

Sharon Ishiki Hendriksen
Lifen Yang
Barbara Love
Mary C. Hall

Assessing Academic Support: The Effects of Tutoring on Student Learning Outcomes

This article describes the developments in the assessment journey of a tutoring academic support program in a community college. The goal of our study was to determine if the Learning Center was doing what it said it was doing and what it could do to improve its services. Traditionally, the center had been evaluated on such accomplishments as serving a growing number of students. In this study, the Learning Center made a significant shift to assessment in terms of student learning outcomes. This initial process was not without reversals and constraints, as the center reexamined its goals and searched for measures of student learning. While the results confirmed the center was meeting its student learning outcomes, the data and process also stimulated many questions.

While many academic departments at community colleges are participating in learning outcomes assessment, fewer academic support programs such as learning centers are rigorously involved in assessment and evaluation efforts. Traditionally, goals and outcomes of academic support centers have been based on

what the program or center will do, not what students will be able to do after having received services, and evaluations have often been anecdotal or limited to small samples of students. However, at a time of shrinking budgets, growing enrollments, and changing student demographics, we can no longer assume that we are meeting students' needs. As part of the learning-centered mission of the college, we at the Learning Center reexamined the effects of our tutorial services in order to establish the "value of what we do" (Boylan & Bonham, 2003).

The Learning Center (LC), based in the Division of Humanities and Social Sciences, offers academic support primarily in the form of free-of-charge tutoring to all full- and part-time college-credit and developmental students. Similar to many community college learning assistance centers (Perin, 2004), our tutoring services include one-on-one appointment tutoring, walk-ins, study groups, Supplemental Instruction (SI), distance (e-mail and telephone) tutoring, computer-aided instruction, and learning strategies development. Tutoring is generally provided for developmental, introductory and general education courses rather than for program or upper-level courses. Student participation in tutoring is voluntary; no tutoring is required, for example, as a component of, or as an alternative to, developmental courses, and we neither teach nor house developmental courses in our center. In 2003-04 the center served 1,780 unduplicated students, approximately 20% of credit enrollment at the college. College Reading and Learning Association (CRLA) Tutor Certification is required of all of our peer and professional tutors.

We fully acknowledge that students do not matriculate at our institution or at any community college to come to the LC or to seek tutoring. Rather, students matriculate to gain the content and skills that will improve or enhance their lives academically, professionally, and personally. The measure of the LC's success, therefore, is how well learning center staff, working closely with the faculty, support students in meeting their desired content and skills goals. If tutored students move closer to meeting their goals and perform as well as non-tutored students because of our services, we have accomplished our goal.

What follows is information on our attempt to assess the effect of tutoring at our center. As illustrated below, we did not follow any set of rules in pursuing this objective. For example, we began with data collection, and then examined our objectives. However, we were ultimately satisfied with our results.

Data Collection

In the spring of 2003, in a collaboration supported by the assessment initiatives of the college, the math coordinator from the LC, a computer

analyst from Computer Services, and a researcher from Institutional Research created a new Access database for the LC. This new database replaced an old, unstable database, which we had been patching and tweaking for a number of years. Using our new system, we could import information from the college's central database to verify a student's major, course schedule, instructor, etc.—information that we formerly had gathered from students, but which we had no way to confirm. With new confidence in the database's reliability and accuracy, we gathered primary data such as number of students served, student contacts, student contact hours, subjects tutored, and instructors served. We were now able to easily produce previously time-consuming Perkins and other state and college reports. Our primary quantitative data indicated a 20% increase in all areas that we tracked (e.g., number of students served, number of contact hours) from the academic year 2002-03 to 2003-04. We could now verify that we were busy, but were we doing any good? Were students learning?

Measures and Criteria to Evaluate LC Services

We found that while we could sort students by various attributes, we were uncertain as to what questions we should be asking that the data could answer. What were we at the LC doing to help students learn? How could we tell if they were learning? How could we measure the effects of our services? To answer these questions, we turned first to our purpose and mission statement. The mission and goals of the center include helping students to (a) meet the academic demands of college-level coursework; (b) succeed and graduate; (c) develop self-awareness, self-direction, and self-confidence; and (d) attain their academic potential. The underlying philosophy of the LC is a belief in fostering independent learning. While we found our mission and goals to be appropriate, and even noble, they were not necessarily measurable. Also, these goals focused on what the LC will do, not on what the students, as a result of tutoring, will do. Our first task, therefore, was to make the significant shift to assessing student learning and to transform our immeasurable goals into measurable student learning outcomes.

This shift, we quickly learned, posed certain problems for our research. Ideally, our mission and goals should have driven the development of student outcomes, and then the database should have been designed to measure those outcomes. Our real life experience was somewhat messy, and we certainly would not recommend working backwards as we did.

Because there is no recognized industry standard for learning centers, we looked at measures used for evaluating developmental education pro-

grams. Weissman, Bulakowski, and Jumisko (1997) suggested measures of evaluation such as developmental and college-level course completion rate and persistence. More recently, Boylan and Bonham (2003) of the National Center for Developmental Education listed the following types of data that could be used for developmental program evaluation:

1. Primary data that describe how much and how many, such as number of students served, subjects tutored, contact hours generated;
2. Secondary data that describe short-term outcomes, such as course retention rates, pass rates in courses, short-term retention, gain in scores, grades in courses tutored, extent of student satisfaction, faculty/staff perceptions;
3. Tertiary data that describe long-term outcomes such as long-term retention, graduation rates, and faculty-staff perceptions of program and program students.

For our purposes, three comments are in order: First, while we believe that some of the tertiary data types that Boylan and Bonham (2003) cite are potentially useful, the secondary types are a starting point for our assessment purposes. Second, as the staff of a supplemental tutoring program, we are not sure how much credit or blame we can assume for influencing performance in or beyond the course for which the student sought tutoring. Research shows that multiple factors far beyond a learning center's influence or control affect the grades that students earn or their long-term retention at the institution (Lau, 2003). Therefore, we very cautiously claim influence only for retention from the tutored semester to the next. Third, we found that we could not write measurable student outcomes for some of our goals. For example, though we say we will help students achieve their academic potential, we have no means of knowing what a student's academic potential is or measuring whether he or she has achieved it. Nevertheless, we hesitate to change our goals. Whether all goals need to be measurable or can be measured is perhaps the topic of a separate study.

With these considerations in mind, we developed the following measurable outcomes for our goals (all data draw from Boylan & Bonham's, 2003, secondary data types):

Goal 1: To help students meet the demands of academic college level coursework.

Measurable outcome: students will pass their tutored course at the same rate as non-tutored students.

Data: grades in courses tutored, pass rate in courses, and course completion rate.

Goal 2: To help students succeed and graduate.

Measurable outcome: students will re-enroll at the same rate as non-tutored students.

Data: short-term retention, i.e., re-enrollment from one semester to the next.

Goal 3: To help students develop self-awareness, self-direction, and self-confidence.

Measurable outcome: students will report and demonstrate independent application of learning strategies.

Data: student self-reports/extent of student satisfaction.

Thus, to assess student learning, we decided to gather both quantitative and qualitative data to track student performance as well as their perceptions.

Quantitative Findings

For our quasi-experimental study (Boylan, Bonham, White, & George, 2000), we compared the final grades ($n=1,385$) that students earned in the course(s) for which they received tutoring with the final grades ($n=6,879$) earned by non-tutored students enrolled in the same course sections for the fall 2003 semester. Tutored students earned an average grade in their tutored course of 2.78, while non-tutored students averaged 2.64. Tutored students passed their courses with a grade of C- or better at a rate of 75% compared to 71% for non-tutored students. Eighty-eight percent of tutored students completed their tutored courses compared with 86% of non-tutored students in the same course sections (see Table 1). If academic success is defined as completing the course with a passing grade (i.e., C- or better), then the majority of students who participated in tutoring succeeded, met the academic demands of college-level work, and performed as well as those who chose not to be tutored. In fact, the performance of tutored students was slightly better than non-tutored students.

Table 1

Quantitative Findings: Outcomes of Tutored and Non-tutored Students

	Tutored students ($n=1,385$)	Non-tutored students ($n=6,879$)
GPA	2.78	2.64
Grade of C- or better	75%	71%
Course completed	88%	86%

To determine success towards our goal of “helping students to succeed and graduate,” we looked at short-term retention rates from the fall 2003 semester to the spring 2004 semester. Eighty-two percent of tutored students ($n = 963$) re-enrolled as compared to the institutional average of 70%. Tinto (1993) has consistently pointed out the role of personal connections as a factor that positively influences student retention. Tutoring, either one-to-one or in small groups, provides that additional personal interaction and support that students—especially at-risk students—might need. When students succeed in academic coursework and perceive that they have the skills and learning strategies to succeed, they are more likely to want to continue and complete their education. As Tinto (2002) has stated, “Students who learn are students who stay” (p. 3).

Qualitative Findings

We used student self-reports to determine progress on our goal of “helping students develop self-awareness, self-direction, and self-confidence.” At the end of the fall 2003 semester, 88% of students responding to an LC survey ($n = 130$) reported that they believed their grade(s) improved because of tutoring. Twelve percent were unsure. When students were asked, “On your own, are you able to use what you learned” and if the tutor “helped [you] work independently,” 94% and 92%, respectively, responded affirmatively. As a measure of student satisfaction, 96% of students responded that “the tutoring session was useful to me” and 99% would recommend the LC to other students.

Summary and Next Steps

Both the quantitative and qualitative data indicate that, overall, the LC is meeting its student learning goals, and that current tutoring efforts should be continued. That tutored students achieve higher grade point averages, course passing rates, course completion rates, and short-term retention rates is significant. That tutored students say tutoring was useful and that they are able to use what they learned is positive. There is, however, room for improvement in LC services. Because almost 30% of enrolled students at the college are not passing their courses or are not retained, we will increase our outreach efforts to all college programs. We will support instructors' efforts to identify students most in need of assistance early in the semester and encourage students to come for tutoring. Knowing that instructors are our best allies in reaching students, we will seek more opportunities for close cooperation and communication, including surveying the faculty to gauge satisfaction with tutorial services and soliciting recommendations for improvement.

We plan to compare the effectiveness of different types of tutoring

Table 2
Tutoring Goals, Outcomes, Results, and Planned Actions

Goal	Outcome	Result	Action
Help students meet the academic demands of college-level work	Students will pass tutored course at same rate as non-tutored students	GPA: 2.78 for tutored students versus 2.64 for non-tutored Passed course: 75% of tutored students versus 71% non-tutored; Completed course: 88% tutored students versus 86% non-tutored students	Continue tutoring efforts; examine all tutoring areas; better identify tutored population; increase outreach to at-risk students
Help students succeed and graduate	Students will re-enroll at the same rate as non-tutored students (short-term retention)	Fall 2003-Spring 2004 reenrollment: 82% tutored students versus 70% non-tutored	Continue tutoring efforts; increase outreach to at-risk students; track individual success indicators
Help students develop self-direction and self-awareness	Students will report and demonstrate independent application of learning strategies	94% self-report being able to use what they learned on their own; 92% self-report that tutor helped them to work independently	Continue emphasis on learning strategies; gather examples of independent application of strategies

(i.e., walk-ins, groups, one-on-one appointments) to see which services are most effective in serving students and which we should modify or expand. Thus far, students in our course-embedded tutoring programs, such as Supplemental Instruction (SI) and study groups where tutors are frequently in the classroom, have regularly outperformed their non-tutored peers. We will examine specific tutoring areas that the data show are less successful. For example, our assessment results show that accounting walk-in students pass their courses at a lower rate than non-tutored students. In consultation with faculty, we will determine what factors we control and can change. Table 2 summarizes our goals, student outcomes, results, and planned actions based on our results.

Discussion

The data also stimulate more questions and indicate a need for further assessment in such areas as the following:

1. Identifying why students self-select to come to the LC is a challenge. As Friedlander (1980) noted, students most in need are less likely to take advantage of support services. Are our assessment findings therefore based on student traits such as motivation and perseverance rather than any LC practices? Indicators such as pre- and post-tutoring grades, placement test scores, or college GPAs may help us better identify our student population, account for individual differences, and see who tutoring is helping (i.e., the weakest students or the more motivated students).
2. Documenting the application or transference of study strategies by tutored students is difficult. At this point, we can only accept the students' self-reports that on their own they are able to use what they learned in tutoring. To better track if we are helping our students acquire and apply study strategies, tutors will be asked to note when students apply study skills in tutoring sessions. Faculty reports of students applying strategies in class would also be a way to document transference.
3. We also need to record success or improvement that is not necessarily reflected in a student's final grade or a retention statistic.
4. Qualitative self-reports indicate that tutoring is helpful. How helpful is a different consideration. Do students merely acquire answers to their questions, or do they gain strategies that will help them learn the rest of their lives? Is tutoring merely a quick-fix for grades, or does it help transform the way students take charge of their learning and personal growth as Tagg (2004) describes? We don't know.

5. Because we do not control the reasons students come to the LC, we can only track whether tutoring was helpful or useful, and if students received the help they sought.

Overall, the assessment experience has been instructive and invigorating. It has helped us clarify for ourselves what we at the LC are trying to do and whether we are doing it. It has inspired us to seek the answers to even more questions. The data confirm what we thought was generally happening at the LC and also reveal areas in which we can improve. We look forward to the continuous feedback and improvement that ongoing, systematic evaluation provides.

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Sharon Ishiki Hendriksen is Director of the Learning Center at Northampton Community College, Bethlehem, Pennsylvania. Her current research interests include learning-centered assessment and issues related to the at-risk student, such as self-

*efficacy and study strategy instruction. Correspondence concerning this article should be addressed to her at Northampton Community College, 3835 Green Pond Road, Bethlehem, Pennsylvania. 18020, 610-861-5518. E-mail: shendriksen@northampton.edu. **Lifen Yang** is the Math/Computer Tutorial Coordinator for the Learning Center at Northampton Community College. Her interests include placement testing research and learning center data collection and analysis. E-mail: lyang@northampton.edu. **Barbara Love** is the Reading/Writing Coordinator for the Learning Center at Northampton Community College. Her current interests include effective tutoring techniques and developing connections between English and "writing-across-the-curriculum" instructors. E-mail: blove@northampton.edu. **Mary C. Hall** is the Subject Tutorial Coordinator for the Learning Center at Northampton Community College. Her special interests include working with at-risk college students and assessment of student support services. E-mail: mhall@northampton.edu.*