Assessment of Learning Assistance Programs: Supporting Professionals in the Field

A White Paper prepared for the
College Reading and Learning Association

Jan Norton, University of Iowa
Karen S. Agee, University of Northern Iowa

CRLA

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EXECUTIVE SUMMARY

Every program in higher education must now demonstrate its contribution to the mission and goals of its institution and provide some measure of student learning outcomes. This white paper, commissioned by the College Reading and Learning Association, seeks to encourage learning assistance professionals by offering a practical approach to assessing their programs. Our purpose is to illuminate the many assessment resources available and the methods used by individuals in the field. Rather than review the general literature for higher education program evaluation from years past or the publications focusing on evaluation of developmental education courses, we highlight recent and current strategies used by learning assistance practitioners to assess and improve their programs and services.

This paper attempts to answer some key questions:

– What learning assistance must be assessed? Learning assistance is provided by postsecondary institutions in a variety of formats; however, whether provided in a discrete center or offered by a range of programs and services, all learning assistance activities should be assessed for effectiveness.

– What challenges complicate program assessment? When gold-standard, campus-wide, experimental designs are impractical, learning assistance professionals need to utilize other methods of measuring the effects of their programs.

– What assessment approaches are useful? Recent literature in the field provides many examples of quantitative, qualitative, and criterion-referenced measures used to assess various aspects of learning assistance programs. Information is included here about peer-reviewed certification processes for the staff as well as the overall program of activities.

– How can busy learning assistance professionals get assessment done? Assessment and evaluation are professional activities that take time and attention, but resources and assistance are available.

In addition, because only effective assessment practices will provide reliable assessment data, we discuss six guidelines for conducting assessment activities. Finally, the appendix contains ideas for scheduling a mixed-methods assessment over multiple years.

Institutions of higher education are under increasing scrutiny to demonstrate effectiveness. In the United States, after the halcyon days of high enrollment and governmental support (1940s to early 1980s) came decades in which falling appropriations and rising tuitions led to questions from stakeholders about whether higher education offers sufficient value and quality to justify its expense (Middaugh, 2010). Academia has been accused of mismanagement and inefficiency (Boyer Commission, 1998; National Commission, 1998) to be remedied by improved transparency and accountability (Spellings Commission, 2006). States—now themselves graded—require institutions to provide assessment data that go beyond traditional input measures (the institutions' academic, material, and faculty resources) to focus on performance measures (Finney, Perna, & Callan, 2014).

In the U.S., all six regional accrediting bodies now require as a critical institutional function the assessment of student learning outcomes (SLOs) to inform measures of institutional effectiveness and strategic planning (Middaugh, 2010). For example, the Higher Learning Commission (2014) emphasizes its focus on SLOs in assessment of institutions in the 19 states of its region by making the first two (of six)

categories of the new systems portfolio structure "helping students learn" (p. 1) and "meeting student and other stakeholder needs" (p. 8).

Tools and strategies have been promulgated for institutional assessment of SLOs to improve academic programs; tests and surveys are administered across institutions to measure student engagement and thinking (Banta, Jones, & Black, 2009; Dunn, McCarthy, Baker, & Halonen, 2011; Maki, 2004; Walvoord, 2004). Nevertheless, beyond general encouragement to cultivate a culture of evidence in all campus programs, assessment experts have little to say about learning assistance programs in higher education. When learning communities and Supplemental Instruction (SI) are the only academic support programs mentioned in the assessment literature (as in Dunn et al., 2011, and Tinto, 2012), and when no direct models are provided in student affairs assessment literature (such as Schuh, Upcraft, & Associates, 2001), learning assistance professionals must look elsewhere for best practices in assessing their programs. Professional associations like the College Reading and Learning Association (CRLA) and other members of the Council of Learning Assistance and Developmental Education Associations (CLADEA) have a

responsibility to stimulate dialogue on learning assistance assessment and promote strategies that improve learning assistance programs and services.

This paper initiates such a dialogue and provides a practical perspective on learning assistance assessment that supports professionals who seek to know and report to others what their work is accomplishing. Despite the challenges, assessment plans can be developed for learning assistance programs and services based on recent scholarship within the field.

What Learning Assistance Should Be Assessed?

The term learning assistance covers a broad range of services and academic programming. Maxwell described learning assistance as "programs that offer academic skills help to all students—from freshmen to seniors and graduate students—from those who need intensive work in reading to those preparing for graduate and professional examinations" (Piper, 1998, pp. 34-35). More recently, a team of professionals updating terminology in the field defined learning assistance as supportive activities, supplementary to the regular curriculum, that promotes [sic] the understanding, learning, and recall of new knowledge; remediation for prescribed entry and exit levels of academic proficiency; and the development of new academic and learning skills. Some activities include study skills instruction, tutoring, course-based learning assistance, reviews, study groups, special topic workshops, time management, exam preparation, and self-paced instruction. (Arendale, 2007, p. 22)

Student learning and other outcomes of all of these services must be assessed, regardless of whether learning assistance is provided in a center bearing that term.

Although these services may be provided by a centrally organized learning assistance center, learning assistance is also provided by individual instructors, academic departments, student affairs programming, peer and professional tutors, and online services. Consequently, the focus of this paper is on the learning assistance service rather than the organizational unit providing the learning assistance. Student learning and other outcomes of all of these services must be assessed, regardless of whether learning assistance is provided in a center bearing that term.

Because developmental and remedial course outcomes must be assessed according to the academic program review requirements of each institution, specific strategies

for measuring student learning in academic courses are not addressed in this paper. Where such courses are offered as part of a full-service learning assistance program, however, some assessment strategies discussed here may be applicable.

The following are some types of learning assistance provided to postsecondary students:

- individualized, course-specific content tutoring;
- reading and study skills instructional sessions;
- Supplemental Instruction (SI) and Peer-Assisted Study Sessions (PASS);
- workshops or individual instruction about note-taking and test-taking strategies;
- self-paced online tutorials;
- supportive meetings with mentors or academic coaches;
- group reviews for course exams; and
- workshops on standardized examinations required for admission to graduate and professional study.

A few years ago, compilers of a national survey of college learning centers (Truschel & Reedy, 2009) indicated that 88% of the centers responding provided tutoring and academic coaching. Most published research about learning assistance focuses on tutoring and other peer cooperative learning programs; however, the learning, process, and program outcomes of other learning assistance services must also contribute to institutional assessment efforts.

Indeed, every program should be assessed in some way. It is not sufficient to claim that learning assistance programs are needed based on data gathered at other institutions. Rather, learning assistance professionals must determine an ongoing need for each program's services and in some way monitor their effectiveness.

Assessment Challenges

Learning assistance programs face a number of assessment challenges. As Trochim (2014) noted, control group experimental designs "are often touted as the most 'rigorous' of all research designs or as the 'gold standard' against which all other designs are judged" (para. 1). It is reasonable to assess the effectiveness of a program by comparing learning outcomes of students utilizing the program with those of students not participating in the program. However, random assignment of equivalent groups of students to treatment and control groups is difficult to arrange in educational settings. Moreover, for many institutions, such designs—in which a treatment

group receives services while a control group is denied those services—are ethically distasteful to attempt. Also, the realities of student life suggest that special assistance offered to one group will be shared with the other students in a class or in the control sections of a course; experimental designs thus run the risk of creating resentment and suspicion among students rather than enhancing student life and learning. Of course, random assignment to treatment and control conditions also requires controlling—or statistically controlling for—students' access to all other academic support services otherwise available to them.

It is not sufficient to claim that learning assistance programs are needed based on data gathered at other institutions. Rather, learning assistance professionals must determine an ongoing need for each program's services and in some way monitor their effectiveness

Even when a control-group design may be useful and feasible, the diversity among learning assistance programs makes a common assessment process problematic. Many learning assistance programs function outside of a learning center facility or organizational structure. For example, athletic departments may provide tutoring, math departments may offer tutorial labs separate from the math tutoring offered in a learning center, and disability resource offices may provide specialized tutoring.

As a further complication, learning centers in two- and four+-year institutions often serve specific populations (e.g., medical students or students in TRiO and other educational opportunity programs) rather than the entire student body. By contrast, comprehensive learning assistance centers must assess each separate program service and component for multiple student and campus populations in addition to generating a comprehensive overview of the center. Tutoring will probably be assessed using students' course grades along with other variables such as changes in student confidence, satisfaction ratings, and tutor training processes, and one-time workshops may be evaluated more effectively by pre- and post-workshop measures of learning and confidence or satisfaction. Some learning assistance centers may lack sufficient resources—staff, funds, expertise, and time—to generate large-scale or complex assessment processes. With such diversity of services and potentially huge differences in the students served by learning assistance programs, it is difficult to compare the assessment results of one learning assistance program to those of another, even within the same institution.

A final significant challenge lies within the increasing pressure to provide direct measures of student learning, often based on established outcomes. Direct measures represent demonstrated evidence of students' learning, and indirect measures "capture students' perceptions of their learning and the campus environment" (Banta et al., 2009, p. 22) and often consist of students' self-report of learning. For example, a learning assistance program may provide a workshop intending to make sure that students know the GPA at which they will be placed on probation. An indirect measure of participants' learning would be a true-or-false question such as "I know the GPA limit for probation." A direct measure could be a similar true-or-false question such as "The GPA limit for probation is 2.0," or a comparable multiple-choice or fill- in-the-blank option.

Direct measures can certainly be obtained for learning that takes place during tutoring sessions and other learning assistance services, but since mandatory assessments can be challenging to obtain outside of the classroom of a credit-bearing course, direct assessment requires client cooperation as well as staff training to gather such data. Grades in students' courses (final grades as well as graded homework, quizzes, tests, and other assignments during the semester) are more trustworthy as direct measures of student learning if they reflect only multiple, non-subjective assessments of what is learned in the course, without confounding variables such as prior learning, participation credit, or attendance points.

Fortunately, there are several strategies that can be effective for assessing learning assistance services, despite these difficulties. For example, there are ways to develop an assessment protocol that approaches the experimental design. One design is to establish reasonable equivalence among the groups being studied; comparisons can largely compensate for the lack of random assignment to learning assistance services (Norton, 2006). For instance, Munley, Garvey, and McConnell (2010) used extensive comparative data when researching the impact of tutoring, eventually determining that hours of tutoring rather than student demographic characteristics of the 13,000+ students studied explained positive learning outcomes: 10 tutoring hours over a 14-week semester were associated with a 1/3-letter course grade improvement, while 20 hours were associated with a full letter-grade improvement. Testing before and after instruction provides another kind of comparison assessment. Holliday (2012) trained tutors to identify learning outcomes during tutorials and conduct pre- and post-testing of specific knowledge. Students who did not know or could not do X before a tutoring session received assistance, and then their understanding of X was measured again at the close of the tutorial. Percentages

of successful learning assistance sessions using direct measures clearly revealed positive and statistically significant patterns of learning.

A review of the literature and resources in the field of learning assistance suggests three basic categories of assessment processes. Quantitative assessment tends to focus on student grades as measures of quality services, though there are additional numerical ways to analyze data from learning assistance programs. Qualitative assessment uses surveys, interviews, and observations among other processes, often for determining student concerns and satisfaction with learning assistance and for eliciting self-reports of learning improvements. Criterion-referenced assessments turn to national and international standards of excellence and best practices. Extremely useful for benchmarking and developing improvement plans, criterion-referenced assessments can also generate numerical scores indicating levels of quality and assurances that services and staff are not outliers in the field of learning assistance.

Quantitative Assessment

Descriptive statistics about the number of students using learning assistance are the most common assessment measures, especially in programs with outcomes goals to serve more students or a particular population of students. These common statistical measures (sums, percentages, and means) are the backbone of quantitative evaluation and a starting point for further statistical investigation. Trammell (2005) noted that descriptive statistics are the most commonly employed statistical technique in program evaluation, and can usually be computed by hand or with simple calculations. For learning centers, this might include total tutoring sessions by subject, the average number of times a certain type of student accesses tutoring, mean rating for a specific tutor or for tutoring in a particular academic discipline, or the demographics of the typical students who seek out or attend tutoring sessions. (p. 36) Additional measures may include profiles of student preparedness (e.g., mean ACT or SAT score, high school GPA, LASSI scores), academic performance measures for service users versus non-users, and the extent to which clientele represent the overall student population.

Such user/non-user comparisons for learning assistance assessment are sometimes presented graphically for immediate impact (see University of Arizona Think Tank, 2014). Hendriksen, Yang, Love, and Hall (2005) argued for the effectiveness of tutoring by using percentage differences in the grades of tutored and non-tutored students. Perhaps the most well-known quantitative learning assistance evaluation process is that of Supplemental Instruction (SI), in which the course grades of participants are compared to

the grades of students who did not—or did not regularly—participate in the out-of-class review sessions. The SI learning assistance model successfully spread in the 1980s, partly supported by federal dissemination grants. Newer manifestations of similar programs include Peer-Assisted Study Sessions (PASS) and Peer-Led Team Learning (PLTL).

There are ways to develop an assessment protocol that approaches the experimental design.

Federal approval of SI's user/non-user evaluation paradigm may have encouraged many learning assistance programs to evaluate course tutoring and other services in the same way, i.e., by comparing the grades of students who used a service to the grades of non-user students. Publications about SI are numerous; a recent meta-analysis of research about SI effectiveness (Dawson, van der Meer, Skalicky, & Cowley, 2014) confirmed that the claims for SI participants of improved grades in the course, fewer course withdrawals, and higher retention rates have been repeatedly substantiated. The authors did, however, note the lack of any "gold standard study involving random assignment to groups" (p. 27) and the need for further research to control for potentially confounding variables such as student motivation to participate.

Learning assistance studies often take the next step of assessment: t-tests to determine the statistical significance (if any) of the differences between two groups of students. A t-test can be computed for paired or independent samples by, for instance,

– comparing pre- and post-test scores for a group of students who attend a study skills workshop (paired samples);

– comparing midterm exam scores of students who receive tutoring and students who do not receive tutoring (independent samples);

– comparing quiz scores of students with good attendance at mentoring meetings and those with multiple absences (independent samples); or

– comparing LASSI test anxiety scores of traditional and non-traditional students (independent samples).

Thomas, Williams, and Case (2014) used repeated-measures t-tests to determine whether graduate-student participants in four-day writing institutes scored higher on the Writing Inventory of Skills and Preferences after instruction; differences were significant on all 11 writing skill elements of the measure. T-tests were also used by Fullmer (2012) in reviewing students' use of online tutoring for developmental reading, writing, and math to determine

whether the differences in pre- and post-test scores were statistically significant; significant differences were found. Similarly a study of the effectiveness of academic success counseling used t-tests to compare beginning and ending GPAs to conclude that students who received the assistance saw statistically significant improvements: GPA increases of .3827 overall and .9025 for students who began with GPAs below 2.0 (Redford, Griebling, & Daniel, 1999). And in comparing students who received tutoring with those who did not, Rheinheimer, Grace-Odeleye, François, and Kusorgbor (2010) used t-tests to "demonstrate that tutoring significantly improves students' academic performance and retention" (p. 28) at their institution.

When assessing the impact of learning assistance on three or more groups of students, or when gathering data from more than two academic measures, researchers may turn to an analysis of variance (ANOVA). For example, whereas a t-test could be used to determine whether there is a statistically significant difference between the average GPAs of male and female students, an analysis of variance would be needed to compare the GPAs of freshmen, sophomores, juniors, and seniors. Studies such as that of Hodges, Dochen, and Joy (2001)—comparing history course grades and semester GPAs of students opting not to participate, students opting to participate, and students required to participate in weekly SI sessions—can determine whether motivation or participation explains a difference in outcomes for students on one campus; in this study, ANOVA determined that participation in SI resulted in significantly higher course grades and GPAs. Van Blerkom, Van Blerkom, and Bertsch (2006) used ANOVA to assess the impact of four different study strategies: reading and copying, reading and highlighting, reading and taking notes, and reading and generating questions. The researchers found that "study techniques that require the student to generate information (e.g., generate questions and take notes) appear to be more effective than those

Quantitative assessment tends to focus on student grades as measures of quality services, though there are additional numerical ways to analyze data from learning assistance programs.

limited to reading and highlighting or a combination of both" (p. 12). Hall (2007) grouped students based on their level of participation in a peer mentoring program and their assigned mentor. His findings from ANOVA led to a conclusion that student improvements were most likely associated with the increased training of the mentors rather than increased use of mentoring.

More complex analyses include correlation (including partial correlation), factor analyses, regression, and other methods that usually require sophisticated knowledge and software to examine the impact of learning assistance programs. Correlation determines the extent to which there is a linear relationship between two measures; although the statistic does not prove cause and effect, it is frequently but erroneously used to imply such a relationship. For instance, Mayes, Chase, and Walker (2008), who reviewed attendance at Supplemental Practice (SP) for a mathematics course, concluded, "Significant correlations between SP attendance and exam average and final course grade suggest that SP is having a positive impact on student learning" (p. 25); use of the word suggest indicates that the researchers recognize that correlation cannot determine the existence or direction of impact. Cooper (2010) correctly reported findings of a clear correlation between student use of learning assistance and retention: "Students who visited the TC [Tutoring Center] 10 or more times were more likely to be still enrolled in school during any given quarter, when compared to students who did not visit the TC or who did so fewer than 10 times" (p. 24).

There is an ongoing need for the kinds of qualitative assessment processes that allow learning assistance services to gauge student satisfaction and to tell students' compelling stories of frustration or success.

Even for a relatively simple two-group comparison arising from a natural experiment, regression analysis may be needed to ensure the equivalence of the two groups (as in Ryan & Glenn, 2004). Price, Lumpkin, Seemann, and Bell (2012) used a combination of t-tests, ANOVA, and correlation in their study of Peer Assisted Study Sessions (PASS), which found positive results for the learning assistance program. Many examinations of research results include t-tests, ANOVA, and correlation in addition to more sophisticated statistical analyses. Laskey and Hetzel (2011), for instance, used regression analysis to determine that tutoring had the largest positive impact on retention when compared to other variables such as personality traits and academic measures. Correlation, t-tests, and regression also helped Rheinheimer and McKenzie (2011) determine that tutoring had a positive impact on grades and retention among students who began college as undeclared majors. Xu, Hartman, Uribe, and Mencke (2001) demonstrated that positive effects of tutoring may not be visible in descriptive statistics and explained why such effects can be demonstrated using a multivariate statistical procedure like multiple regression, which takes

into consideration the interdependence of factors such as gender, high school grades, and SAT scores in their effect on postsecondary academic performance.

Qualitative Assessment

Even given the current focus on program outcomes and direct measures of student learning, there is an ongoing need for the kinds of qualitative assessment processes that allow learning assistance services to gauge student satisfaction and to tell students' compelling stories of frustration or success. Qualitative measures help providers understand students' experience of learning assistance services, which can serve as a basis for future planning and scheduling.

Although most institutions are seeking assessments that go beyond qualitative reports, being able to report effectiveness in improving student learning is further bolstered by being able to report positive student feedback about the learning assistance programs and the implied continued use of those services. As a result, mixed-method approaches that combine quantitative and qualitative assessment processes are often favored. Indeed, mixed-methods assessment is required by the Council for the Advancement of Standards in Higher Education (CAS) for learning assistance programs (Council for the Advancement of Standards in Higher Education, 2012a).

A number of qualitative assessment processes are effective. The most common of these assessment methods is the use of surveys. Some are simple slips of paper with one question to answer or an opportunity to rate a program element on a sliding scale of 1 to 10. Some are scenarios with essay or multiple-choice responses (see Simpson, 2002, for examples). Others are as complex as institution-wide assessments (such as MAP-Works, the Noel-Levitz College Student Inventory, and the National Survey of Student Engagement), within which learning assistance professionals may be able to insert several questions or from which needs assessments can be drawn. Because surveys are widely used, some care is needed to make sure that the students are not being overwhelmed by requests for input, resulting in a spiraling decrease in response rates.

In-person interviews and focus groups are additional methods that can be used to gather qualitative data. Such processes are less static than written surveys since they allow the researcher to pursue clarifications, alternative interpretations of questions, and new topics that may arise. For example, Burgess (2009) found anecdotal evidence during student interviews and observations that the use of WebCT as a learning supplement had a positive impact on student learning and engagement. Ashman and Colvin (2011) looked at peer mentoring, exploring both the mentors' experiences as well as those of the student participants through interviews and observations. They found that both groups viewed the mentoring experience as a positive one. Barbatis (2010) also employed a qualitative study to examine the impact of mentoring.

Learning assistance professionals at Antelope Valley College have developed rubrics for quantifying their qualitative assessment of students' metacognitive development in the areas of motivation, knowledge acquisition, retention, and performance (Rubin, 2009). Tutees write in their learning logs at every session, documenting what they have learned and still need to learn, including study strategies; tutors score tutees' critical thinking, metacognitive behaviors, and application of study skills after every session. T-test comparisons are made between scores at each tutee's first two and last two sessions to quantify student learning and development over the semester.

Some qualitative assessments look toward the providers of learning assistance as well as the participants. Dvorak (2001) used a variety of data collection methods in her study of tutors, noting, "while this study does not correlate tutoring with grade improvement, tutors and students did believe that tutoring raised their grades in many cases" (p. 41). Lockie and Van Lanen (2008) invited SI session leaders to respond to two open-ended essay questions about their experience leading SI in science courses: "One of the most important findings of the study was the consistent observation by SI leaders that the SI experience had a major impact on their approach to learning in other courses" (p. 11).

Criterion-Referenced Assessment

Comparing a learning assistance service to established standards of excellence can reveal program needs and persuade reviewers of program quality. A criterion-referenced assessment process is similar to the approach that institutions use for accreditation self- studies based on the institution's ability to demonstrate in a number of categories and particulars that it is effectively accomplishing its mission and providing education. Using an established benchmark for quality allows learning assistance service providers to demonstrate the extent to which they meet those elements of quality and, in doing so, identify opportunities for improvement as well as areas of exceptional levels of performance.

Many criterion-referenced assessment processes call for a combination of both quantitative and qualitative methods of evaluation. The criteria usually are accompanied by a template for evaluation with clear instructions for the assessment process. Although some criteria for assessing

learning assistance program quality may be generated within an institution, most are established by outside organizations; there are often helpful resources available for those who pursue such assessments. A criterion-referenced assessment can lead to professional certifications of quality, but even if certification is not sought, the assessment process can provide valuable feedback and guidance for future improvements in learning assistance programming.

One of the key benefits to assessing learning assistance quality using a criterion-referenced standard is that such standards quickly reveal gaps between professional excellence and the program or service elements that could use improvement.

One of the key benefits to assessing learning assistance quality using a criterion-referenced standard is that such standards quickly reveal gaps between professional excellence and the program or service elements that could use improvement. Even participation in one of the 80+ organizations with some relevance to aspects of learning assistance (LSCHE, 2014) and reading their journals and other publications offers professionals a less formal opportunity to compare their services to those at other institutions and very generally assess quality in order to plan for improvements.

CAS Standards. The Council for the Advancement of Standards in Higher Education (CAS) is a consortium of higher education associations seeking to enhance student learning and development. CAS publishes standards and guidelines for evaluating over 40 different programs and services in academic and student affairs, including academic advising, career services, disability resources and services, TRiO and other educational opportunity programs, and learning assistance programs. The general standards for every functional area examine 12 different program components:

1. mission;
2. program;
3. organization and leadership;
4. human resources;
5. ethics;
6. law, policy, and governance;
7. diversity, equity, and access;
8. institutional and external relations;
9. financial resources;
10. technology;
11. facilities and equipment; and
12. assessment and evaluation (CAS, 2014).

Since the 2003 revision of the general standards (the must statements that appear in the standards and guidelines for all functional areas), CAS has increased its emphasis on assessing relevant student learning and developmental outcomes. The 2008 version of the general standards introduced the current six domains of student learning and development to be assessed:

– knowledge acquisition, construction, integration, and application;

– cognitive complexity;

– intrapersonal development;

– interpersonal competence;

– humanitarianism and civic engagement; and

– practical competence (CAS, 2012a).

These six domains are further described in a list of 28 dimensions of student learning and development (CAS, 2012a), a rich resource for setting student outcomes goals.

Learning assistance programs must "assess relevant and desirable student learning and development" (CAS, 2012a, p. 327). For example, if part of the mission of a learning assistance program is to develop students' critical thinking,

Rating Scale	ND Does Not Apply	0 Insufficient Evidence/ Unable to Rate	1 Does Not Meet	2 Party Meets	3 Meets	4 Exceeds	5 Exemplary
Criterion Measures							**Rating**
2.3	The LAP						
2.3.1	assesses relevant and desirable student learning and development						
2.3.2	provides evidence of impact on outcomes						

Figure 1. Sample CAS self-assessment scale for student learning and development. Adapted from CAS Self- Assessment Guide, Learning Assistance Programs, August 2012, by the Council for the Enhancement of Standards in Higher Education (CAS), p. 5. Copyright 2012 by CAS. Reprinted with permission.

then assessment of student learning and development should appropriately include evidence of the program's effect on several dimensions of cognitive complexity, the second of the six domains. Programs undertaking CAS self-assessment review peruse the CAS Self-Assessment Guide [for] Learning Assistance Programs (CAS, 2012b) and gather data on the quality of their work in all 12 program components. An assessment team of institutional colleagues reviews these data as evidence of the extent to which the program's work meets each standard. In reference to the earlier example (Figure 1, below), a learning assistance program might offer results of both quantitative and qualitative assessments of the program's effect on critical thinking development of students utilizing its services; the assessment team would examine that evidence to provide a score on the self-assessment scale.

Although learning assistance programs can review the standards (CAS, 2012a, pp. 323-335; also available on websites of both CRLA and NADE) and roughly estimate the extent to which the program meets the standards, the CAS Self-Assessment Guide [for] Learning Assistance Programs can also be used by learning assistance programs, campus assessment committees, or outside consultants to score each program component as an assessment of quality. In addition to demonstrating an individual program's level of quality in terms of an internationally recognized template for excellence, the CAS standards can be applied to multiple programs and campus divisions, placing learning assistance within a larger context of institutional assessment and comparative quality.

NADE Certification. The National Association for Developmental Education (NADE) developed certification guidelines based on the CAS standards as well as current practice and educational theory. NADE certifies programs at two levels (General and Advanced), focusing on developmental coursework programs, tutoring services, and course-based learning assistance (Clark-Thayer & Putnam Cole, 2009). Applicants for NADE certification must first attend a training institute in order to learn about the self-evaluation process including the collection of baseline and comparative data; to understand and use the set of data templates and data analysis forms; and to create, implement, and evaluate the required action plans for improvement based on the self-study results and baseline data analysis. NADE certification "requires applicants to demonstrate application of theory, use of quality practices as defined by professional research and literature of the field, and analysis of baseline and comparative evaluation data" (NADE, 2014, para. 1).

The *NADE Self-Evaluation Guides* (Clark-Thayer & Putnam Cole, 2009) assist applicants in using quality practices by directing them to rate themselves on an extensive series of criterion statements. The intent is to find strengths on which to capitalize and weaknesses that may impact student learning and success in a given program. For the category of student learning goals in the tutoring program Guides, one item is as follows:

> *As a result of tutoring, students will:*
>
> I.E.4. Demonstrate improved content knowledge and academic success in tutored courses.
>
> *Discussion and Supporting Evidence:*
>
> *Score:*

Learning assistance programs using the Guides determine what evidence supports the successful accomplishment of that goal and what score, on a scale of 1 (low) to 5 (high), is most appropriate. Another item looks at student outcomes:

> II.E.1. The tutoring program has qualitative/quantitative procedures in place for regularly assessing student needs.
>
> *Discussion and Supporting Evidence:*
>
> *Score:*

After scoring all items, the learning assistance program is asked to identify its areas of strength, the areas needing improvements, and a proposed action plan for making those improvements.

Even if certification is not the primary goal, the NADE Guides provide a format for self-evaluation assessment, which can utilize staff and faculty within a learning assistance program as well as other campus stakeholders. The self-review process can take several months, so staff planning time and possible funding are critical for success. If certification is sought, a complete packet of materials including self-evaluation information will be submitted and peer reviewed under the auspices of the NADE Certification Council.

CRLA Certification. The CAS standards also inspired the development of certification programs by the College Reading and Learning Association (CRLA). CRLA offers certification at three levels (Regular, Advanced, and Master Certification) for the training of individual peer tutors and mentors through its International Tutor Training Program Certification (since 1989) and International Mentor Training

Program Certification (since 1998). Programs seeking certification for tutor or mentor training must demonstrate appropriate program elements in four areas of criteria:

– selecting new tutors or mentors;

– training tutors or mentors, including hours of training, presentation modes of training, and topics covered in training;

– tracking and documenting tutoring or mentoring experience; and

– evaluating tutor or mentor performance. (CRLA, 2014b)

The last of these categories, evaluation of tutor or mentor learning, is an essential component of training. In recognition of the importance of assessing tutors' learning outcomes, the ITTPC has developed detailed and specific standards, outcomes, and sample assessment activities for use by training programs at the first level of certification (Schotka, Bennet-Bealer, Sheets, Stedje-Larsen, & Van Loon, 2014). The purpose is to make assessment a part of a cycle of "institutional and programmatic needs; the theoretical underpinnings/philosophy of your approach to training; the specific content required for ITTPC certification; your training plan and instructional methodologies and your evaluation/assessment process" (CRLA, 2014b, p. 1). Here is a sample standard, outcome, and list of possible assessment methods taken directly from the CRLA *ITTPC Standards for Tutor Training—Level 1* document

Although there is intense assessment scrutiny as an accreditation review approaches, research on learning assistance services should be an ongoing process that can be summarized—not suddenly conducted—for an accreditation report.

(Schotka et al., 2014) available from the "learning standards, outcomes, and possible assessments" section of the ITTPC pages (CRLA, 2014b):

11. Topic: Study Skills

Standard: The tutor has developed a repertoire of effective study skills or strategies to utilize to enhance learning information (e.g., effective time management, organization, note-taking, test taking, motivation, acquisition, retention, performance, anxiety reduction).

Outcome: The tutor articulates, models, and integrates a variety of appropriate study skills into the tutoring session and provides the tutee

with content-specific tips and techniques to incorporate at key points, such as preparing for class, homework, preparing for exams, writing papers, and so on.

Possible Assessments:

– The tutor will create a list of study techniques (as taught during training) that are specific to a course or discipline and will explain the details of each one in her/his own words.

– The tutor will demonstrate several study techniques (as taught during training). This may include SQ3R or another pre-reading strategy; brainstorming and pre-writing activities; self-testing; test-taking for multiple choice, short-answer, and essay exams; and similar strategies.

– While observing a mock tutoring session, the tutor will interject when a study technique could be introduced based on the issues presented by the tutee.

– For one of the courses s/he tutors, the tutor will create a five- day study plan that incorporates three or four specific study techniques. (p. 10)

More than 50 sample assessments are offered free of charge for gauging the effectiveness of tutor training. They could also be adapted to measure outcomes in training programs for mentors or academic coaches.

CRLA certification through ITTPC and IMTPC is recognized internationally as a standard of quality. The websites for tutor training certification (CRLA, 2014b) and mentor training certification (CRLA, 2014a) are useful resources for learning assistance providers seeking to create a new program or improve current offerings. CRLA has developed several tutor training handbooks to provide guidance to learning assistance personnel seeking to achieve excellence in tutor training. For each tutor and mentor training activity described in the most recent handbook (Agee & Hodges, 2012), an assessment of training effectiveness is provided.

NCLCA Certification. CRLA certification focuses on the peer tutoring and mentoring staff, but National College Learning Center Association (NCLCA) certification focuses primarily on the professional, administrative staff. NCLCA oversees Learning Center Leadership Certification at four levels (up to Lifetime Certification) for individual professionals who work in learning assistance centers (NCLCA, 2014). As part of the certification process, external reviewers assess applicants' credentials and documentation, including such evidence of professionalism as the following:

- performance appraisals;
- letters of recommendation;
- degree attainment;
- personalized position statements;
- presentations or publications;
- service to the profession; and
- research or evaluation reports.

Because many learning assistance providers enter the field without related degrees or coursework (Casazza & Silverman, 1996), the nationally recognized leadership certification provides a common credential for learning assistance professionals.

ATP Certification. The Association for the Tutoring Profession (ATP) offers five individual certifications for its members: Associate Tutor, Advanced Tutor, Master Tutor, Tutor Trainer, and Master Tutor Trainer (ATP, 2014). Tutor certification involves a combination of training and documented tutoring hours; tutor trainers are additionally required to have training experience, earn continuing education units by attending sessions at relevant professional conferences and other approved events, and present at professional conferences or engage in other professional service. ATP's certification allows individuals to demonstrate their quality either within a formal educational service or as professionals in settings outside higher education institutions.

NTA Certification. Like ATP, the National Tutoring Association (NTA) offers a variety of certifications for tutors and tutor trainers who provide learning assistance in schools and postsecondary institutions as well as private practice and literacy tutoring and other community-based programs; however, NTA's certifications are not endorsed by the Council of Learning Assistance and Developmental Education Associations. Certifications are available for individuals who are academic coaches (Basic, Advanced, and Trainer levels), tutors (Basic, Intermediate, Advanced, and Master levels), tutor trainers (Basic and Master levels), and tutorial center administrators (NTA, n.d.). Certification is based upon topics involved in training, completion of postsecondary degrees or relevant coursework, hours of experience, and NTA membership. Using criteria about administration, tutor training, and evaluation processes, tutorial program certification is also available for elementary schools, high schools, middle schools, community programs, postsecondary schools, and private practices.

Getting Assessment Done

Although most assessments of learning assistance are probably conducted by individuals associated with providing the assistance, there are ways to both spread the work and, in doing so, potentially increase the objectivity of the assessment. An institutional research office or teams of campus employees who have FERPA training can provide assistance with data analysis, surveys and observations, and perspectives on the extent to which a learning assistance service meets a standard of excellence and compliance. Undergraduate and graduate students may be able and available to assist with an assessment project, possibly for an honors thesis, credit in a course, or even the chance to practice research skills. Hiring one or more consultants also provides additional personnel and objectivity.

Some learning assistance services may find eager research partners within the faculty. Such collaborations obviously improve access to grades for quizzes, exams, and individual assignments as well as the midterm and final course grades.

Create a full, mixed-methods, multi-year approach to assessment that permits ongoing critical inquiry without interruption to learning assistance programs and services.

Learning measures that are closest in time and content to learning assistance services are generally the most likely to indicate the impact of the assistance. Faculty may welcome the opportunity for research to bolster a tenure review or to generate a publication or conference presentation.

Learning assistance professionals seeking to publish or present assessment findings should meet early with their institution's office of research and sponsored programs for information about ethical and practical considerations of their assessment work. Permission forms and other compliance requirements ensure that assessment and research studies comply with institutional, local, state/province, federal, and funding agency regulations. Research offices can provide guidelines about and training in gathering, securing, using, and presenting data and may be able to help locate grant funding, provide access to data sets, and otherwise serve as assessment partners.

Another consideration is the cycle of accreditation review for the entire institution. Although there is intense assessment scrutiny as an accreditation review approaches, research on learning assistance services should be an ongoing process that can be summarized—not suddenly conducted—for an accreditation report. Not every assessment needs to be

done every semester: perhaps satisfaction surveys from clients are gathered during specified weeks of a semester, faculty focus groups can occur every other year, SI will be assessed in the final weeks of a semester, and study strategies workshops are assessed in the first 3 weeks of a semester. Meanwhile, three CAS standards components can be tackled each semester so that all 12 components are assessed over a two-year period. The idea is to create a full, mixed- methods, multi-year approach to assessment that permits ongoing critical inquiry without interruption to learning assistance programs and services. See the Appendix for further discussion of possible assessment scheduling.

Guidelines for Good Practice in Assessing Learning Assistance

There have been several admirable publications about learning assistance assessment (beginning with Walvekar, 1981, and Maxwell, 1993) and myriad relevant informative sessions at professional conferences, yet the field is still developing. In that spirit of developmental education so widely supported in learning assistance, we believe every program's assessment practices can be improved. Both research and experience suggest the following six principles for improvement.

1. Learning assistance should respond to the current trend of outcomes assessment.

Direct measures of student learning outcomes (SLOs) are now required practice for assessment, and as such they must be addressed. A learning outcome may be so specific that it can be measured after a single tutorial session or workshop attendance, or it may encompass a semester of student participation. Learning assistance professionals need to examine services in order to find the possible specific measures that can be gathered and summarized quantitatively.

2. Learning assistance should continue to utilize qualitative assessments.

Even as the emphasis increases for quantitative direct measures of student learning, the learning assistance profession must not ignore the realms of compassion, self-efficacy, and student confidence that qualitative study can reveal about the positive—and often measurable—impacts of learning assistance services. Other outcomes need to be considered as well, such as the retention gains for the student peer tutors and mentors who provide learning assistance and the demonstrations of quality and best practices possible through criterion-referenced assessment processes.

3. Learning assistance professionals should continue researching and publishing.

As noted above, there are already numerous articles on the positive impact of learning assistance; most of them can serve as examples and models of assessment processes, replicable in whole or part. Christ urged (in Calderwood, 2009) that "more research on the role of campus learning centers needs to be published and disseminated that indicates the role of learning centers in student retention and academic success" (p. 26). More research and publications are indeed needed, especially those that address learning assistance services other than tutoring. As additional research is conducted, those new studies can start to address any acknowledged limitations of previous research. They will strengthen the foundation of certainty that is building for the positive impact of tutoring and other learning assistance services for students.

4. Learning assistance programs need financial, personnel, and data resources for assessment.

Demands for assessment need to be accompanied by offers of assistance with (a) data access, collection, and analysis, and (b) the time, training, and funding needed to conduct assessment activities. Data analysis is a skill acquired over years of training and experience; it is not reasonable to assume that everyone in learning assistance has that skill. In addition, most assessments of something as statistically fragile as learning usually require sophisticated levels of analysis beyond simple means and percentages. What may have been recorded in the past as simple categories of student ethnicity and gender are now far more complex variables in most student records databases, so correlations and regression analyses are almost a necessity even in comparison studies. As Arendale (2005) noted, "use of simple t-tests or student surveys is insufficient for research studies today" (p. 4). Qualitative research may be just as complex, sensitive, and stringent as quantitative studies. Beliefs that qualitative research is easier are mistaken. Good assessment of all kinds requires expertise.

Because the standards of assessment research can be difficult to attain, learning assistance program personnel need time to conduct effective assessment as well as the training to do so. Many organizations offer professional development opportunities that include attention to assessment processes, such as the Kellogg Institute (National Center for Developmental Education) and the Summer Institute (National College Learning Center Association). Learning assistance organizations' conferences usually provide concurrent and pre- conference sessions about assessment and program evaluation, and traditional academic courses that focus on statistics, assessment,

and program evaluation are available. All of these require time and funding, and the necessary resources should be provided by institutions. According to the Council for the Advancement of Standards in Higher Education (2012a), each learning assistance program "must have a clearly articulated assessment plan to document achievement of stated goals and learning outcomes, demonstrate accountability, provide evidence of improvement, and describe resulting changes in programs and services" (p. 334). In addition, "professional staff must have access to institutional databases with student information relevant to [the program's] work" (p. 327), and the program "must have adequate fiscal, human, professional development, and technological resources to develop and implement assessment plans" (p. 334).

5. Learning assistance assessments should center on the mission.

The mission statement of any learning assistance program or service proclaims its raison d'être; it also guides the content of assessment activities. A mission noting the importance of improved academic performance is committing the program to quantitative assessments of student grades and retention; a mission to improve student confidence and commitment to an education must plan on some qualitative assessments to measure those improvements. Thus the program's offerings and assessments are integrally related to its mission. Presumably learning assistance is offered to meet institutional needs and helps the institution accomplish its own mission. It is the essential purpose of assessment to verify these presumptions and, in the process, to improve learning assistance programs and services.

6. Learning assistance should be an integral part of learning assessment at an institution.

There is substantial evidence that learning assistance contributes to students' learning. Consequently, learning assistance services need to be assessed with the same attention and interest that classroom learning assessment receives. Learning support services should not be seen as a sidelight or afterthought but as a critical element in the overall institution's commitment to students' education.

Conclusion

Our discussion of the numerous assessment designs and studies briefly described in this paper is intended to inspire, not discourage. Like all professional activities, assessment and evaluation take time and attention, but they also bring satisfaction and knowledge. We hope that the content of this white paper will encourage learning assistance professionals to review examples of research and assessment models that can be replicated in their own programs. By expanding assessment processes that demonstrate program effectiveness and by reporting positive impacts within and beyond their institutions, learning assistance personnel can continue to build strong support for their services.

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Appendix

SAMPLE MIXED-METHODS, MULTI-YEAR ASSESSMENT PLANS

For many professionals in the field of learning assistance, assessment can seem like a time-consuming addition to an already-busy schedule of activities and expectations. For many, it can also seem unfamiliar and vaguely threatening, especially if assessment has not been an ongoing practice or is being requested at a stressful time of accreditation or potential budget cuts. In general, then, the best practice is to build assessment into the ordinary daily life of a learning assistance program.

One way to accomplish this goal is to establish and regularly update a schedule of activities encompassing a range of qualitative and quantitative assessments. The samples provided below are examples only; they are not intended to be used as templates. Each program must examine its own methods and timetables for providing learning assistance, then identify a few assessments that are appropriate for the program.

For tutoring programs, the most common assessment technique is probably a survey of client satisfaction with the tutoring service. In Figure A1, client evaluations are noted first. The checkmarks reflect the frequency with which the evaluations are collected; in this example, client evaluations are collected throughout each semester of service. These post-tutoring evaluation surveys usually consist of fewer than 10 questions (and sometimes only one) and typically ask whether a tutoring client received the help sought, whether the tutor was competent and patient, whether it was easy to schedule with the tutor or arrange an appointment, and similar questions of quality and satisfaction. Client evaluations can be sent to the client shortly after the tutoring session, or the evaluation can be collected immediately as the client leaves the learning center or finishes the tutoring appointment. Some tracking software includes a survey function so that the clients are asked the question(s) as they check out of the learning center, but a low-tech survey can also be written on note cards and collected anonymously.

Pre- and post-training quizzes are also collected throughout the semester as tutor trainings are provided. A program that provides all of its tutor training before the semester begins would have only one checkmark at the beginning of a semester. There are other ways to assess the effectiveness of a tutor training program, including observations of tutors by trained staff, interviews, and tutor self-assessment checklists or essays to be included in a summary portfolio.

Reviewing student learning outcomes in a tutoring program may be another desirable assessment activity. Learning outcomes assessment can be complex, or it can be as straightforward as writing at least one specific content element that the student client hopes to learn during a tutoring session, then checking to make sure the client learned the material. Note that a learning outcome cannot be effectively determined as a self- assessment or indirect measure. Instead, the tutor must create appropriate mini-quizzes—often containing just one question that will measure whether a student has indeed learned a particular skill or piece of information. Because quizzing students may cause them to feel a bit threatened, tutors may be trained to avoid this assessment at the first tutoring session or at the end of the semester when final exams may be looming; the checkmark in the sample chart indicates that this kind of learning outcomes assessment will be scheduled only for a few weeks in the middle of each semester.

Assessment Focus	AY 2014-15			AY 2015-16			AY 2016-17		
	FA14	SP15	SU15	FA15	SP16	SU16	FA16	SP17	SU17
Client evaluations	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓
Pre- & post-training quizzes	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓
Client SLOs	✓	✓		✓	✓		✓	✓	
Compare grades of users & non-users		✓	✓		✓	✓		✓	✓
Examine client demographics			✓			✓			✓
Tutor portfolio review	✓	✓		✓	✓		✓	✓	
Mission review			✓			✓			✓

Figure A1. One possible learning assistance assessment schedule.

As a quantitative assessment element, grades of students who did and did not use the tutoring services can be compared. Since final course grades are typical points of comparison, the assessment schedule notes that these comparisons will be conducted at the beginning of the semester following the services provided. Although comparisons can be made on a yes/no basis, it can be more effective to compare grades based on the level of tutoring use: i.e., one tutoring visit may not show any impact when compared to zero tutoring visits, but grade impact may become clearer with two, three, or five visits. Each learning assistance program probably needs to review what amount of tutoring use tends to be associated with grade improvements, and must also be aware that the amount of tutoring use associated with improved grades may differ from one academic discipline to another. For example, a tutoring program may find that students' grades in a particular history course tend to be higher after just two 1-hour tutoring sessions but that grade improvements in chemistry are not clearly seen until at least four tutoring appointments. As with other assessment efforts, learning assistance programs need to establish a pattern of analysis; only individual institutions and programs can determine whether every course tutored needs to be reviewed every semester, or whether it is acceptable to review, for example, the liberal arts core curriculum one semester, the sciences in another semester, and so on.

One of the most common learning assistance programs is Supplemental Instruction (SI); a set of sample assessment efforts for SI is shown in Figure A2. Here again, the pattern and consistency of attention to assessment is key: not every element needs assessment every semester. For example, satisfaction surveys of faculty with SI in their courses may occur every third semester at this institution; another institution—perhaps one just starting SI—may choose to survey the faculty every semester until the program is well understood and firmly established. Perhaps the workload of surveying all students in all SI classes is simply too much for a learning assistance program to tackle every semester. That does not mean that such an assessment should be ignored completely, but non-users could be surveyed just once each academic year, and users could be surveyed every semester that SI is offered.

Grade comparisons of SI users and non-users are a standard feature of SI programs, and such comparisons are expected for every course in every semester. But any burden of that assessment activity can be postponed until a summer semester when there is more time to calculate those comparisons and complete annual reports of the SI program. As with tutoring attendance, tracking software can be used to generate the grade comparison reports for a learning assistance program.

Again, these schedules are provided only as examples of mixed-method, multi-point assessments used in a hypothetical learning center to demonstrate how simple such assessment schedules can be. Learning assistance professionals must determine their own areas of focus for assessment, then use specific assessments and schedules appropriate to their own missions and institutional resources. In short, they should strive to answer questions about outcomes and effectiveness that are important to their own programs.

Assessment Focus	AY 2014-15			AY 2015-16			AY 2016-17		
	FA14	SP15	SU15	FA15	SP16	SU16	FA16	SP17	SU17
Surveys of SI faculty		✓					✓		
Survey of SI users	✓			✓			✓		
Survey of SI users & non-users		✓			✓			✓	
Compare grades of users & non-users			✓			✓			✓
Examine student demographics	✓	✓					✓	✓	
SI Leader training evaluation	✓	✓		✓	✓		✓	✓	

Figure A2. A possible SI assessment schedule for a learning assistance program.