, or produce based on their learning histories;
- Relies on active verbs that identify what students should be able to demonstrate, represent or produce over time, verbs such as create, apply, construct, translate, identify, formulate and hypothesize;
- Aligns with collective program- and institution-level educational intentions for student learning translated into the curriculum and co-curriculum;
- Maps to the curriculum, co-curriculum, and educational practices that offer multiple and varied opportunities for students to learn;
- Is collaboratively authored and collectively accepted;
- Incorporates or adapts professional organizations' outcome statements when they exist;
- Can be quantitatively or qualitatively assessed during students' studies.

Anderson et al. (2005) note that student learning outcomes are not to be confused with student learning objectives. They explain,

The language of learning outcomes reflects the more independent and self-directing role expected of graduates in their professional lives after graduation. In general, outcomes tend to be broader in scope than objectives. Outcomes focus on what the learner should get out of the

program or be able to do as a result of the instructional activities within the program. The term 'objective' is most frequently used to describe discrete skills or bits of knowledge that are specific to a given instructional context. Objectives tend to focus on the instructor's goals in the course, module, etc, rather than his or her goals for the end of a sequence of courses. (p. 260).

Harden (2002) reasons that though learning outcomes and learning objectives are often used interchangeably, five important features distinguish them, with important implications for the curriculum developer, teacher and student: the detail of specification, the level of specification upon which emphasis is placed, the classification adopted and interrelationships, the intent or observable results, and the ownership of the outcome.

Outcome-based Education

Together, student outcomes and student learning outcomes are part of a larger paradigm termed outcome-based education (OBE), which is defined by Davis (2003) as "an approach to education in which decisions about the curriculum are driven by the exit learning outcomes that the students should display at the end of the course" (Anderson et al., 2005, p. 257). Harden, Crosby and Davis (1999) share,

> In outcome-based education, product defines process. Outcome-based education can be summed up as 'results-oriented thinking' and is the opposite of 'input-based education' where the emphasis is on the educational process and where we are happy to accept whatever is the result. In outcome-based education, the outcomes agreed [upon] for the curriculum guide what is taught and what is assessed (p. 7).

Anderson et al. (2005) note that outcome-based education involves a paradigm shift, from a focus on instructional delivery to a focus on student learning and performance. They advance that outcome-based education is student-centered and is focused "on efforts to produce the specific results based on predetermined agreement realized through consensus" (p. 257). In this way, outcomes statements, which articulate what an educational organization expects of its students upon completion of their studies, shape the teaching, learning and assessment processes of the organization. Jones (2001) notes that this paradigm shift to student-centered learning is "a major challenge because faculty tend to organize the curriculum and course of study around the presentation

of content rather than on building specific skills across the curriculum" (p. 16).

Spady (1988) is largely credited with developing outcome-based education in the United States (Glatthorn, 1999; Davis, 2003). In his (1988) work, Outcome-Based Education: Critical Issues and Answers, Spady shares,

> outcome-based education (OBE) means clearly focusing and organizing everything in the educational system around what is essential for all students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction, and assessment to make sure this learning ultimately happens (p. 1).

He continues, "In OBE, exit outcomes are a critical factor in designing the curriculum: you develop the curriculum from the outcomes you want students to demonstrate, rather than writing objectives for the curriculum you already have" (p. 8). Importantly, he defines outcomes as "the actual results of learning that students visibly demonstrate. [Outcomes] involve the integration and application of content, competence, and confidence in actual performance settings when or after formal instructional experiences are over" (p. 8).

Anderson et al. (2005) clarify that outcome-based education is not to be confused with competency-based education, which focuses on the transferability of skills into work contexts. Competency-based education, they say, evolved within the context of workforce development and focuses on competencies, which they define as "what individuals should be able to perform independently as a professional" (p. 260). According to the model of competency-based education, a student progresses through stages, from novice to beginner to competent (Yip & Smales, 2000). Chambers and Glassman (1999) provide a more complex continuum for competency-based education in which students advance through stages of novice, beginner, competent, proficient and expert, with each stage containing its unique learning issues, educational methods and competency-based evaluation methods.

Dugan and Hernon (2002) clarify that outcome-based education is interested in addressing the following questions: "What should students learn? How well are they learning it? What measures and procedures does the institution utilize to determine that it is effective? To what extent does the institution offer evidence that demonstrates its effectiveness to

the public? What does the institution plan to do with this evidence to improve outcomes?" (paragraph 4).

Accountability and the Shift of Focus to Student Learning Outcomes

Reflecting on recent calls for heightened accountability in educational settings, Hatfield (2001) shares, "It is no longer enough for [educational institutions] to assert that the educational process has resulted in student learning" (p. 23). Such authors as Beno (2004) point to "the public's fundamental interest in what students are supposed to learn and how well [students] are, in fact, learning" (p. 66). She continues, "Given the increasing public interest in the question of what students are learning, institutions and accreditors alike are wise to develop thoughtful, careful, and valid means of assessing learning, talking about the results of assessment, and using the measuring generated through discussion to improve the quality of learning" (pp. 67-68).

Poindexter (2003) points out that historically many educational institutions failed to establish measures of accountability. For this reason, in a world where persons increasingly expect and even demand increased accountability of organizations, the assessment of educational organizations and institutions vis-à-vis clearly articulated student learning outcomes assumes heightened import. Seybert (2002) notes,

> Effective assessment of student learning outcomes is a major issue for…education. Numerous national meetings, books and articles, workshops, and speeches have addressed it. All of the regional accrediting agencies have incorporated some level of effectiveness or student learning outcomes assessment activities into their criteria for accreditation and reaffirmation of accreditation (p. 55).

The accreditation process for educational institutions has assisted in this respect. Eaton (2008) writes, "Accreditation has played a central and constructive role in encouraging and supporting institutional efforts to more fully address student achievement by holding institutions and programs accountable for developing evidence of student success" (p. 27). Beno (2004) adds, "Accreditation standards developed and used by most of the regional accreditors have changed to incorporate the

assessment of student learning as a central process in evaluating institutional effectiveness" (p 65). She continues,

> Accreditation, by design, evaluates institutional quality. Institutional quality is determined by how well an institution fulfills its purposes. From the perspective of accrediting agencies, producing learning is one of the core purposes of an [educational institution]. In assessing institutional quality, accreditors are evaluating the student learning produced by the institution in the context of the institution's own mission, its stated learning objectives, and its identified means of assessing student learning. The challenge to [such institutions] is to identify the expected student learning outcomes for their own institution in the context of mission and the institution's own curriculum and to develop means of assessing that learning (p. 66).

Beno notes that this trend toward incorporating student learning outcomes into accreditation review processes stems from "the belief that [a focus on student learning] will ultimately help improve students' lives" (p. 67).

Twenty years ago, Warshaw (1988) noted the substantial increase in the demand by government officials, parents, and community members that U.S. students and teachers be held accountable, and that public institutions of education monitor student achievement, professional performance and institutional effectiveness. The same year, the U.S. Department of Education mandated that all federally-approved accrediting agencies include in their accreditation review processes the methods by which institutional outcomes and assessments might be evaluated (U.S. Department of Education, 1988). More recently, in a context of heightened accountability after the Sarbanes-Oxley Act, Sullivan and Thomas (2007) share, "A clarion call is heard throughout the world of education on the need to document student learning outcomes. Learning institutions at all levels are under increasing pressure from government agencies, the public at large, and even students to show that graduates are achieving the desired learning goals" (p. 321). The issue, these authors claim, has reached "a fever pitch in state legislatures across the country" (p. 321).

At the primary, middle and secondary levels, a call for increased accountability with respect to student learning outcomes has resulted due to that which Buckley (2002) labels a "convergence of concerns about poor student learning outcomes" (p. 28). The No Child Left Behind Act

of 2001 was enacted as a response to this situation (NCLB, 2001). Critics of the legislation, however, lament the current focus on single high-stakes tests when most assessment of student learning occurs formally and informally in the classroom over time (Ohlsen, 2007).

Variables Affecting Student Learning Outcomes

Numerous factors conspire to enhance or limit the realization of student learning outcomes in any educational situation. Hayes (2005) notes that poorer student learning outcomes characterize schools located in communities which experience high levels of social dislocation, educational disadvantage and student disengagement from learning. Such schools, she says, are "working under 'adverse conditions.' These schools face particular challenges when it comes to stabilizing and sustaining whole-school change aimed at improving student learning outcomes" (Hayes, 2005, p. 383).

Various authors note the relationship between student learning outcomes and such variables as limited resources, the impact of family learning environment, and parent involvement (Hayes and Chodkiewicz, 2006; Marjoribanks, 1996; Bailey, 2006). Individual student characteristics which correlate with student learning outcomes include personality, attitude and motivation, emotional and social factors, conception of learning, previous learning performance, student learning traits, and student learning efforts (Adeyemo, 2007; House, 2008; Bennedsen & Caspersen, 2008; Morris, 2001; Hsein-Tang, Zhi-Feng & Shyan-Ming, 2008; Mayer & Massaro, 1995; Holsendolph, 2005). Numerous studies reveal that instructor characteristics also influence student learning outcomes, including teacher quality, conception of teaching, instructor knowledge of teaching and learning, teacher learning and practice, teacher facilitation, teacher inquiry, teacher support and coaching, and teacher verbal immediacy (Kleinhenz & Ingvarson, 2004; Major & Palmer, 2002; Akerlind, 2003; Ancess, 2000; Puntambekar, Atylianou & Goldstein, 2007; Dawson, 2006; ChanLin, 2008; Witt, Wheeless & Allen, 2004).

Student learning outcomes have also been shown to correlate to types of learning and learning activities, including action learning, field learning, service learning, team learning, student-centered instruction, student design of instruction, and deep learning (Hamston, Risko & Ellis, 2006; Kozar & Marcketti, 2008; Hervani & Helms, 2004; Dyer, 2003; Chun-Yen & Chin-Chung, 2005; Rodenbaugh, Failing, Fuentes, Wagner & Yard, 2007; Smith & Colby, 2006; and Ellis, 2006). Within the classroom environment, student learning outcomes are also influenced by student

perceptions of the classroom climate and student perceptions of the learning context (van der Sijde & Tomic, 1992; Prosser, 2004).

Student learning outcomes have also been shown to be linked to various facets of contemporary technology, including online discussions, web logs, and e-learning (Ho & Swan, 2007; Thomas, 2002; and Bretz & Johnson, 2000; Halavais, 2004; Romanov & Nevgi, 2006; and Kekkonen-Moneta & Moneta, 2002). Interestingly, Predevac (2001) showed that greater student learning outcomes resulted among biology students participating in the virtual "dissection" of a rat, than among students participating in a conventional laboratory dissection exercise with a real specimen.

A review of the literature thus reveals the way in which student learning outcomes are impacted by numerous variables within educational contexts. It is of consequent importance that the reader be able to distinguish among the various genres of student learning outcomes.

Types of Student Learning Outcomes

Though writing specifically of student learning outcomes in postsecondary education, Ewell's (1985) typology of student learning outcomes may aptly be applied to the secondary school context. He delineates between cognitive, affective, psychological, behavioral, within-college, and after-college student learning outcomes. He explains,

> The distinction between cognitive and affective outcomes is a distinction between gains in knowledge and changes in attitudes or values. The distinction between psychological and behavioral outcomes is a distinction between changes occurring inside a student's head and changes that can be observed directly during or after college. Finally, the distinction between within-college and after-college outcomes is a distinction about when the outcome occurs (p. 3).

Casting aside Ewell's psychological outcomes, Hatfield (2001), in contrast, maintains that student learning outcomes cluster in three areas: cognitive outcomes (i.e., that which students should know), behavioral outcomes (i.e., that which students should be able to do), and affective outcomes (viz., attitudinal development). Citing Palomba and Banta (1999, p. 29), she elaborates,

> Cognitive outcomes might include knowledge of a certain set of historical facts, key theories, essential processes, or the accepted

> set of criteria used by professionals in the field to evaluate a piece of evidence…. Behavioral outcomes are skill based, involving the demonstrated ability to perform a specific skill with an identified level of success. Affective outcomes 'are directed toward a person, object, place or idea and predispose individuals to behave in certain ways' (Hatfield, 2001, p. 25).

Student learning outcomes are often described as generic insofar as they are "the skills, personal attributes and values which should be acquired by all graduates regardless of their discipline or field of study" (Higher Education Council, 1992, p. 20). Citing the scholarship of Candy (2000), Smith and Bath (2006) share that though "some would also argue that while disciplinary knowledge is transient, the opportunity to develop generic skills such as communication, teamwork and leadership, analytical and critical thinking is an important aspect in any…curriculum" (p. 262). Hearkening to the work of Hare and Powrie (1992), these authors also distinguish between specific disciplinary (or vocational) skills and general (or transferable) skills, and they advance that "traditionally, the emphasis has been on the development of discipline-specific knowledge and skills, and the development of other skills, intellectual and social, are often considered 'a bonus,' tending to be taught implicitly and informally" (p. 262).

In an essay on the need to cultivate student success for college and the evolving knowledge economy, Miles and Wilson (2004) cite the "21st Century Skills" developed in 1999 as a set of student learning outcomes by the leaders of numerous schools. Table 2 shares the eight broad categories of "21st Century Skills" which encapsulate various hard and soft skills deemed important for student success by the school leaders who participated in that forum.

Table 2

21st Century Skills: Proposed Student Learning Outcomes

- Communication skills (reading, writing, speaking, listening)
- Computational skills (understanding and applying mathematical concepts and reasoning, analyzing and using numerical data)
- Community skills (citizenship, appreciation of diversity and pluralism; local, community, global and environmental awareness)

- Critical thinking and problem-solving skills (analysis, synthesis, evaluation, decision making, creative thinking)
- Information management skills (collecting, analyzing, and organizing information from a variety of sources)
- Interpersonal skills (teamwork, relationship management, conflict resolution, workplace skills)
- Personal skills (ability to understand and manage self, management of change, learning to learn, personal responsibility, aesthetic responsiveness, wellness)
- Technology skills (computer literacy, internet skills, retrieving and managing information via technology)

Formulation of Student Learning Outcomes

Nexus between student learning outcomes and organizational mission

Ewell (1985) suggests that student learning outcomes should flow from the mission of an organization. He writes, "Since an institution's assessment program [of student learning outcomes] is linked to its mission, the outcomes selected for study should also be driven by this mission" (p. 260). Similarly, Serban (2004) maintains that the formulation of student learning outcomes begins with the articulation of institutional goals and purposes. Dunn, McCarthy, Baker, Halonen and Hill (2007) concur, observing, "A proactive plan for assessment of program effectiveness begins with attention to [institutional] and departmental mission statements. Without a unified approach and clear vision, programs can fall prey to piecemeal assessments that do not capture the essence of student learning" (p. 656). Suskie (2004) concurs, stating that student learning outcomes cannot be arbitrarily chosen, but must be driven by the institution's mission.

Student learning outcomes at various institutional levels

Speary (2001) observes that the formulation and assessment of student learning outcomes can commence at any number of levels within an organization. Student learning outcomes might be formulated for a single course or event, for an organizational department or program, and/or for the organization as a whole. Particularly at the institutional level, it is important to recall the distinction between student outcomes

and student learning outcomes. Anderson et al. (2005) caution that often conversations on educational success at this level focus on retention, educational attainment, time required to complete studies, student satisfaction, job placement, employer satisfaction, and performance after graduation. While such factors are important student outcomes and are important to organizational success, they are not to be confused with student learning outcomes. As Hatfield (2001) notes, "Measuring student satisfaction [i.e., a student outcome] by itself does not provide evidence of student learning [i.e., a student learning outcome]." (p. 25).

Anderson et al. (2005) note that at the institutional level, educational leaders must understand the terminology and models of outcome-based education, such that they can familiarize faculty members and students with such terminology and models. Palomba and Banta (1999) slightly differ: "The exact language faculty use is not important. It is important that faculty reach agreement about what graduates of their programs are expected to know and be able to do and express these intended results with enough precision to guide the selection of assessment instruments" (p. 4).

Persons involved in the formulation of student learning outcomes

The persons involved in the formulation of student learning outcomes will largely depend on the scale at which these outcomes are to be implemented. When the Pennsylvania State Board of Education decided in 1991 to draft student learning outcomes for all schools in the state as part of the state's move toward outcome-based education, for instance, it convened committees of teachers and administrators throughout the state, which in turn formulated more than 425 desired outcomes (Pliska & McQuaide, 1994). Because the board failed to involve community members and critics in such conversations, however, "the state, in its enthusiasm for reform, did not cultivate the grassroots support necessary for reform, [and thus] a vocal and effective opposition emerged, sensation overshadowed real issues, and the complex task of restructuring was complicated by pressure from outside forces" (Pliska & McQuaide, 1994, p. 69). From this example, it is evident that representatives of all key stakeholder groups should be included in such processes as the formulation of student learning outcomes.

The involvement of many persons at many levels is necessary for the success of outcome-based education. Administrators and school leaders must support initiatives, dedicate the necessary resources, and set in place the structures which might support the formulation and assessment of student learning outcomes. Speaking from his experience,

Babaoye (2006) references the important role of school leadership: "Our experience…has shown that faculty and staff will respond positively and willingly to assessment activities if there is a perceived and genuine involvement of top leadership in the project from the start." (p. 14).

Faculty support for such initiatives is essential, since individual instructors "are not only engaged in, but are the architects of, the various approaches to evaluating student learning" (Eaton, 2008, p. 23). The challenge according to Riordan (2005) is that while "faculty involvement in assessment is essential because they are the content experts and know the most about their students," they must often be led to think beyond their individual courses and to see assessment as more than just another task in their already busy schedules (p. 7).

Wehlburg (1999) advances that the formulation of student learning outcomes is strengthened when it is performed with the assistance of students and alumni. In this way, the representatives of such key stakeholder groups provide perspectives and data from their experiences. Thus, Halpern (2004) and Jones (2001) encourage faculty members and department heads to solicit the perspectives of students and alumni, and of prospective employers of students and alumni. The commitment of so many stakeholders to the formulation of student learning outcomes results in the community-based commitment spoken of by Senge (1999) as essential for high organizational performance.

Jones (2001) notes that the involvement of prospective employers is especially key in the formulation of student learning outcomes if the educational effort is aimed at employing students in the business world. Elucidating the DACUM strategy for curriculum development, she notes three assumptions which lead to the conclusion that employers who hire any school's graduates should be interviewed or surveyed for their input with respect to student learning outcomes: (1) employers can describe and define their occupations and responsibilities better than anyone else, (2) they can more accurately identify the important competencies needed for their fields, and (3) they can assist in outlining which knowledge, skills, tools, attitudes and behaviors combine in the performance of various work-related tasks.

The number of student learning outcomes

Anderson et al. (2005) address the question of how many student learning outcomes should be developed by an organization. Citing the scholarship of Ewell (1985), Suskie (2004), and Nichols and Nichols (2000), they conclude that an organization should "adopt only a few educational outcomes to focus on in a period of time" (p. 260). They note

that Nichols and Nichols suggest three to five learning outcomes, though they themselves admit that there is nothing magical about such numbers. Anderson et al. agree that a limited set of outcomes is most helpful, since each outcome is supported by a number of detailed objectives. They also conclude, "Colleges and schools tend to be more successful in assessment when they focus their efforts on a handful of priorities in a single year" (p. 260). These authors suggest that a comprehensive, multi-year plan should focus on a broad array of outcomes while selecting only a limited number of specific priorities each year. More important than the number of outcomes, though, Anderson et al. recommend that student learning outcomes be "global outcomes" which might span several courses and be applied through course-specific objectives.

Methodology for formulating student learning outcomes

Spady (1988) recommends a "design down" approach to the creation of student learning outcomes, which requires that school leaders and faculty members "determine what is truly essential for students to accomplish in the limited amount of time given" (Anderson et al., 2005, p. 264). Anderson et al. (2005) further explicate,

> Design down means to begin curriculum and instructional planning by indicating where you want students to ultimately end up and building back from there. Using this approach faculty members first identify and adopt the exit outcomes for the curriculum. The outcomes for each year in the curriculum are derived from these exit outcomes. This process is then repeated for individual courses and ultimately the various instructional activities within each course. The outcomes for the levels, courses, and learning activities should be aligned with and contribute to the exit outcomes" (p. 264).

Spady advances that this method is preferable to "having teachers cover more and more material at an increasingly superficial level" with no assurance that the desired student learning outcome(s) will be achieved (Anderson et al., 2005, p. 264).

Anderson et al. (2005) encourage curriculum developers to first consider what students should be able to do after a particular course or program. They emphasize, "Note, the significant word is do, and the key in drafting learning outcomes is to use active verbs that convey observable behavior associated with performance competencies" (p. 264). They also maintain that student learning outcomes should be expressed in clear, non-abstract and univocal language, and that

outcomes should be realistic and achievable within the given time available.

The implementation and assessment of student learning outcomes

Similar to the metrics and measurements common in business, Dugan and Hernon (2002) state that outcomes must be measurable. To formulate outcomes, then, they suggest that one keep in mind the following questions: "Is this objective measurable? Can this objective be taught? Can one measure if anything was learned? Can a change in the person be identified and/or measured? Can the results be used to improve instruction?" (paragraph 29).

Once student learning outcomes are formulated, the appropriate teaching strategies can be designed to achieve desired outcomes, and the necessary assessments can be created to evaluate whether outcomes were realized. Miles and Wilson (2004) suggest that the five key steps in implementing student learning outcomes are defining outcomes, developing performance indices and assessment strategies, delivering instruction, documenting student achievement, and disseminating best practices.

Anderson et al. (2005) note that an orientation toward assessment "contributes to student motivation by providing short-term goals, clarifying learning tasks, and providing feedback…[and that] assessment can also facilitate retention and transfer of learning through a focus on more complex learning outcomes. Assessment results also help faculty members identify elements of instruction that are more productive with respect to desire learning gains" (p. 265).

For the successful implementation and assessment of student learning outcomes, Gronlund (2003) offers a helpful summary of the relationship between instruction and assessment. Table 3 contains a summary of Gronlund's research.

Table 3
The relationship of instruction and assessment vis-à-vis student learning outcomes

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Instruction is most effective when:

- Directed toward a clearly defined set of intended learning outcomes.
- The methods and materials of instruction are congruent with the outcomes to be achieved.
- The instruction is designed to fit the characteristics and needs of the students.
- Instructional decision are based on information that is meaningful, dependable, and relevant.
- Students are periodically informed concerning their learning progress.
- Remediation is provided for students not achieving the intended learning.
- Instructional effectiveness is periodically reviewed and the intended learning outcomes and instruction modified as needed.

Assessment is most effective when:

- Designed to assess a clearly defined set of intended learning outcomes.
- The nature and function of the assessments are congruent with the outcomes to be assessed.
- The assessments are designed to fit the relevant student characteristics and are fair to everyone.
- Assessments provide information that is meaningful, dependable, and relevant.
- Provision is made for giving the students early feedback of assessment results.
- Specific learning weaknesses are revealed by the assessment results.

- Assessment results provide information useful for evaluating the appropriateness of the objectives, the methods, and the materials of instruction.

Lubinescu, Ratcliff and Gaffney (2001) assert that the fundamental questions one should ask with respect to the assessment of student learning outcomes are: Why assess? What to assess? How to assess? How to interpret? How to respond? Hatfield (2001) offers a helpful overview of the assessment of student learning outcomes. She says that assessment methods can be summative (i.e., occurring at the end of the learning process, to assess the degree to which the student has achieved stated learning outcomes) or formative (i.e., taking place while learning is in progress, so as to judge whether the student is on track toward achieving stated learning outcomes). Assessments can be quantitative or qualitative, with the former more easily allowing for statistical comparison over time, and the latter providing rich contextual dimensions which would be lacking in quantitative analysis. Assessments can also be individual (i.e., measuring separate learning goals) or holistic (i.e., allowing the student's strengths to balance his/her weaknesses). Popular holistic assessments of student learning outcomes include the student portfolio and the capstone experience (Hunt et al., 2006; and White, 2004; Payne, Flynn & Whitfield, 2008; Sullivan & Thomas, 2007; and Rowles, Koch, Hundley & Hamilton, 2004). Hatfield concludes, "Whether to engage in formative or summative assessment, using qualitative or quantitative methodologies, that will be assessed either individually or holistically are all important decisions for a department or program to consider carefully" (p. 30).

Challenges to the formulation and implementation of student learning outcomes

Friedlander and Serban (2004) note four major challenges to the formulation and implementation of student learning outcomes. First, faculty members are often not trained in pedagogy or the instructional methods and intervention strategies that promote student attainment of desired learning outcomes. They write, "For example, few faculty outside English have received any formal training in teaching reading, writing, speaking, or public speaking skills. If a desired outcome is to improve students' communication skills (reading, writing, speaking, listening), then faculty teaching outside of the English and

Communications departments need to receive training on effective strategies and instructional methods for developing, assessing, and assisting students with these skills" (p. 103). This sentiment is echoed by Jones (2001), who advocates that the development of writing skills be viewed as more than merely the responsibility of the English department, or that the development of oral communications skills not be relegated merely to a speech class. Second, say Friedlander and Serban, "few faculty and staff have been trained in developing measurable and valid learning outcomes; aligning the curriculum with those outcomes; developing assessment questions, instruments, and methods; and developing and implementing a plan for assessing those outcomes that is manageable, meaningful, and sustainable" (p. 104). Third, it is often difficult to gain faculty consensus for what is to be achieved at the course, program, and college levels. In this respect, they suggest that faculty should be encouraged, if not required, to work together to formulate the student learning outcomes for each course and department, and to share best practices in pedagogy and assessment.

Fourth, the financial and human resources required to sustain an outcome-based education model need to be considered. Here, the authors speak of the challenge of evidencing that the "allocation of scarce resources results in improved student learning and achievement greater than might have been achieved had the resources been applied differently" (p. 107). In line with Astin's (1993) assertion that in education "lack of expertise is a major impediment to the effective use of assessment," many institutions find themselves without the necessary human and financial resources for ample assessment of student learning outcomes (p. 140). Serban (2004) points also to the cost of assessing student learning outcomes at a departmental or organizational level. In many schools, she says, more than 80% of the operating budget is dedicated to salary and benefits, with the remainder being dedicated to fixed costs. Hence, the successful implementation of student learning outcomes often depends upon such considerations as organizational capacity. Additionally, Babaoye (2006) effectively argues that "adequate funding and provision of technical support can affect the level of success of implementation" (p. 14).

In order to assess an organization's ability to counter the various challenges concerning a student learning outcome model, Hatfield (2001) proposes key questions to guide departmental consideration of the assessment of student learning outcomes, as contained in Table 4.

Table 4
Hatfield's (2001) Key Questions for a Student Learning Outcomes Assessment

1. Departmental Culture
    a. Collective/Shared Values. To what degree does the department demonstrate a shared understanding of the purposes, advantages, and limitations of assessment?
    b. Mission. To what degree do the departmental mission and educational goals state the value the department places on student learning?
2. Shared Responsibility
    a. Faculty. To what degree is faculty taking responsibility for ensuring that direct and indirect measures of student learning are aligned with the program's educational goals and measurable objectives?
    b. Students. To what degree are students familiar with the goals and purposes of assessment in general and the departmental goals specifically?
3. Departmental Support
    a. Resources. To what degree is participation in assessment valued by the department in terms of release time, compensation, or acknowledgement of the scholarship of assessment? Is there a line item in the budget for departmental assessment activities?
    b. Structures. Is there a departmental assessment committee? Is assessment part of the department's faculty development program?
4. Efficacy of Assessment
    a. To what degree has assessment data been discussed by members of the department? To what degree has assessment data promoted change in the department?

Case Study:
Student Learning Outcomes
among Minority and Academically-Challenged Students

In reflecting on his tenure as president of Miami Dade College, Padrón (2008) recently shared of his institution's attempt to integrate ten institution-wide student learning outcomes into the college's more than two-thousand courses. Despite the academically-challenged nature of many students within the college, student-centered learning outcomes assure that all students exit the school having achieved identified outcomes. He shares,

> As a result of our open admissions policy, some of our students have a longer, more remedial educational journey than others. But still we expect all students to be truly educated and truly prepared to succeed by the time they graduate. The clear articulation of specific learning outcomes ensures that everyone knows exactly what we mean by a Miami Dade College education (p. 32).

Padrón is quick to emphasize the intentionality which must accompany any effort of formulating and implementing student learning outcomes. He writes,

> Just as visualizing success is a proven method for elite business leaders and athletes, intentionality is very important in education. Our process for developing outcomes and subsequent assessments has been full of intention at each step, and this mentality mirrors the consciousness we want to see in the work of our faculty and students. The process itself models the outcomes (p. 32).

The author notes that the formulation and implementation of student learning outcomes at the college is the result of much collaboration, persistence and democracy. He summarizes the process as being student-centered and involving persons in "more than two hundred programs of study, eight campuses, and a majority of minority students and faculty" (p. 32). On the involvement of so many stakeholders, he says,

> Every good organization is guided by a mission statement, and our engagement with outcomes has been a college-wide attempt to further emphasize "the learner's needs" identified in ours. We asked the business community and alumni as well as our community of teachers and learners, what should a student

have gained by completed a course of study at Miami Dade College? (p. 34).

He concludes with his hope: "Perhaps our example will inspire others: if the largest undergraduate institution in the nation can do it, then others can too—and on their own terms" (p. 32). Table 5 shares the mission and student learning outcomes of Miami Dade College.

Table 5
Mission and Student Learning Outcomes of Miami Dade College

Mission. Through the academic disciplines and cocurricular activities, Miami Dade College provides multiple, varied, and intentional learning experiences to facilitate the acquisition of fundamental knowledge and skills and the development of attitudes that foster effective citizenship and lifelong learning.

As graduates of Miami Dade College, students will be able to

1. communicate effectively using listening, speaking, reading, and writing skills;
2. use quantitative analytical skills to evaluate and process numerical data;
3. solve problems using critical and creative thinking and scientific reasoning;
4. formulate strategies to locate, evaluate, and apply information;
5. demonstrate knowledge of diverse cultures, including global and historical perspectives;
6. create strategies that can be used to fulfill personal, civic, and social responsibilities;
7. demonstrate knowledge of ethical thinking and its application to issues in society;
8. use computer and emerging technologies effectively;
9. demonstrate an appreciation for aesthetics and creative activities;
10. describe how natural systems function and recognize the impact of humans on the environment.

RESEARCH MODEL & METHODOLOGY

Initial Hypothesis

In light of literature reviewed for this study, and cognizant of the client organization's history, mission and current challenges, the present researcher hypothesizes that the data collected from representatives of various key stakeholder groups within the client organization might offer a variety of means by which to measure student learning outcomes at San Juan Diego Catholic High School. He further hypothesizes that many of these outcomes might be related to academic preparedness for postsecondary studies, preparedness for engaging the professional world, personal attributes deemed important by individual stakeholders, and the Roman Catholic faith perspective within which the client organization operates.

Methodology

The present study employs the action research methodology of survey research which, for the purposes of this study, is carried out through four means: personal interview, telephone interview, mail questionnaire and online questionnaire.

Instruments & Questions

With the assistance of his advisor, the researcher first formulated and honed various questions to which a subject might respond through direct mail. These questions, contained in Appendix A of the present work, were later placed online at www.questionpro.com, such that a wider audience might access and respond to them. The same questions were used by the researcher during personal and telephone interviews, such that a consistency might be achieved among various data collection methods.

Data Collection Methods

For the purposes of the present study, the researcher chose to employ the following data collection methods: individual interviews, telephone interviews, direct mail survey, and online survey.

Individual Interviews. The researcher chose to engage in face-to-face, interpersonal dialogue with representatives of various key stakeholder groups. The scheduled-structured method of personal interview was chosen for this task, such that the number, wording and sequence of questions would be nearly identical for all respondents. This data collection method allows for certain flexibility, such that the interviewer

can clarify terms or questions which might be unclear to the respondent and can probe for additional detail and information. Additional benefits of this data collection method include a higher response rate than such methods as mail questionnaire (particularly for persons who have difficulty reading, writing or expressing themselves in the language of the mail questionnaire), the fact that the interviewer can record the spontaneous reactions of respondents and/or any environmental factors which might be influencing them at the moment, and the fact that individual interviews are done in private, such that a respondent cannot consult other persons before providing answers to interview questions. The disadvantages to this method of action research, however, include the fact that such interviews are time-intensive (both during the interview, and in later recording and processing the data obtained through the interview), do not allow for anonymity, and can make the data collection susceptible to interviewer bias through the influencing of the respondent's answers. Frankfort-Nachmias and Nachmias (1999) warn, for instance, that respondents in this setting "may give socially admirable but potentially misleading answers because they are trying to please the interviewer" (Frankfort-Nachmias & Nachmias, 1999, p. 219).

For the present study, the client organization assisted with the scheduling of individual interviews by the researcher of sixteen persons. These interviews, conducted in the office of the organization's president, employed the questions previously drafted for the mail questionnaire.

Telephone Interviews. The researcher chose to employ the semi-personal data collection method of the telephone interview for those persons with whom he wished to have an individual interview, but for whom, for various reasons, this was not possible. Advantages of this data collection method include the fact that many persons respond to this data collection method who would otherwise not respond to a mail questionnaire or who may not be willing or able to accommodate a personal interview, and the fact that the researcher can code data directly into a computer during the conversation. The disadvantages of this data collection method include the fact that the respondent's attention may be pulled in other directions during the interview, and the fact that the researcher can gather less information about the respondent's environment and non-verbal reactions.

For the present study, the client organization scheduled for the researcher telephone interviews with those persons with whom he had hoped to interview face-to-face, but for whom this was not possible for various reasons. These interviews were conducted by the researcher at

the client organization, employing the questions previously drafted for the mail questionnaire.

Direct mail survey. The researcher chose to employ the impersonal data collection method of the direct mail survey for those persons whom the president of the client organization wished to include in this research project, and for whom the organization merely had mailing addresses. Advantages of this data collection method include its low time-intensive nature, a diminution of bias resulting from the personal characteristics of the interviewer, the anonymity afforded to respondents, and the time this form of data collection allows respondents to gather their thoughts regarding the issues to be considered. The disadvantages of this data collection method include the fact that the questions used in this data collection method must be simple and easily understood, there is no opportunity for the researcher to probe for additional detail or information, and there is no control over the respondent's environment and who completes the instrument.

For the present study, the client organization assisted with the printing and mailing of a mail questionnaire to 78 persons. These questionnaires were accompanied by a letter from the organization's president appealing to the respondents' goodwill and asking that the surveys be returned to him in a self-addressed, stamped envelope which was provided to the respondents in the same mailing.

Online survey. The researcher also chose to employ the impersonal data collection method of the online survey for those representatives of key stakeholder groups for whom the client organization had e-mail addresses. Advantages of this data collection method include the fact that it allows for the possibility of rapid surveying of large samples, and that it is less costly than a mail questionnaire. The disadvantages of this data collection method include the risk of high non-response rates and the fact that only those persons can participate who have access to e-mail and the internet during the time of the survey.

The decision to use an online survey as a data collection method for the present study was made with one group of key stakeholders in mind. Having created the instrument, however, the researcher shared access to the instrument with five other key stakeholder groups as well. The client organization assisted with the distribution of six e-mails from the organization's president, one to each of the six key stakeholder groups who would be invited to participation this data collection method. The e-mail invited potential respondents to participate in an online survey available at www.questionpro.com. For consistency, the questions used

for this online survey were the same as those created for the mail questionnaire.

Study Participants

The author of the present study chose to solicit data from representatives of seven key stakeholder groups as follows.

Members of the board of directors. To obtain data from representative voices of the organization's board of directors, the researcher chose to have personal interviews with the five persons who have served on the organization's board for five years or more. The organization's staff scheduled these interviews for the researcher. The option of participating in the interview by phone was offered to those persons for whom travel to the organization's office might be an inconvenience. The organization's president sent an e-mail to five other directors (viz., those serving for less than five years) and fifteen advisors inviting them to participate in the online survey in the event that they wished to add their voice to this research project. One director participated in an individual interview, and four directors participated in telephone interviews, such that five directors (50%) were interviewed for this research. An additional two directors or advisors participated in the online survey, such that data was collected from 35% of the school's directors and advisor's for this research project.

Faculty, staff and administration. To obtain data from representative voices of the organization's faculty, staff and administration, the researcher chose to have personal interviews with five members of the organization's leadership team (viz., the Principal, the Director of the Corporate Work Study Program, the Director of Admissions, the Director of Institutional Advancement, and the College and Career Counselor) and with the six faculty members who serve as chairs of their departments (viz., English, math, science, Spanish, social studies and theology). The organization's staff scheduled these interviews with the researcher. The option of participating in the interview by phone was offered to those persons who were away from the school during the summer break. The organization's president sent an e-mail to twenty-two other faculty and staff members inviting them to participate in the online survey in the event that they wished to contribute their voice to this research project. All five members (100%) of the leadership team participated in individual interviews. One department chair participated in a personal interview, and three department chairs participated in telephone interviews, such that data was collected from four of six (67%)

of department chairs. One faculty or staff member participated in the online survey.

Corporate Work Study Program sponsors and supervisors. An online survey was created as a means to collect data from the sponsors and supervisors who mentor the school's students in their workplaces as part of the school's Corporate Work Study Program. The organization's president sent an e-mail to 70 sponsors and supervisors of this program inviting them to participate in the online survey created for this purpose. Two of these e-mails bounced and were not received by the intended recipients. Of those receiving the survey, eight supervisors and sponsors (12%) participated in the online survey. Though this group of respondents presumably contains both supervisors and sponsors, it will be referred to as "supervisors" throughout the remainder of this study.

Benefactors. To obtain data from representative voices of the organization's benefactors, the researcher created a mail questionnaire to be shared with all persons who give $100 or more per year to the school (except for directors, advisors, faculty or staff of the school, since they are included in this research project by another means). The organization mailed this questionnaire to 78 benefactors. One questionnaire was returned due to an incorrect address. Of those who presumably received the survey, 21 benefactors (25%) completed the survey and mailed it back to the school before the survey deadline. Two benefactors (for whom either the English language or age were impediments for their completion of the survey) contacted the researcher to ask his assistance in completing this project. Unlike the personal interviews previously noted, in these two instances, the researcher merely asked the questions contained on the mail form, seeking as little clarification as possible so as to simulate the experience of the research participant completing the survey him/herself.

Parents. Because the online survey was in place for use by Corporate Work Study Program sponsors and supervisors, the researcher made this data collection form available to the parents for whom the school had e-mail addresses. Because the school serves students of middle and low-income backgrounds, the parents who have access to e-mail tend to be middle-class men and women who have computer access at their home and/or workplace. It is noted that many of the school's low-income and Spanish-speaking families do not communicate through e-mail, and thus were excluded from participating in this data collection method. The organization's president sent an e-mail to 72 parents inviting them to

participate in the online survey. Seven parents (10%) participated in this survey.

Students. Because the online survey was in place for use by Corporate Work Study Program sponsors and supervisors, the researcher made this data collection form available to the students for whom the school had e-mail addresses. Because the school serves students of middle and low-income backgrounds, the students who have access to e-mail at home tend to be middle-class students. It is noted that many of the school's students from low-income and Spanish-speaking families do not communicate through e-mail except at the school and/or at their workplaces, and thus would not be able to participate in this data collection method. The organization's president sent an e-mail to 35 students inviting them to participate in the online survey. Because the school had e-mail addresses for only 18% of its students, the e-mail also asked students to forward the e-mail to other students who might have access to e-mail. Only one student (3%) completed this survey, such that this data is not included as part of the present research project.

Alumni. The school had gathered a number of e-mail addresses of its alumni during a recent alumni survey by telephone, such that the researcher included this group of key stakeholders in this study through the data collection method of online survey. It is noted that the school possesses at present only those e-mail addresses of the alumni who participated in the alumni survey. The organization's president sent an e-mail to 64 alumni inviting them to participate in the online survey. Seven alumni (11%) participated in this survey.

Table 6 concisely shares the number of persons from whom data was solicited and received as part of this research project. Table 7 shows the effectiveness of each data collection method employed in the present research project.

Table 6
Persons from whom data were solicited and received

	Data solicited	Data received	Method
Long-serving directors	5	5 (100%)	interview
Leadership team	5	5 (100%)	interview
Department chairs	6	4 (67%)	interview
Faculty & staff	22	1 (5%)	online
CWSP supervisors	68	8 (12%)	online
Benefactors	78	21 (27%)	mail
Parents	72	7 (10%)	online
Students	35	1 (3%)	online
Alumni	64	7 (11%)	online

Table 7
Effectiveness of Data Collection Methods

	Data solicited	Data received
Interview	16	14 (88%)
Mail survey	78	21 (27%)
Online survey	206	22 (11%)

RESEARCHER'S OBSERVATIONS

Interviews

Among those persons participating in individual and telephone interviews, the researcher noted a good deal of enthusiasm for the project of reflecting on and proposing measurements for student outcomes at San Juan Diego Catholic High School. Nearly all interviewees were quite willing to generously share of their time for this project, and many did so eagerly. A fair number of interviewees seemed to enjoy the opportunity to share ideas and to ponder the factors by which they might judge the advance of their school community toward desired outcomes. A sense of openness, transparency and honesty pervaded the interview process, and the researcher has no reason to believe that any interviewee intentionally misled him or withheld information that might assist the school as it journeys toward the formulation of student outcomes.

The questions employed for these interviews are included in Appendix A of the present work. Respondents generally answered the first and third interview questions, concerning desired student skills and characteristics, with ease. Their reflection on the reasons for believing such skills and characteristics to be important often involved more thought. The fifth interview question, concerning content and knowledge areas, often necessitated slight rewording or clarification by the researcher. In general, the measures for success proposed by interviewees were concrete and could be operationalized. When asked, nearly all respondents provided additional comments at the conclusion of the interview.

Individual interviews generally lasted an average of 25 minutes, with time-conscious respondents being interested in returning to their work. Telephone interviews, on the other hand, generally lasted an average of 35 minutes, with some interviews nearly stretching to an hour. Because all interviews were captured by the researcher nearly verbatim, this data collection form resulted in the richest data for the purpose of the present study.

Mail survey

Of the 21 respondents to the mail survey, 20 followed the format provided by the researcher. One respondent shared of his/her inability to adequately respond to the questions of the instrument, but nonetheless typed a letter expressing his/her feelings about the subject of the study. Of the 18 respondents who completed the survey without the researcher's assistance, only one did so by typing the answers on a

separate sheet of paper; all others completed the instrument by hand. One respondent noted that he or she employed the assistance of a family member who penned the responses which he or she dictated. Mail survey responses were entirely legible, and respondents often filled all available lines with their handwritten responses.

Online survey

Interestingly, the data collection method of online survey resulted in the lowest response rate (11%) for data in this study, considerably lower than the mail survey response rate (27%). This may be in part be due to the fact that the organization only once sent the president's e-mail to all distribution lists, with no follow-up e-mail reminding those who had previously received the message to respond by the requested date. It may also be in part due to the fact that this survey was shared with persons during the first two weeks of July, a traditional time for summer vacations. Were this study to be repeated, the researcher would do well to follow the original e-mail request with subsequent reminders to participate in the survey. This would likely result in a greater response rate for this data collection method.

The online survey provider for this study (viz., www.QuestionPro.com) tracked the date and submission time of each online survey, the time needed to complete the survey, and the geographical region in which the respondent found him/herself. As expected, 92% of respondents completed the survey in the state of Texas, 4% from states outside of Texas, and 4% outside the United States. Of the 26 respondents to the online survey, great balance was found among the three respondent subgroups of CWSP supervisors, parents and alumni, which were respectively represented by eight respondents, seven respondents and seven respondents. One notes that parents responded to the survey at greatest length, with an average of 60 words more per person than the median words used by other respondent groups. Interestingly, the three respondent subgroups of directors, CWSP supervisors and parents each spent an average of 27 minutes per person to complete the survey. Alumni completed the survey in an average of 17 minutes, typing nearly twice as many words per minute than the three other respondent groups.

Also of note is the fact that alumni responses contained three times more spelling and grammatical errors than any other respondent subgroup. Insofar as the school claims to be a college-preparatory institution, one is surprised by the fact that seven of seven alumni (100%) responded with at least one spelling error, and that some alumni

responses contained as many as ten errors. The responses of two alumni/ae, with spelling errors underlined, suffice to highlight the perceived gravity of this observation. One alumnus/a shares, "[Graduates should be] prepared to take the studying needed to do excelent in college. Social skills are important because that way you can make freand that can help you & being able to have a freand relationship with the teachers. Studying will help you to keep up with the recurements of each college….College is a wounderful feeling & just to have fun but also aply your self academecly." A second alumnus/a details the skills graduates of the school should possess: "To stay focous when studying, being able to socialise, …able to relate to profecionals….[because] the skills mentioned above lead to sucesfully graduating."

Table 8 compares the length of responses, the time spent responding and the number of spelling and grammatical errors of the respondent subgroups who participated in the online survey.

Table 8
Online survey response length, time spent, and number of spelling/grammatical errors

	Avg. words	Avg. minutes	Avg. mistakes
Directors & advisors	123	27	0.5
Faculty & staff	167	33	1.0
CWSP supervisors	119	27	1.1
Parents	203	27	1.6
Alumni	156	17	5.3

Analysis

Process

The researcher aggregated the qualitative data from this action research project by coding responses and separating them into concept map categories. Mail survey responses were coded first, since these responses represent a single key stakeholder group. Because the online survey was a similar tool employed with various stakeholder groups, the

data from this research method was then aggregated to the data from the mail survey. The interview responses in this study were considerably longer and more elaborate than the responses received by other means, and these responses were aggregated only after the researcher had a firm grasp of the data from the mail and online surveys. The following analysis is presented in order of survey or interview question, and explores the various data in the order in which it was aggregated.

Student skills at graduation

Participants in the present study were first asked their perspective on the most important skills that students of San Juan Diego Catholic High School should possess when they graduate from the school. A summary of the most common responses to this question is contained in Table 8.

Compared with all other respondents, benefactors enumerate responses which fall into a larger number of categories. Roughly half of all benefactor responses to this question pertain to academic skills which might prepare students well for postsecondary studies. As one benefactor notes, "Because SJD is a college preparatory HS, students need to be ready for college." Another benefactor shares, "It seems to me that the most important thing that you can do for your students is to provide them with an education that gives them both the background and ability to gain access to and then succeed in handling a difficult college curriculum."

Writing is the most important academic skill cited by benefactors, and nearly two-fifths of respondents cite the need for graduates to possess fine writing skills. Few benefactors respond to why this skill is important, though of the seven responses to the follow-up question in this respect, four speak to the college experience. One benefactor, for instance, writes, "These skills will make [students] employable, help with higher education, and make them good citizens of their community."

After writing, the most important domains, each deemed important by any three benefactors, are college readiness, reading skills, leadership skills, and a desire for continued learning throughout life. Interestingly, in benefactor responses, one sees a seminal lexicon of success. The word "success" or "succeed" is mentioned in the responses of five benefactors, always in reference to college, future careers, or life in general. One benefactor, for example, shares, "Success outside school is dependent on [these skills]."

When compared to responses by benefactors through the mail survey, the contrast in responses to the online survey is striking. Here, 12 of 23

respondents, including six of eight CWSP sponsors, three of seven parents, and three of seven alumni, cite the need for job skills including professionalism, telephone etiquette (mentioned by two), and exposure to the work setting.

Eight respondents each believe that academic skills, writing skills and oral communication skills are important attributes of graduates. Parents dominate the discussion on academic skills, with five of seven parents formulating this as important for graduates. One parent expounds, "Have some college credit earned by graduation. Be academically prepared to handle college courses. Surround your students with other students that love to learn. Being college ready will decrease drop out rate from college. They need to be able to 'love' to learn." Concerning the importance of writing skills, one parent shares, "Our students will need writing skills to get ahead in this world, beginning with essays to get into universities." Interestingly, three CWSP supervisors and three parents point to the importance of oral communication skills. One parent shares, "[Students] have to be able to communicate what they want for themselves in life."

Five respondents cite the importance of confidence and of reading skills, while four respondents list mathematical skills, technological skills, study skills, and interpersonal skills as important. Interestingly, four of five respondents asserting the value of confidence are CWSP supervisors. As if reminding students, one supervisor writes, "First impressions are very important and folks that may not work with you directly will form an assumption about your character from your behavior." All five persons mentioning reading skills note the value of those skills for college studies. One alumnus/a remarks, "College is tough and one needs to be prepared for everything." Similarly, math skills, says one parents, "is a must to succeed in life." Computer skills, shares a CWSP supervisor, "will be beneficial during college and beyond." "The ability to stay focous [sic] when studying" is important shares one alumnus/a, because "know [sic] that I am in summer college I have seen that this [sic] skills are really important for college." Only CWSP supervisors and alumni cite the importance of interpersonal or social skills.

The lexicon of success is most fully developed in responses to the online survey. Seven persons employ the word "success" or "succeed" to clarify why the above attributes are important. An overwhelming 18 responses cite the usefulness of skills mentioned for future college studies. Seven respondents (interestingly all CWSP supervisors or alumni) points to the usefulness of these skills in the business world, and

three respondents indicate the importance of these skills for life in general. One respondent, for instance, an alumnus/a who cites the oral communication skill of "speaking intellectually" writes, "In college and in the real world, people expect one to be able to understand advance [sic] vocabulary terms. They won't 'dumb down' the words for you." Such a skill, then, according to the respondent is important both for college and for "the real world."

The interviews with directors, school leadership, and faculty members yield much lengthier responses on important skills for graduates, though responses tend to cluster in similar manners. Seven interviewees indicate the importance of reading skills, with two respondents answering "reading and writing," as if to foreshadow a third respondent who recalls the mnemonic device, "reading, writing and arithmetic."

Writing skills, interpersonal skills, confidence and spirituality are skills set forth by six respondents, including three of five directors. With respect to writing skills, one director explains, "[Students] should be able to…write at the level expected of high school graduates, or of someone ready to enter college, without spelling or grammatical errors, in a way that conveys someone who can think clearly and express thoughts clearly in a mature and reasoned way." Concerning interpersonal skills, one member of school leadership shares, "[Our graduates] need to know how to interact with different social groups. Many of our students come from a culture where it's hard for them to 'think out[side] of the box.' They're not exposed to people of other geographies and cultures….To function in college, they'll need to function in those groups." One director notes the importance of confidence: "[Students] need to convey confidence in the person they're speaking to or writing to. They need to convey the confidence in others that 'this person knows it, or can learn it.'"

Spirituality is a domain which is developed at length by directors, school leaders and faculty members. In the online survey, matters of faith appear in the responses of only two parents who suggest graduates should be "religious" and possess "advanced knowledge of the Catholic faith." Similarly, three benefactors note that graduates should have a spirituality, an "appreciation of the Bible," and that they should "follow God's rules…[and have a] fear of sinning." Perhaps as a result of interviewer effect, six interviewees, including three of five directors and two of four faculty members, allude to the importance of spirituality. One faculty member shares, "We need to create 'citizens for heaven, and not merely technical persons,' as Father [Basil] Moreau [founder of the

Congregation of Holy Cross], said." One school leader explains that students need a

> strong faith foundation for growth and development in the faith…[because] our students don't have that. [Their] parents aren't educating them in the basics of our faith. In college, their faith comes into question, so we have to give them a basic understanding of the foundations of their faith. [Religious education] isn't doing it. Kids aren't learning. Kids are accustomed not to learn.

A faculty member shares of the importance of "a spirituality of living with a certain level of awareness that there is a greater power than our own destiny or good will or determination. Likewise, building a bridge to life purpose, one director explains,

> [Students] need to have a reasonable level of understanding of their religion and of their purpose in life. This will change over time, but they should set goals for themselves and not just drift through life…. [They should live] for things other than self-gratification, and look to add to something bigger than themselves. In the end, I want them to feel they've done something….Regardless of their religion, students should have the idea that they'll do something for others, something for their fellow man, something to put back in. Our purpose [in life] is to love and serve. We don't always do it well, but we should always have it as an objective.

As with the survey respondents of this study, interviewees indicate the importance of math skills and oral communication skills (each mentioned by five interviewees), and of study skills, job skills, and research skills (each mentioned by three interviewees). Of math, one director shares, "In almost every profession, even in managing the household budget, you need to have math skills. The inability of a person to use [math skills] will limit a person….Math tends to be important in the world. It's also a good intellectual exercise." One faculty member says of the importance of oral communication skills, "If [students] can't communicate their needs and vision and their self-awareness, they might not be pointed in the right direction or helped in the right way by people surrounding them, or by people in authority who might help them." Among those mentioning study skills, two school leaders enumerate various facets of this domain, including note taking, summarizing, diagramming, integrating types of learning, test preparation, test-taking

skills, concentration skills and time management. Interestingly, job skills are mentioned only by school leaders (and not by directors or faculty members), all three of whom help to elucidate the following dimensions of the domain: employment skills, looking and applying for a job, interviewing, company loyalty, teamwork skills, cooperation, strong work ethic, basic office skills (including typing, computer applications, telephone etiquette and filing), and professional dress. Research skills are a domain not previously cited by survey respondents, likely cited by school leaders and faculty members due to their educational level and their proximity to students who are preparing themselves for college with such skills.

Finally, it is interesting to note that interviewees largely avoid a lexicon of success (with only three persons mentioning the words "success," "succeed" or "successful"). This may likely be due to the fact that interviewees view the "success" of the school's students less through cultural lenses of power, wealth or possessions, and more through the lenses of the spiritual values upon which the school is founded. Also of interest is the introduction of competition by respondents, an element which is previously not witnessed in this study. One director, for instance, shares the perspective that communication skills "distinguish the candidate in a very competitive environment." Perhaps, though, the element of competition is best expressed by one faculty member who shares, "We must do a superior job at [teaching these skills] if we're going to compete out there. Our students will need to compete with one billion Indians and one billion Chinese on an increasingly equal playing field. They'll be competing with all."

Table 9 respectively displays the most common skills deemed to be important for graduates by members of the Board of Directors, the school's leadership team, faculty, Corporate Work Study Program supervisors, parents, alumni, benefactors, and all respondents who participated in the present study.

Table 9
Total respondents citing the importance of various skills for graduates

	Directors	Ldrshp	Faculty	CWSP
Writing	.60	.40	.25	.25
Oral communication	.40	.20	.25	.38
Reading	.40	.40	.25.	00
Job skills	.00	.60	.00	.75
Confidence	.60	.20	.25	.50
Interpersonal skills	.40	.40.	.25	.25
Mathematics	.20	.20	.50	.00
Spirituality	.60	.20	.50	.00
Technology	.20	.20	.25	.25
Study skills	.20	.40	.00	.13
Lifelong learning	.20.	.00	.00	.00
Leadership	.00	.00	.00	.00
Research skills	.00	.40	.25	.00

	Parents	Alumni	Bnfctrs	All
Writing	.43	.14	.38	.38
Oral communication	.43	.29	.14	.27
Reading	.29	.14	.14.	.26
Job skills	.43	.43	.10	.26
Confidence	.00	.14	.14	.24
Interpersonal skills	.00	.29	.10	.21
Mathematics	.29	.00	.10	.17
Spirituality	.29	.00	.14	.17
Technology	.29	.00	.10	.16
Study skills	.00	.29	.10	.14

Lifelong learning	.14	.00	.14	.09
Leadership	.00	.00	.14	.05
Research skills	.00	.00	.00	.05

Student traits or characteristics at graduation

As part of the present study, participants were asked their perspective on the most important characteristics or attributes which might describe the students of San Juan Diego Catholic High School at graduation. A summary of the most common responses to this question is contained in Table 9.

As with the previous question, when compared with all other respondents, benefactors enumerate responses which fall into a larger number of categories, indicating more variance in their responses. These attributes capture the vision that the school's benefactors have of the success which might be enjoyed by the students whom they financially support.

In this study, benefactors deem various facets of college preparedness as the most important characteristic or attribute of students, and nearly half of respondents cite the need for graduates to be, in the words of three benefactors, "prepared for college," "with the knowledge required to be admitted to an institution of higher education," and "very well prepared and equipped to handle the challenges of higher education." Four additional benefactors maintain that students should be "literate," "informed," "educated" and "good students." One benefactor, who writes in Spanish of his/her own former inability to study, shares that students should be "prepared for higher studies, because I know from personal experience that going forward in life entails education. For those of us who have not studied as much as others, we realize how much we lack education." This characteristic seems fitting with the school's professed mission to be a college-preparatory school.

After college preparedness, according to benefactors, the most important attributes of graduates include (in descending order) the characteristics of being hardworking, confident and motivated. While two benefactors employ the word "hardworking," others suggest this same attribute in such words as "dedicated," "diligent," persevering," and having "a good work ethic." Confidence or self-confidence manifests itself in such phrases as "confident in their abilities," "confident that they will make the best choices with the knowledge they have at hand," and

"confident enough to know they can succeed." Motivation expresses itself in various articulations, including that students be "motivated," "challenge-driven," "[possess] the motivation to succeed in that endeavor even when the going gets rough," that they "have motivation and set goals," and that they be "goal-oriented." This characteristic of motivation to achieve goals seems very fitting with the school's stated mission to serve "highly motivated students."

These four primary attributes are followed by the factors of maturity and responsibility (each deemed important by four benefactors) and caring, focused and grounded in their faith (each deemed important by three benefactors). The fact that the school's graduates should be "mature" is unequivocally stated by four benefactors, one of whom believes that graduates should also be "responsible." Three additional benefactors are equally explicit in stating that graduates should be responsible.

The word "success" is not used in the first four questions of the mail or online survey. Interestingly, however, it is the word most used by respondents to describe the reasons for their naming of various skills, characteristics or attributes in these questions. Based on the responses received by respondents, the first and third questions might well have been interpreted, "What do you believe are the most important skills for [the success of] San Juan Diego students?" and "Ideally, what words would you hope to use to describe [successful] San Juan Diego students?" Without being prompted by the word "success," one benefactor enumerates various characteristics desired of graduates, then concludes, "A successful person expresses himself well and is likeable, humble, but self-confident, too." For two benefactors, the characteristics they mention "are necessary to make it in college" and "will work to enhance the student's success in college and in the world of work. In addition to college success, this last response also hints of the desire that students enjoy success in the business world. As one benefactor notes, the characteristics mentioned by him/her "create the future leaders of business and society." Being an asset to society is a theme mentioned by benefactors, directors, faculty and parents. After listing various characteristics, one benefactor adds, "The one who has these attributes is likely to be an asset to society," and another concludes "these attributes describe a person who is…capable of sharing their gifts with the world and making a positive difference."

The attributes spoken of by benefactors are also believed to be related to general success in life. After sharing various attributes, one benefactor says, "These are characteristics that will always be called upon

throughout a successful life." This seems to be echoed by and interpreted in various other benefactor responses. One benefactor, for instance, asserts that certain characteristics "ensure a person's ability to live in our world," while another elaborates, "Life is full of ups and down [sic], twists and turns. Those characteristics are what help students manage them." Being successful in life could also be interpreted as one benefactor does when s/he says that the characteristics s/he mentions will assist a student "to be able to have a meaningful life."

Finally, unlike other respondents, benefactors mention their hope that the school's students will be models and examples for others. One expresses his/her hope that the school's students "be an inspiration of what we all should be." Another claims, "It is important for young people to be able to inspire other young people to become achievers.

When compared to responses by benefactors through the mail survey, the similarities found in the responses to the online survey are rather striking. Similar to benefactors, respondents to the online survey believe that college readiness is the prime characteristic which should define graduates of the school. Four of seven parents point to the importance of this attribute. Online respondents cite that graduates should possess "good academic credentials" and be "prepared well for college," "ready for life/college," and "ready to tackle college and the world." Differing from benefactors, however, online respondents maintain that the second most important characteristic for graduates is being "articulate" or "presentable," or possessing "strong communication skills."

Like benefactors, respondents to the online survey express that the school's graduates should be confident (or self-confident) and motivated. In the case of the online survey, the latter expresses itself in such words as "ambitious," "eager," and "driven." Other factors viewed as equally important by online survey respondents include the characteristics of being well-rounded, respectful, intelligent and professional. "Well-rounded," an adjective used by only one benefactor is employed by two supervisors and two parents, and an additional parent notes that the characteristics s/he listed "allow our students to be well-rounded individuals." Interestingly, three parents signal the desire that students be respectful, a characteristic they evidently desire to see in their children and/or in others. Two parents would like to typify San Juan Diego students as "intelligent," a thought echoed by a supervisor and alumnus/a who respectively believe that graduates should be "knowledgeable" and "full of ideas." Because 100% of the school's students work in professional environments, it is not surprising to note

that two supervisors and two parents would like to characterize graduates as "professional."

Respondents to the online survey also believe that the school's graduates should be characterized as hardworking, mature, successful, happy and grounded in their faith. Two parents and an alumnus/a believe that graduates should be "happy" and "love life." With respect to being grounded in their faith, online respondents advance that students should be "spiritual," "spirit-filled individuals" and "humble," words which well connect with the aforementioned characteristic of being grounded in faith.

While the word "succeed" is only once explicitly stated as a reason for cited attributes, online respondents do suggest that the characteristics they share will assist students in future college and career endeavors. Not surprisingly, parents and alumni focus more on college success, while supervisors speak more to career success. One alumnus/a reports, "Those are the characteristics colleges look for." One parent remarks that the attributes s/he mentions will "'open doors' to colleges." One supervisor expounds on the advantages of student participation in the Corporate Work Study Program: "San Juan Diego students through hard work and diligence have a head-start in the professional world. By participating in work-study, they have been able to absorb what employers need in future leaders and where their passion benefits the community the most." Perhaps most interestingly, the language of competition, previously evidenced in the responses of a director and faculty member to the first question, returns with strength in the responses of supervisors. After listing various characteristics which might typify San Juan Diego graduates, one supervisor comments that students "must also be able to display an extensive amount of knowledge in order to be competitive in the business segment." Another notes that the attributes s/he cited "are important in order to stand out above and beyond other applicants/co-workers." A third says that "Any advantage helps in a competitive market."

Interviews with directors, school leadership, and faculty members result in a poignant contrast with previous responses. These interviews surface groundedness in faith as the primary attribute which should mark the school's graduates. Secondary characteristics include being caring or committed to serving others, ethical and motivated. Interestingly, being confident and college-ready are deemed lesser priorities by these interviewees.

More than half of all directors, school leadership and faculty members interviewed during the present study point to the importance of one's

spiritual life, saying that the school's graduates should be "faith-enhanced," "faith-filled," "people with conviction," "dedicated Catholics," and "religiously-literate [persons] hopefully motivated to practice their faith." Because of these responses were obtained through the data collection method of interview, respondents were able to elaborate. One director shares his/her hope that graduates' "faith would be strengthened and [that] they'll continue to practice and grow in their faith." One member of school leadership maintains that "the Catholic faith and morals and values we've tried to instill in them should shine forth." Another states that students should be able to "stand firm in what they believe, [and] not [be] wishy-washy." All four faculty members interviewed claim that elements of faith should characterize students. One states that students need to be forgiving, and that they need to possess "faith, hope and charity—they'll need these in tough times." Another remarks, "We promote and encourage a life of faith and trust, and if [students] choose to, they have that to fall back on in moments of celebration and challenge." Another faculty member shares that students "have to have the outlook that it's not just them, it's not just their will, but that we all depend on God. As much as we rely on our own will, we [need to] depend on God for whatever lies ahead." Perhaps such remarks are not surprising considering the fact that these persons represent the leadership of a Catholic high school community. The fact that such responses are much less evidenced in the mail and online surveys of this study might rightly lead one to question whether any bias was created by the presence, words or actions of the interviewer in these face-to-face interviews.

Like the mail and online surveys, the characteristic of motivation in students is important to interviewees. One director remarks that students should "have a 'climb any mountain' attitude." Another notes that students should feel that "they were challenged and they were capable of meeting those challenges, and they don't mind being challenged in the future because [challenge] makes them better people." One faculty member suggests that students should be "motivated to educate themselves to the highest possible level," while another says that students should be "eager to look into what life holds on and to move on and strive to do their best." Similarly, a third shares that students should be "interested and eager to start something new, to follow through, to live up to the expectations they have for themselves, and to do their best for their education, their relationships and their job performance."

Unlike the mail and online surveys, interviewees express the importance of such attributes as being caring, serving others, and living

ethically. These might also be interpreted as being related to the faith perspective with which these same interviewees hope the school's graduates will go on to meet life's challenges. Interestingly, five of five members of school leadership cite caring and serving as important characteristics of graduates, and four of five share that graduates should be ethical. Citing the attribute of "charitable," one member of the school's leadership comments, "Success is unimportant if I don't care for others." Another expands on the idea, saying that graduates should "be good Christians: charitable, loving toward others, caring about others, the world, the environment, respecting life and contributing to the world." Indicating the importance of service and referencing Greenleaf's (1977) notion of servant leadership, one member of school leadership shares that in serving others, "you get back so much, and it makes you a better person. To be a leader, you have to serve others." Calling upon Catholic social teaching and hearkening to the school's requirement of community service by students, another shares that graduates should be "committed to—and not forced to do—service. All of us as human beings are responsible to be our 'brother's keeper.' We're responsible for others." The characteristic of being ethical is variously described by directors, school leadership and faculty members. Employing the language of integrity, one director shares, that graduates "have to be ready to tackle the world with integrity. If you don't act with integrity, it'll come back to haunt you. You must take care of your soul." A faculty member adds that being ethical means, "I have to think about [any matter] as Jesus would." Members of school leadership speak most forcefully about the value of being ethical. Says one school leader, "If you have a good faith reference, you won't make decisions to hurt people." Another adds we must live an ethical life, since "otherwise we're an empty box, or a ship without a compass." A third explains, "[Our graduates] should be wholesome, people of integrity, not being bent by external circumstances, [but] staying on the right path. None of [the other characteristics] make sense if [students] don't have ethics to guide them and to give them structure. It's O.K. to be ambitious, but not at the expense of others or one's own beliefs."

Confidence and college readiness follow on these interviewees' list of important characteristics to be possessed by graduates. Confidence, says a director, implies that students "have a certain good feeling about themselves and their ability to do well in the future." A member of school leadership notes, "Confidence carries you a long way in the business world." A faculty member shares that students should be confident that they will achieve their goals. Interviewees add little to the previously-

cited attribute of college readiness. One director, however, notes that graduates "have to be prepared for the college endeavor. We want these kids to be able to thrive in a college environment. We don't want to set them up for failure once they get out the door." A member of school leadership echoes, "If we don't prepare them well [academically], how can we expect them to be leaders in the future?"

Notably, as was the case with the previous question, any language of success is largely absent from interviewee responses on the desired characteristics of graduates. Rather, while success is only alluded to twice by interviewees, they choose to use the word "prepared" five times to describe their hope for the students they serve.

Table 10 respectively displays the most desired characteristics or attributes of graduates by members of the Board of Directors, the school's leadership team, faculty, Corporate Work Study Program supervisors, parents, alumni, benefactors, and all respondents who participated in the present study.

Table 10

Total respondents citing various desired characteristics of graduates

	Directors	Ldrshp	Faculty	CWSP
College-ready	.40	.60	.00	.25
Motivated	.40	.20	.75	.13
Confident	.40	.20	.25	.13
Grounded in faith	.20	.60	1.00	.00
Caring/serving	.20	1.00	.00	.13
Hardworking	.20	.00	.00	.13
Intelligent	.20	.20	.25	.13
Ethical	.20	.80	.25	.00
Mature	.00	.20	.00	.25
Professional	.20	.00	.00	.25
Responsible	.00	.20	.00	.13
Articulate	.20	.00	.00	.13
Well-rounded	.00	.20	.00	.25

Respectful	.00	.20	.00	.00
Focused	.00	.00	.00	.00
Happy	.00	.00	.00	.00

	Parents	Alumni	Bnfctrs	All
College-ready	.57	.14	.24	.29
Motivated	.29	.14	.24	.26
Confident	.14	.29	.29	.24
Grounded in faith	.43	.00	.14.	.24
Caring/serving	.14	.00	.14	.19
Hardworking	.14	.14	.33.	.19
Intelligent	.29	.14	.19	.19
Ethical	.14	.00	.10	.16
Mature	.00	.14	.19	.14
Professional	.29	.00	.10	.12
Responsible	.00	.14	.19	.12
Articulate	.00	.43	.10	.12
Well-rounded	.29	.00	.10	.12
Respectful	.43	.14	.05	.09
Focused	.00	.00	.14	.05
Happy	.29	.14	.00	.05

Most important knowledge or content areas for students

Because San Juan Diego Catholic High School is an educational institution, the present study also inquired into the knowledge or content areas which respondents believe to be most important for the future success of students. A summary of the most common responses with respect to the knowledge or content areas believed to be important for the future success of San Juan Diego students is contained in Table 11. In contrast to previous questions, benefactors show less variance in their

answers to this question than interviewees, with respondents to the online survey showing a marked uniformity of responses which contain roughly half the variation found in the responses to the mail survey and to interviews.

Math and science are perceived by respondents to the mail survey to be the most important content areas for San Juan Diego students. Over half of all respondents mention math as important for graduates, and nearly half cite science as the same. An equal number to those naming math as important name various facets of language arts as important, with seven benefactors stating the importance of the study of broad subject area of English, specifically writing according to two respondents, and reading according to one respondent. An additional three respondents cite the importance of writing, and an additional two cite the importance of reading. Five benefactors point to the importance of theology or spiritual formation, with an additional two naming character development and one naming the more specific field of ethics within theological study. Four benefactors note the importance of social sciences, with three specifically naming the study of history, one naming the study of government, and one naming the study of economics as important for graduates. Three benefactors note the importance of technology, and three the study of reading, reading comprehension, or literature.

The reasons named by respondents to the mail survey for the study of various content areas is tied largely to success (a word used six times in response to this question) in college, in the work world, and in life. Citing the importance of various content areas for postsecondary studies, one respondent notes, "General knowledge in these areas will be a good basis for their future studies in college." Referencing career success, another benefactor notes, "Career opportunities in the future will depend on these areas." With a focus on life skills, another shares that various content areas "set the tone for real-life events and how the world can be a very tough place to survive in. Noting the connection of content areas to college, career and life success, one benefactor explains, "These areas are basic and fundamental, the 'fundamentals' for educational and future life success, along with preparation for the workplace."

An important feature of the responses by benefactors to this question is the introduction of the importance of certain content areas for the success not only of students, but also for our nation. One benefactor observes that "the U.S. economy has evolved into a knowledge-based economy which would suggest more 'math and science.' These areas are important for America's success!" Similarly, another benefactor

acknowledges that science "is the nation's greatest knowledge need at this time in history."

Similar to the respondents of the mail survey, those who participated in the online survey agree that math and writing are the most important content areas for students. Though citing far fewer specific knowledge or content areas than respondents to other data collection methods, nearly one-fourth of online survey respondents mention the need for math and writing skills. They also express the belief that students should study English, oral communication, science and technology.

More than half of responding supervisors explicitly cite success and/or the performance in the business world as the rationale for their choice of important content areas. They write, for instance, that "[a certain characteristic] gives a student a solid base to be successful in the workplace and life." Another supervisor adds, "The student can become a subject matter expert and be recognized as a valuable resource in the work place. The student will need a skill that will make him/her stand out from the rest." The latter notion of standing out above others is echoed in the words of a parents who, in referring to college success, shares,

> If the students are to compete for scholarships at established institutions of higher learning such as Notre Dame, St. Edwards, UT, A&M, Baylor, Brown, Harvard, Yale, Stanford, etc then they must have a solid foundation so that they can build their self-esteem to the point where they won't be intimidated by any academic requirements that these schools might pose to them.

Interestingly, parents tend to focus on the more spiritual aspects of the knowledge areas they deem to be important for their children. Of students, one parent writes, "Catholic faith is the key to their success." Another shares that the benefit of "advance[d] courses" is that students "will have a strong moral mentality and responsibility in a world that is less and less caring and Christ like." Also of note is the way in which alumni respondents to this survey focus on the way in which students appear to others. Similar to responses to the previous question, in which alumni say that graduates of the school should be articulate, cultured, presentable and with strong oral communication skills, one student shares that "vocabulary" and "well-constructed writing" are important knowledge areas because "they not only greatly impress others but it makes one more presentable." Another adds that students "must learn

to respect their dress code at school… [and] they must understand that there is a sense of presence they must bring to the job world."

Though outside the scope of the present study, one would do well to note the rich and extended parent responses that were generated by this question and which may provide some insight into present or desired teaching practices. Six of seven parent responses to this question seem more to be criticisms of the school than answer to the question of why certain knowledge domain are important for the future success of San Juan Diego students. For the benefit of those charged with instruction at the school, Table 10 presents parent responses to the question, "For what reason(s) do you believe these characteristics or attributes [previously mentioned by the respondent] are important?" The first four responses in Table 11 might be interpreted to imply that the school's curriculum is not challenging enough for some students (perhaps for the children of the presumably middle-class parents responding), that students could benefit from tutoring programs, and that it is perceived that "a lot of students don't feel a special connection to the school."

Table 11
Parent responses (or criticisms) surfaced by the question of important content areas

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"The curriculum needs to be able to challenge all the students."

"Students who are more advanced shouldn't have to sit around and wait for others to catch up so that they can move on. San Juan Diego needs to be able to accommodate all the students it's accepting into the school. San Juan Diego CHS needs to be able to live up to calling itself a college prep school."

"Focusing more on the fact that this is a college prep school rather than focusing as the school that works."

"Rigorous, well taught courses in math, science social studies, reading, writing, theology and technology will help all students. Well trained staff who can teach and not just lecture can make the learning more efficient and enticing for all students. Tutoring sessions for more difficult subjects is a good tool that can't be overlooked."

"AP [Advanced Placement] classes in math, English, and sciences. Also, a class or afterschool activity where students can just go to talk about whatever is on their minds, possibly with a counselor in charge. Not

individual session but a group setting. This will allow our students to be aware of others and just feel part of the school. AP classes can be critical for the college applications. These colleges/universities are looking for students who are willing to challenge themselves. I believe a lot of students don't feel a special connection to the school so this group setting of just being with your peers might bring out more friendships and self-esteem for some."

"Teachers need to held [sic] accountable in the same criteria of the students; such as volunteering hours."

Similar to the online survey, the interviews with directors, school leadership and faculty members show that math and writing are respectively perceived to be the most important content areas for the future success of students. Eight of fourteen interviewees, including three of five members of school leadership, specifically cite the importance of math. One member of school leadership notes the importance of math for daily life when s/he shares, "Basic math skills are important: computational skill, paying bills, figuring out what things cost, doing math in your head in the grocery store, knowing that the 'super-size' is more expensive." In contrast, a faculty member speaks of the importance of math in helping students learn abstract thinking: "Mathematics provide a good background and is a great tool for other sciences, like economics. It helps students go to abstract, conceptual thinking."

More modifying adjectives are used to describe student writing skills than any other content area. Interviewees share, for instance, that students need "strong writing skills," "very good writing skills to express themselves," and "very good expressive written skills." Two interviewees speak to the importance of this skill in the business world. One school leader summarizes, "Professionals need to communicate in writing: reports, requests, letters, resumes, writing papers and books." A faculty member adds, "If someone doesn't know how to write, you can tell right away. And in a job application, errors will stand out and will not speak very well for the student."

Interestingly, no faculty member cites the importance of the content area which s/he presently teaches. The third most popular content area mentioned by interviewees, including four of five members of school leadership, is "reading skills," "reading comprehension," and "literacy." Other less-named content areas include theology and foreign languages

(cited by four interviewees each), and English, oral communication skills, science, social studies and technology (cited by three interviewees each).

Consistent with previous interviewee responses noting the importance of spirituality and the need for students to be "grounded in faith" and "ethical," the most extended responses offered by interviewees concern the discipline of theology. Interestingly, whereas five of five members of the school leadership believe that students should be caring and serving, and whereas three of five cite the need for students to be ethical, not a single member of school leadership cites the importance of the study of theology. It is possible that they see these characteristics as being learned outside of formal instruction. Concerning theology and spirituality, one director commented, "Faith is equally important [to other knowledge areas cited by him/her], if not more so. God has got to have a place at your side. You have to start with this. This has to be number one. If you're going to get through the world, [God will] get you through." A faculty member shares,

> As math is for the mind, theology is for the heart. Students need to learn about our faith. [Here at San Juan Diego,] they're learning all aspects of the faith that they breezed through in catechism classes. Sometimes we hear non-Catholics tell us what we believe. After 2,000 years of Church history, theology is something we should know.

Hearkening to the characteristic of being grounded in faith, yet not referring to theology, another faculty member opines, "Because we are Catholics, we should know the history of our religion and our Bible. And how will they know where we stand up against other value systems if they don't have a good foundation in our own religion and the strength that comes with that foundation?"

Table 12 respectively displays the knowledge and content areas deemed most important for students by members of the Board of Directors, the school's leadership team, faculty, Corporate Work Study Program supervisors, parents, alumni, benefactors, and all respondents who participated in the present study.

Table 12
Total respondents citing various desired characteristics of graduates

	Directors	Ldrshp	Faculty	CWSP
Math	.40	.60	.50	.13
Writing	.40	.60	.50	.25
Science	.20	.20	.25	.00
Theology	.40	.00	.50	.00
English	.00	.20	.25	.00
Reading	.20	.80	.25	.00
Social Studies	.20	.00	.50	.00
Technology	.20	.20	.25	.25
Oral Communication	.20	.20	.25	.38
Foreign Language	.40	.00	.50	.00

	Parents	Alumni	Bnfctrs	All
Math	.29	.29	.52	.41
Writing	.14	.29	.24	.29
Science	.29	.14	.48	.28
Theology	.29	.00	.33	.22
English	.14	.29	.33	.21
Reading	.14	.14	.14	.19
Social Studies	.14	.14	.24	.17
Technology	.14	.00	.14	.16
Oral Communication	.00	.00	.10	.14
Foreign Language	.00	.00	.05	.09

Student outcomes and measures

The data collected in response to the sixth interview and survey question provides great insight into the school community and the perceptions of representatives of key stakeholder groups. This question is contained in Appendix A of the present work, and a summary of the most common responses to this question can be found in Tables 12 and 13.

The limitations of the sixth survey and interview question are revealed in the variety of responses received, which include both student outcomes (i.e., aggregate data on institutional outputs or performance) and student learning outcomes (i.e., changes in cognitive or affective attributes or abilities of students as a result of their educational experience). The open-ended question asked the respondent to fill in the blank in the following sentence: "I would judge San Juan Diego to be successful if ___." Because the question was not posed in such a way that it led the respondent to consider only student learning outcomes, many respondents interpreted the question to concern the organization's overall performance or success, rather than the success of individual students. Because of their possible pertinence to the client organization, both the student outcomes and student learning outcomes are included (though separately) in the following analysis.

Respondents to the mail survey suggest that the most important student outcome of the school is college acceptance and attendance by students. Nine of twenty-one respondents name this as one of the four most important outcomes of the school. Some are even so specific as to name what percent of students should be going on to higher studies. One benefactor, for instance, says that "college acceptance rate > 80%" is the school's second highest success factor in his/her estimation. Another suggests that his/her foremost measure of success of the school is whether "95% of our students were accepted to 4-year colleges" and that his/her second most important measure of success for the school is whether "95% of our students stayed and graduated from a 4-year college."

The percent of students graduating from the school is the second most important student outcome named by benefactors, with six of twenty-one saying that the percent of students completing their studies at the school and graduating is of importance to them. The third most important student outcome for benefactors is the graduation of students from college, and the fourth most important is the acceptance of students into Ivy League or elite postsecondary institutions. One benefactor, for

instance, shares that his/her most important gauge of success for the school is "# of students accepted/attending Ivy League schools." Another adds that his/her third most important student outcome is whether "some graduates [are] accepted to Stanford, Harvard, Yale, etc." Five respondents each indicate the importance of student success in standardized tests (e.g., the TAKS or the SAT) and the growth of the school. Concerning the former, one benefactor shares his/her desire that "students score well against students from other schools." Concerning the latter, another benefactors says the school would be judged successful if "there was a long waiting list to attend [the school]."

Though benefactors are more quick to cite institutional outcomes than student learning outcomes, they do indicate the importance of students being academically well-prepared for college studies, and the importance of students being visible leaders in their communities. One benefactor, for instance, shares his/her hope that "students are visible in the community," while another writes that the school would be successful if "students become the leaders in their chosen fields of study and careers. Leadership, of course, includes example, ethics and generosity." Three benefactors also cite the importance of students practicing and sharing their faith.

Parent responses to the online survey interestingly indicate a shift of focus toward instructional quality and a focus on academic excellence. When asked to complete the sentence, "San Juan Diego will be successful if___," four parents and two alumni point to teacher quality, communication and participation. Three of seven parents share that academic excellence, rigor and curriculum are their top determinants of school success. One shares that the school would be successful if "they [presumably faculty, staff and administration] focused more on academics rather than work… [or] we equaled out the priority for academics with fundraising." Another completes the sentence with "lesson plans. Have the lesson plans reviewed by a 3rd party." College graduation rates and acceptance rates are shown to be most important to CWSP supervisors and alumni, while parents focus more on the graduation of their children from the school as being important.

CWSP supervisors are most helpful in pointing to the importance of various student learning outcomes. For them, the necessary skills for students to be successful in the workplace are of prime importance, followed closely by English and communication skills. Concerning the former, one supervisors says the school will be successful if "[students] provide a value [in their workplaces] that is missed when they aren't around." This supervisor suggests that this might be measured by

whether "a new hire or backfill is needed for summers [when students are not working]." Concerning the latter, the suggestions of supervisors that the school would be successful if "students write and speak English proficiently" and if the school "encourage[s] communication techniques" hints that perhaps students do not presently possess those skills at the levels at which supervisors might like to see them.

Interviewees show that college acceptance rates are by far the most important student outcome of the school. Four of fourteen interviewees name this as their top indicator of success for the school. One director shares, "Our mission is to be college-prep. [We will have succeeded] if our students succeed in gaining enrollment into postsecondary studies, regardless of whether it's a four-year or two-year school. This [school] is not an end, but a beginning. Moving beyond high school is what's important, and being able to support your family." A faculty member expresses that the school will be successful "if 85 to 90% [of students] go on to higher education and are accepted into college. It would be even better if 85 to 90% completed college." A member of school leadership shares that college acceptance rates are important because "we've given [students] the attitude that nothing's too hard to do. [Our alumni are] studying political science, and studying abroad!"

Other important student outcomes for interviewees include standardized test scores and college graduation rates. Concerning the former, one faculty member shares, "It all comes down to testing, really. When you want a metric, when you want something that's objective and measurable, you look to test scores, like AP tests, SATs and ACTs." A member of school leadership claims that test scores are important because they distinguish students in a culture in which "colleges don't clamor for low socioeconomic students and unmotivated students." Concerning college graduation, one member of school leadership judges this to be the most important student outcome of the school. S/he shares that s/he would deem the school successful if "our alumni graduate from college—ideally all of them, but as close to 100% as possible. [What's important is] not enrolling in college, but graduating from college."

Though not receiving the same importance as other student outcomes, it is interesting to note that three of fourteen interviewees mention faculty/staff morale and turnover as an important institutional factor. One member of faculty, for instances, shares,

> Teacher morale and student morale need to be high. You can tell when there's a spirit of cooperation and hope. When I walk into an environment, I can pick up the vibes [and] whether

> people are up or depressed…. Teacher turnover doesn't speak well [of an institution]. If there's too much teacher turnover, obviously the morale is not good. And retention rates on the part of students would be another measurement [of morale].

Likewise, a member of school leadership notes, "Keeping the people we have—students, faculty and staff—is hard. 46 members of faculty and staff have left our school in five years. I don't even want to think about the number of students [who have left]."

Interestingly, the most important student learning outcome by far, according to interviewees, is that students be oriented toward service and helping others. Four of fourteen interviewees consider this among their top four student learning outcomes. A faculty member, for instance, expresses his/her desire that the members of the school community serve others, that "the school itself is not only a part of the community, but serves the community. If [the school] were a person, it would be a person who spent himself in the service of others." A member of school leadership adds the importance of students "giving—not 'giving back'—to their community through the sharing of their time and financial resources. [This would show that] they have the heart we try to instill in them as a Catholic community." Though extended, the discourse of a director is helpful in illuminating his/her desire that students be of service to the community:

> [San Juan Diego will be successful] if our students render unto God and unto their fellow man, grounded in their religion or their desire to have a purpose in life beyond themselves, to help others and to be a positive influence in the world. To not just take out, but to also put in for another person. I would hope and expect that [students] find some way as adults to make a contribution back to someone who's trying to do good. If we haven't accomplished this, we have failed. No matter how smart they are, how much money they make, the career they have, if they don't do something beneficial for others, we have not succeeded.

Another director muses, "What do students do outside of school? Would this information help us? So many [young people] live in an electronic cocoon of texting and Facebook. Is there a way to assess

community involvement, so as to predict socializing and leadership skills?"

Other student learning outcomes deemed important by interviewees include that student be well-prepared for college, that they be contributing members of society, that they feel happy and fulfilled, and that they practice and/or share with others their Catholic faith. Concerning preparedness, one school leader shares that his/her top indicator of success is that "students graduate prepared with critical thinking skills, the academic ability to succeed in work and further studies, and a conscious effort to contribute to society." Concerning their contribution to society, one director shares,

> While it's wonderful that we can say how many [students] go to college and stay in college, to me this is not the only metric [of success]. [Student Name] is going to [Name of Technical School], and if he finishes there, he may be the lab technician when I go to the hospital, or making sure my plane is fit to fly, or running one of the dams out here. We're successful if [students] nonetheless acquire a useful skill that is valuable to the world of commerce and society. If they're the one in the lab testing my blood, that's important to me. And that doesn't require a college degree. [Their going to college] is a good goal to aim for, but not to be disappointed in…. If [Student Name] has been a good man, a good Christian, a good husband and father, and if he can [for instance] contribute to the world as a mechanic or a police officer, we've been a success here. I'm not sure that [Student Name] would have accomplished those things without us.

A member of school leadership similarly remarks that the top indicator of student learning outcome success is to ask,

> Are [alumni] thriving, contributing members of the community as adults? Are they informed voters? Are they creating a better world, and ending the cycle of poverty? Are they employed and holding a job? Are they earning an income, so that they're not financially dependent on others? Have they established their homes? Are they participating in democracy?

Concerning happiness, one director notes the importance of "personal happiness, contentedness, quality of life," while a member of school leadership shares his/her top indicator of student success, viz., that "San Juan Diego helps students find transcendental meaning and fulfillment."

S/he proposes that this might be measured by asking alumni, "How fulfilled do you feel with the goals you've achieved? How would you be better fulfilled? What's missing [from your life]?"

Finally, concerning the practice or sharing of the Catholic faith, one faculty member shares that his/her top student learning outcome is whether students "take their [Catholic] faith and the consequences of their faith, like morality and social justice, seriously." S/he suggests that this might be measured by written and/or oral means which inquire into the way in which the faith of alumni informs their lives, values and actions.

Table 13 respectively displays the student outcomes deemed most important for students by members of the Board of Directors, the school's leadership team, faculty, Corporate Work Study Program supervisors, parents, alumni, benefactors, and all respondents who participated in the present study. Table 14 shows the same for student learning outcomes. Because this question asked respondents to rate outcomes in order of priority, an outcome rated as being most important was weighted with a value of 6, an outcome rated as being second most important was weighted with a value of 5, an outcome rated as being third most important was weighed with a value of 4, etc. The tables below include the weighted totals for each outcome, with those outcomes rated to be of less importance being omitted.

Table 13
Weighted importance of student outcomes at San Juan Diego Catholic

	Directors	Ldrshp	Faculty	CWSP
College acceptance	12	13	-	6
College graduation	5	-	-	11
High school graduation	-	-	-	-
SAT/TAKS scores	-	8	6	-
Teacher quality & partic.	-	-	-	-
School growth	5	-	-	-
Job success	-	5	5	6
AP courses	-	-	-	-

	Parents	Alumni	Bnfctrs	All
College acceptance	-	6	39	76
College graduation	-	6	20	42
High school graduation	12	-	29	41
SAT/TAKS scores	5	5	17	41
Teacher quality & partic.	16	7	-	23
School growth	-	-	17	22
Job success	-	-	6	22
AP courses	5	4	11	20

Table 14
Weighted importance of student learning outcomes at San Juan Diego

	Directors	Ldrshp	Faculty	CWSP
Serve/help others	9	3	10	-
Practice/share faith	-	4	6	-
CWSP success/ethic	-	-	-	10
Return/active at SJD	-	5	4	-
Engl./communic. skills	-	-	-	15
Teamwork	-	-	4	9

	Parents	Alumni	Bnfctrs	All
Serve/help others	-	-	4	26
Practice/share faith	-	5	9	24
CWSP success/ethic	3	4	5	22
Return/active at SJD	-	5	5	19
Engl./communic. skills	-	-	-	15
Teamwork	-	-	-	13

Additional comments

The last interview and survey question asked in an open-ended fashion whether the interviewee or survey participant might have other thoughts s/he might wish to share with respect to the school's possible formulation of student learning outcomes. Overwhelmingly, respondents and interviewees wished to respond to this question, often with extended discourses. Because of the enthusiasm in responding to this question, and because such information may be beneficial to the school community beyond the scope of the present study, representative samples of additional comments by interviewees and survey respondents are included in Tables 15, 16 and 17.

Table 15
A sampling of additional comments by benefactors in the mail survey

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"Before anything else, college preparation should be the main goal of San Juan Diego."

"San Juan Diego is already @ success stage. Needs to go to next level. Effective when students can start getting accepted to Harvard, Stanford, Emory, Duke, Vanderbilt: a more defined measure of success will be known by the community."

"Use professional educational Catholic education tools."

"It seems many students feel comfortable in the school. That's very important."

"SJD is very fortunate to have Fr. Jayme as president. He does everyone, including preaching, in an interesting way. That's important for young people to have such a person in their lives."

"Fr. Jayme and Bishop Gregory have done so much for the school. And all the people who work there are so good and so qualified. Our new generation needs that kind of school."

"I will leave this to the professionals. However, I am moved and encouraged by what is happening at San Juan Diego!"

"You're doing a great job!"

"Simply keep up what you have been doing."

"I think you have a very good model. My encouragement is to continue tweaking, growing expanding, improving!!! …Provide adequate, guiding structure. Set meaningful boundaries. Hold all students accountable. Nurture all students. A simple yet tall order, but the seeds of school (and personal) success are embedded in these few sentences."

Table 16
A sampling of additional comments by CWSP supervisors, parents & alumni in the online survey

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"Generally, I have been pleased with the performance of [the student working for us in the CWSP]. One area of concern is weak written and oral language skills. This students says [s/he] is in AP English; if that is true, I must question the placement criteria."

"The opportunity SJD is providing students allows for them to have an introduction to the work force. This in itself defines a level of success. Glad to be able to team with SJD on such an opportunity for our students!"

"The student work program is invaluable to their future."

"You need to recruit students who want to learn and who want to study. You need strong admissions policies. Too bad you lost a great student who is not returning."

"The school was started in 2002 with the intent to provide a quality Catholic college preparatory education for students who might not be able to afford it. Although the school continues to go up on the tuition making it less affordable each year. Why is that?"

"Focus on all the children, it seems sometimes that San Juan Diego is only focused on the enrollment and NOT retaining the students they have received. All of these issues have caused me to look at other education institutes for my child."

"More visibility of the Principal would also be helpful so that relationships can be established with parents, students and staff."

"Time in school is limited, specially since the CWSP, thus time should be spent in classes as much as possible. Time in group activities, and in chapel should be eliminated."

"Juan Diego will be more primed for success if they strive to make the school more diverse. It's a disadvantage for the school to have a Spanish name…. The school should advertise that the school is not just for Hispanics, but that it is for everyone—even those of non-catholic faiths."

Table 17

A sampling of additional comments by directors, school leadership and faculty members

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"Our board should spend more time collaboratively discussing among ourselves these topics. This subject matter on metrics is something about which we should spend time in collaborative debate. [We should also] reevaluate our goals. They're definitely not static. They're always changing. They're like rising energy costs, which change people's habits."

"Retention [is important]. We need to keep retention up for students, and we need to retain Corporate Work Study Program sponsors."

"Bottom line: The school must be self-sustaining, and the school needs to grow."

"It's really important that we figure out what we're going to measure really quickly. If you can't quantify it, you can't know. We need to decide quickly."

"Success is in the eye of the beholder. We're always focused on procedures and policies. We keep recreating them. Success will be when we have these in place and can keep growing. We keep facing the same issues. If we research them and solve them, we'll be able to move forward faster. Every frickin' year, we create admissions [procedures] all over again…. People come, and they learn. This is a learning organization, [and with what we've learned in these years] we could open a school now."

"There's so little we can do at this level. [Student Name] wants to study biology [in college], but [s/he] is not able to graduate [from San Juan Diego]. [S/he] doesn't have the reading comprehension for biology…. I know the challenges [students] are up against. I see them not able to realize their dreams, and it kills me. It's so hard to undo the reading

comprehension thing…. It's a huge hurdle to overcome by high school."

"This is a Catholic school. We need to help students dream [of things] other than ambitions…. The goal should not be to make money, but to help society and those in need. We need to go farther in conversations with our students: Will money make you happy? What will make you happy? …When I hear their dreams, I wonder are they doing service hours because they have to?"

"One word, "motivation," is key. We want [students] to be motivated, [and] if we could motivate them, that would be wonderful. How to measure this: Do they have their heads on their desks? Do they participate in class? Did they ever try to study for that test they did so poorly on? How do we motivate them to care? This [school] is a safe place, but it doesn't mean [that students are] motivated. They're just going through the drills. It's hard to motivate them in light of their home environments. They don't know what motivation is."

"Maybe there should be some faculty who are participating with the board of directors and have more input…. Have the faculty [be] more involved in the decision-making process and in how the school presents itself and is driven. There might be more engagement in the mission of the school, rather than everyone being compartmentalized."

"I fear that a lack of growth prompts this [study]. I caution people not to assume the problem lies in one or two areas. We have not had a stable enrollment person; the position is a relay race. We keep changing the faces. We keep choosing people who don't do it…. Many parents send students for [other reasons than we'd like]: that [the school is] safe, or they want us to discipline their son…. Not all parents have the same vision, and there's a huge variance in their motivations. [Therefore,] we have to choose the type of school we want to be…. First, we have to truly define a unified vision, and realize it will take time to create a student body reflecting this…. We've got many issues to face. We can't beat ourselves up over it. We must form a consistent, clear identity, and recruit teachers and students to fit it."

DATA INTERPRETATION

Student skills at graduation

Participants in the present study recommended a number of skills which students of San Juan Diego Catholic High School might possess at graduation. All of these skills, previously set forth in Table 8, appear to be in line with the school's mission of providing highly motivated students the opportunity to earn a Catholic, college-preparatory education enriched by an innovative internship program.

Table 18 reveals how the skills most commonly mentioned by respondents might be classified according to skill domain and type of student learning outcome.

Table 18

Domain and types of student learning outcomes for desired student skills

	Domain	Cognitive/Affective
Oral communication	communication	cognitive
Technology	technology	cognitive
Confidence	personal	affective
Interpersonal skills	interpersonal	affective
Job skills	interpersonal	cognitive
Writing	communication	cognitive
Reading	communication	cognitive
Mathematics	computational	cognitive
Study skills	personal	cognitive
Research skills	information mgmt.	cognitive
Leadership	interpersonal	affective
Spirituality	personal	affective
Lifelong learning	personal	affective

	Psych./Behav.	Within/After
Oral communication	behavioral	within CWSP/school
Technology	behavioral	within CWSP/school
Confidence	behavioral	within CWSP/school
Interpersonal skills	behavioral	within CWSP/school
Job skills	behavioral	within CWSP
Writing	behavioral	within school
Reading	behavioral	within school
Mathematics	behavioral	within school
Study skills	behavioral	within school
Research skills	behavioral	within school
Leadership	behavioral	within school
Spirituality	psychological	within school
Lifelong learning	psychological	after school

As Table 17 shows, the most difficult student learning outcome for the school to assess would likely be a student's attitude toward lifelong learning, since the assessment of this student learning outcome would likely take place retrospectively some years after a student's experience at San Juan Diego. The fact that the outcome is psychological, or occurring within a person's mind, makes it additionally difficult to measure any change in student attitudes concerning lifelong learning during the four years in which they study at the school.

According to Table 17, a student's job skills would be measured during his/her participation in the Corporate Work Study Program, while writing, reading, mathematics, study skills, research skills, leadership skills and spirituality might best be measured at the school rather than at a student's workplace. Some skills, however, like oral communication skills, technology skills, confidence, and interpersonal skills, could easily be assessed both at the school and at a student's workplace.

Because of its psychological nature, spirituality would be a difficult student learning outcome to measure, except insofar as it manifests itself

in attitudes and behaviors. The challenge would lie in determining how the school has contributed to such change.

Because they are cognitive and behavioral, one might easily measure the change in such skills as oral communication, technology, writing, reading, math, study skills, and research skills. More difficulty would be encountered in attempting to measure the affective skills of confidence, interpersonal skills and leadership skills, except insofar as they manifest themselves in attitudes and behaviors. Even then, the school would be challenged to determine how it concretely contributed to such change.

It is worth noting that various variables affect the student learning outcomes which might result from consideration of the above skills. Oral communication skills, for instance, would likely correlate to student confidence, speaking skill, and experience in public speaking. Technology skills would likely correlate with exposure to technology (including possession of a computer and internet access at home) and previous study of technology skills. Confidence and interpersonal skill would likely correlate to student personality and variables related to family of origin. Such cognitive, behavioral skills as writing, reading, math, study skills and research skills would likely be correlated to previous study of those areas and parental support. Attitudes toward leadership, spirituality and lifelong learning are undoubtedly influenced by family of origin. Finally, job skills are likely correlated with work experience and student skill in such domains as communication, interpersonal and technology skills.

As with any student learning outcome, it would be important to concretely define the student learning outcomes which might be related to each of the above skills. In this way, one might look for the growth of students in those skills and be able to assess whether the intended outcome is realized before the graduation of the student from the school.

Student characteristics and attributes at graduation

Participants in the present study recommended a number of characteristics and attributes which might be used to describe graduates of San Juan Diego Catholic High School. All of these skills, previously set forth in Table 19, appear to be in line with the school's mission of providing highly motivated students the opportunity to earn a Catholic, college-preparatory education enriched by an innovative internship program.

The student learning outcomes surfaced by the literature review of the present study but not commonly cited by study participants in response to this question include computational skills, critical thinking and

problem-solving skills, information management skills, and technology skills. Table 19 reveals how the characteristics and attributes of graduates most commonly mentioned by respondents might be classified according to outcome domain and type.

Table 19
Domain and types of student learning outcomes for desired student skills

	Domain	Cognitive/Affective
Respectful	interpersonal	affective
Motivated	personal	affective
Confident	personal	affective
Hardworking	personal	affective
Responsible	personal	affective
Focused	personal	affective
Professoinal	interpersonal	affective
College-ready	*	cognitive
Intelligent	*	cognitive
Articulate	communication	cognitive
Well-rounded	personal	cognitive
Caring/serving	interpersonal	affective
Ethical	personal	affective
Mature	personal	affective
Grounded in faith	personal	affective
Happy	personal	affective

	Psych./Behav.	Within/After
Respectful	behavioral	within CWSP/school
Motivated	behavioral	within CWSP/school
Confident	behavioral	within CWSP/school

Hardworking	behavioral	within CWSP/school
Responsible	behavioral	within CWSP/school
Focused	behavioral	within CWSP/school
Professoinal	behavioral	within CWSP
College-ready	behavioral	within school
Intelligent	behavioral	within school
Articulate	behavioral	within school
Well-rounded	behavioral	within school
Caring/serving	behavioral	within school
Ethical	behavioral	within school
Mature	behavioral	within school
Grounded in faith	psychological	within school
Happy	psychological	within school

** These characteristics would likely be the result of several domains, including communication, computational, critical thinking, and personal.*

As Table 18 shows, the most elusive student learning outcomes for the school to assess would likely be those related to the attributes of students being happy and grounded in their faith. Because these outcomes are more psychological and affective, it would be difficult to measure the school's impact in helping students to grow in these respects.

According to Table 18, a student's professionalism would be measured during his/her participation in the Corporate Work Study Program, while his/her level of respect, motivation, confidence, work ethic, responsibility and focus might be measured at school or in the student's workplace. The challenge with measuring these characteristics, however, is that they are largely affective, such that one could merely survey or inquire into student attitudes at various points in the program and/or attempt to discern growth based on observation in this respect. Even if growth were found to exist, it would be difficult to know whether such growth might be attributed to the student's experience at the school.

Intelligence and college readiness would likely result from various domains, including communication, computation, critical thinking and personal skills. Because they are cognitive and behavioral, however, it is

conceivable that instruments (e.g., intelligence tests and standardized college admissions tests) might successfully measure student growth in these respects. Characterizations of students as articulate and/or well-rounded could also likely be measured, and one might be able to indicate that growth has occurred in these respects as a result of the student's experience of the school.

Finally, because they are affective and relate to student attitudes, such characteristics as caring, ethical and mature could be measured only insofar as they manifest themselves in student attitudes and behaviors. Notwithstanding, it would be difficult to measure how much more "caring," "ethical," or "mature" a student is upon graduation than when s/he entered the school.

It is worth noting that many of these characteristics and attributes are well forged by the time that students enter high school, such that it would be difficult to separate out the school's effect on students in these respects from a host of other variables. It should also be noted that many of these characteristics are situational, such that, for instance, a student might be perceived to be more respectful or motivated or confident in one context and less respectful or motivated or confident in another.

As with any student learning outcome, it would be important to concretely define the student learning outcomes which might be related to each of the above characteristics or attributes. Only in this way would one be able to expect to look for the growth of students in those characteristics and attributes and be able to assess whether any specified intended outcome is realized before the graduation of the student from the school.

Most important knowledge or content areas for students

Participants in the present study expressed their perspectives on the knowledge or content areas they believe will most contribute to the future success of San Juan Diego students. All of these content areas, previously set forth in Table 10, are presently part of the school's required curriculum for all students, and all the content areas of the school's six major academic departments (viz., English, Spanish, math, science, social studies and theology) are cited by respondents.

The student learning outcomes surfaced by the literature review of the present study which are found in responses to this question include communication, computational, personal and technology skills. All content areas are composed primarily of cognitive and behavioral outcomes which can be observed within the context of the school. The curriculum for most content areas within the school are largely based on

the Texas Essential Knowledge and Skills (TEKS), the state-mandated outcomes formulated for each subject area (except theology).

Because these content areas are largely cognitive and behavioral, any number of assessments might be used to measure student learning in these areas while the student is enrolled in the school. Affective outcomes within each content area would, of course, be more difficult to measure than cognitive outcomes. That students in a foreign language course grow in their appreciation of the culture in which any foreign language is spoken, for instance, is an outcome which is more affective than cognitive, such that it would likely be more difficult to measure such an outcome than, say, the demonstration of a mathematical skill by the same student.

Presumably, theology would be the one content area taught by the school which may be as affective as it is cognitive. As an example, a student can learn in an ethics class of various ethical theories, and thus be able to show accomplishment of a cognitive outcome. Whether those theories influence a student's attitudes and actions, however, is largely tied to an affective outcome. For this reason, and for the sake of objectivity in assessing student learning, the grade for such a course would likely be based solely on cognitive outcomes and would likely not account for any affective change occurring within the student.

In instructional planning, it would be important for curriculum designers to formulate and concretely define the student learning outcomes for any particular content or knowledge area, such that appropriate measures might be constructed to measure student learning with respect to those outcomes. In this way, one would be able to certify the necessary achievement of cognitive outcomes required for graduation from the school.

Student learning outcomes and measures

When asked to name the factors by which they might judge the success of San Juan Diego Catholic High School, study participants overwhelmingly responded by citing various student outcomes. As previously cited, these student outcomes, however, differ from student learning outcomes in that they are merely aggregate statistics which might help a person to measure the school's institutional success from year to year. College acceptance rates, college graduation rates, high school graduation rates, test scores, growth in enrollment, and success in Advanced Placement (AP) courses can all be tracked through the collection and interpretation of quantitative data. The two student outcomes mentioned by respondents which might more effectively be

assessed through qualitative data are teacher quality and job success. As is the case with all outcomes, one would first have to define what is meant by these terms, such that one might formulate how each might be operationalized.

Of the student learning outcomes proposed by respondents, previously set forth in Table 13, none deviates from the school's mission of providing highly motivated students the opportunity to earn a Catholic, college-preparatory education enriched by an innovative internship program. Interestingly, the student learning outcomes surfaced in this study are entirely behavioral, and are almost exclusively affective and interpersonal. Table 20 reveals how the student learning outcomes most commonly mentioned by respondents might be classified according to outcome domain and type.

Table 20
Domain and types of student learning outcomes for desired student skills

	Domain	Cognitive/Affective
Serve/help others	interpersonal	affective
Teamwork	interpersonal	affective
CWSP success/ethic	personal	affective
Practice/share faith	interpersonal	affective
English/communic. skills	communication	cognitive
Return/be active at SJD	interpersonal	affective

	Psych./Behav.	Within/After
Serve/help others	behavioral	within CWSP/school
Teamwork	behavioral	within CWSP/school
CWSP success/ethic	behavioral	within CWSP
Practice/share faith	behavioral	within school
English/communic. skills	behavioral	within school
Return/be active at SJD	behavioral	after school

As Table 19 shows, the least readily-assessable outcome is that students return to and continue to be active in the school community. This outcome can only be assessed after a student graduates from the school. While still at the school, teamwork and the willingness to help others might successfully be observed and measured at the school and in students' workplaces. A student's internship success will be measurable only in the context of his/her workplace, and his/her willingness to practice and/or share his/her faith and his/her English and oral communication skills might be assessed, though perhaps not easily in the case of the former, in the context of the school. Of all these outcomes, the ability to speak English and orally express oneself is the only primarily cognitive outcome; all others could be measured only through the surveying of attitudes among students or the evidencing of such attitudes as expressed in one's actions.

It is worth noting that the predisposition toward many of these outcomes is often well forged by the time a student enters high school, such that it would be difficult to separate out the school's effect on students with respect to these outcomes from a host of other variables. It should also be noted that, like many of the previously-desired characteristics and attributes, the achievement of many of these outcomes will largely be situational or contextual. That is, any particular student might be more apt to practice or share his/her faith, or assist others, or work as a cooperative team member in some settings over others.

As with any student learning outcome, it would be important to concretely define the student learning outcomes which might be expressed by study participants in response to this question. Only in this way would one be able to observe and measure the achievement of the intended outcome.

Additional comments

Though largely outside the scope of the present study, an analysis of the comments provided by study participants to the last question (viz., whether they wished to share any additional comments) might provide great insight into the perspectives of respondents. The school's benefactors, for instance, seem to be overwhelmingly "moved and encouraged," believing that the school is "doing a great job" and that the inspired leadership and "good and…qualified" faculty and staff of the school "simply keep up what [they] have been doing." Supervisors of students in the school's Corporate Work Study Program seem pleased with student performance in their workplaces and grateful for the

opportunity of partnering with the school. Parent concerns about school focus, curriculum and instruction suggest that some students may not feel as challenged or as connected as they might. Alumni see value in additional instructional time and in marketing the school outside its traditional Catholic and Hispanic populations. Directors are largely interested in talking through issues affecting the school and are interested in the school growing and being self-sustaining. Among school leadership and faculty there is a perceived frustration that there are few measurements for success in a school where morale among faculty, staff and students may not be high, that staff and policy are continually recreated, and that students may be less motivated and less prepared to realize their dreams—or that they might be chasing the wrong dreams altogether. While it is not the purpose of the present study to recommend actions with respect to such perceptions, the present researcher wonders to what extent such perceptions might capture various facets of the school's reality and how organizational leaders in such contexts might work with others to articulate and advance toward the outcomes they wish to see realized in their organizations.

Limitations of the present study

The biases of the researcher and the limitations of various data collection methods are previously cited in the present work. Other limitations to the present study include the following.

Limited sample size. The present study sought the perspectives of representatives of various stakeholder groups. The extent to which the views contained in this study might be generalized to all stakeholders of the school community could rightly be questioned. Though more time-intensive, a more comprehensive data set could be obtained from a census of the school's entire set of stakeholders, which numbers around 9,900 persons.

Limited timeframe. The present study was conducted during a brief time during the school's summer break, a time during which many persons are enjoying vacation and travel. The mail survey was to be returned within twelve days, and online surveys were to be completed within eight days.

Underrepresentation of low-income and Spanish-speaking stakeholders. Because an online survey was the primary data collection method for various key stakeholder groups, those persons who do not

have computer access and who primarily speak Spanish are underrepresented in this study.

Qualitative nature of the present study. While qualitative analysis provides much insight into such settings as the client organization, one must also recognize the inherent limitations of qualitative research methods.

RECOMMENDATIONS

At the conclusion of this study, and as a result of the qualitative data collected during the action research which comprised the present study, the researcher makes the following concrete recommendations to the board of directors and leadership team at San Juan Diego Catholic High School in Austin, Texas:

1.) The board of directors and leadership team of San Juan Diego is encouraged to consider the merit of the learning outcomes suggested in the present study. Though not exhaustive, the present study expresses the views and perceptions of several representatives of key stakeholder groups within the school community. Since the school's leadership team as a collective will be better equipped than the present researcher to interpret the responses to this study, they might do well to engage in conversation about the perceptions of various stakeholder groups, as expressed in this study.

2.) The board of directors and leadership team of San Juan Diego is encouraged to be aware of and attentive to the priorities and concerns expressed by the representatives of various stakeholder groups in this action research study.

   a.) Members of the Board of Directors. Writing, reading, oral communication skills and interpersonal skills are all deemed to be most important by directors. These skills all fall under the domain of communication skills. Directors have a desire that graduates be college-ready, motivated and confident. They believe that math, writing, theology and foreign languages are the most important content areas, and they are by far most interested in college acceptance rates and in student serving and helping others.

   b.) Members of the school's leadership team. Job skills, writing and reading skills, interpersonal skills, and study and research skills are all deemed to be most important by the school's administrative team. These skills all fall under the domain of communication skills. Directors have a desire that graduates be college-ready, motivated and confident. They believe that math, writing and theology are the most important content areas, and they are by far most interested in college acceptance rates and in student serving and helping

others. They are unanimous in their desire that graduates be caring and serve others. They also desire graduates to be ethical, college-ready, and grounded in their faith. They believe that reading, writing and math are most important for the future success of students, and they focus largely on the school's college acceptance rate.

c.) Faculty & staff. Perhaps due to the timing of this research during their summer vacation, faculty were difficult to engage in the present study. Those who responded share a concern for student math skills and spirituality. They unanimously wish for students to be grounded in their faith, and many would like to see their students be described as motivated. Similar to directors, they believe the most important content areas are math, writing, theology, social studies and foreign languages. Their most desired outcome is to see students serving and helping others.

d.) CWSP supervisors. Supervisors of students emphasize job skills, student confidence, and oral communication skills. They indicate the importance of college-readiness, and that students be mature, professional, and well-rounded. After oral communication skills, writing and technology are deemed important knowledge areas. They strongly voice their desire that students be proficient in English and oral communication skills, and they are interested in college graduation rates and the success of students in the school's Corporate Work Study Program. They would likely provide invaluable input in the formulation of student learning outcomes for the school's Corporate Work Study Program.

e.) Parents. Among the school's relatively small number of English-speaking and computer-using parents, writing, oral communication and job skills are most important. College-readiness is by far their chief concern, though they would also like to see their students be respectful and grounded in their faith. The study of math, science and theology is important to parents, and they are highly interested in instructional quality and the graduation of their children from the school. Their

various critiques, included in Table 10, largely focus on curriculum and instruction.

f.) Alumni. Job skills are by far the most important skill, according to the school's alumni. They would like to see the graduates of their alma mater as articulate and confident. They emphasize the necessity of math, writing, and English. After teacher quality, they are interested in college acceptance and graduation rates.

g.) Students. Perhaps due to the timing of this research during their summer vacation, students were difficult to engage in the present study. Future studies would do well to incorporate their voices.

h.) Benefactors. Writing is by far the most important student skill, according to the school's benefactors. They would like to describe the school's students as hardworking, confident, motivated and college-ready. They esteem the study of math and science, and they largely track college acceptance rates, high school graduation rates, and college graduation rates, though they are also interested in standardized test scores and the growth of the school.

3.) The board of directors and leadership team of San Juan Diego is encouraged to work to formulate a set of student learning outcomes that might enjoy buy-in from the various stakeholder groups of the school. If supported by school leadership, a student-focused, faculty-driven effort might successfully focus on a handful of student learning outcomes each year. Such student learning outcome statements would employ active verbs and would clearly state what the school's students will know and/or be able to do by the time they graduate.

4.) The board of directors and leadership team of San Juan Diego is encouraged to allow faculty members freedom to creatively craft the necessary instructional objectives and curriculum to ensure the realization of each stated student learning outcome in all courses. Key questions in this respect might include: How can this student learning outcome be taught? How can one measure whether anything was learned with respect to the student learning outcome? In this way, students will enjoy multiple and

varied opportunities to practice and reinforce the realization of each desired outcome.

5.) The board of directors and leadership team of San Juan Diego is encouraged to establish the necessary metrics and the quantitative and/or qualitative measurements by which the realization of outcomes might be assessed. As part of this process, two fundamental questions might be addressed: Can a change in the student be identified and/or measured? Can the results be used to improve instruction? In this way, all will clearly know whether and to what extent students are advancing toward the realization of desired outcomes, and curriculum can be redesigned to continually provide for more effective achievement of student learning outcomes.

6.) The board of directors and leadership team of San Juan Diego is encouraged to commit to the regular review of student advance toward desired learning outcomes, updating stakeholder groups as necessary on successes and challenges in this respect. Key questions in this respect might include: To what degree are faculty, staff and administration sharing best practices and discussing the results of outcome-based education? To what degree have student learning outcomes promoted change within our students and within our school?

Implications for future research

The present action study research project might easily serve as a springboard to further research at San Juan Diego Catholic High School, and in similar educational and/or organizational settings. Various implications for future research as a result of this study follow:

1.) Future research might expand the present study to include input from parents who are primarily Spanish-speaking and/or who do not readily have access to a computer, such that their voices and perspectives might be included in this process of formulating student learning outcomes. The same could be done in the case of faculty and students, two groups which are underrepresented in the present study.

2.) Now that numerous ideas for student learning outcomes have surfaced through the open-ended questions employed in the present action research study, future research might include the solicitation of perspectives by this study's participants and/or

other stakeholders with respect to a specific and limited set of proposed student learning outcomes which resulted from this study and literature review. Respondents would likely be able to assist in identifying instructional methods by which proposed student learning outcomes might more effectively be achieved and/or appropriate means of measuring and assessing student growth with respect to such outcomes.

3.) Future research might focus on the creation of appropriate instruments by which one might assess student advance toward student learning outcomes, particularly those that are psychological and/or affective in nature.

4.) Future research might repeat this study at a time interval, perhaps of one year, to see to what extent and in what ways the snapshot obtained of the school community at that time might differ from the snapshot obtained through the present study.

5.) Future research might explore the extent to which outcome-based education is part of the culture of such organizations as the client organization in this study.

6.) Future research might inquire into the pedagogical means and methods which might most effectively assist students in their achievement of specific student learning outcomes.

7.) Lastly, future research with respect to San Juan Diego Catholic High School might explore the extent to which outcome-based education and the formulation of student learning outcomes have been incorporated into the school's recent efforts to create curriculum guides and lesson plans for each course of study offered at the school.

Conclusion

Though far from conclusive and providing only a snapshot of perspectives offered by representatives of various stakeholder groups within the school community, this qualitative action research study of San Juan Diego Catholic High School in Austin, Texas is important for the glimpse it offers into those student learning outcomes perceived to be important to certain persons at a certain time in the school's history. The landscape within which Catholic secondary education is provided to minority and low-income students continues to change, and educational institutions such as San Juan Diego will continue to be

challenged to formulate the student learning outcomes important to the various stakeholder groups comprising their communities, and the ways in which faculty, staff and administration might work together to realize the ends articulated in student learning outcomes.

As was evident in the varied nature of the data collected by various data collection methods from the numerous stakeholder groups in this study, the data on proposed outcomes or goals of any organization will greatly vary depending on such variables as the persons participating in the study and the context in which the organization finds itself. Beyond the present study, the reader is encouraged to bear in mind the way in which organizational leaders are called to be attentive to the many voices they seek to lead, to articulate the ends toward which they collectively strive, and to lead others toward the compelling vision which awaits them upon fulfillment of those ends.

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APPENDIX A

Survey & Interview Questions

San Juan Diego Catholic High School
Questions regarding Student Outcomes

1. What do you believe are the most important skills for San Juan Diego students to possess at graduation?

   _____

   _____

2. For what reason(s) do you believe these particular skills are important?

   _____

   _____

3. Ideally, what words would you hope to use to describe San Juan Diego students at graduation?

   _____

   _____

4. For what reason(s) do you believe these characteristics or attributes are important?

   _____

   _____

5. In your opinion, what content or knowledge areas are most important for the future success of San Juan Diego students?

   _____

   _____

6. For what reason(s) do you believe these content/knowledge areas are important to their future success?

   _____

   _____

7. Different organizations define success in different ways. In the left column below, in order of importance (with #1 being the most important, #2 being the second most important, etc.), please list the factors by which you judge our school's success. In the right column, please share how we might measure our success in that respect. (Please use additional paper, if more room for your responses is necessary.)

	I would judge San Juan Diego to be successful if…	How we might measure such success:
#1		
#2		
#3		
#4		
#5		
#6		

8. What additional comments might you share with respect to defining and measuring success at San Juan Diego?

   _____

   _____