LASSI Project Fall 2000 Student Outcomes Assessment
Jan Swinton and Jeff Moore, Spokane Falls Community College

Data-Driven Decision Making
Carolyn Byrd, Patrick Henry Community College

Relevance of Study Skills Attitudes and Behaviors for First-Year Freshman
Lynne Stamoulis, Ed.D., Texas A&M International University

Pilot Study to Identify Some African American Boys' Academic Strengths and Weaknesses
Evie Adams-Welch, Michael Bowie, and Shirley St. Juste

Effects Of Using Weekly External Goal Planning Analysis Forms in Developing Learners' Self-Regulated Learning Skills in An Online Course
Albertha Stephens, University of South Alabama
OVERVIEW

This study looks at reading intensive course(s) grade point average (GPA) vs. LASSI scores. The data was collected during the 1998-2000 school years. The reading intensive courses, taken during the quarter in which the LASSI was administered, are examined below. If the student took more than one reading intensive course, all reading intensive courses were averaged together. It was decided that academic success would be defined as a GPA of 2.0 or above in reading intensive courses taken during the quarter in which the LASSI was administered. Those with less than 2.0 are considered unsuccessful. When considered from this vantage point, a picture emerges in which the LASSI seems to be a predictor of GPA in reading intensive courses.

Students in Graphs One and Two below are divided into successful and unsuccessful groups based on academic success. The graphs are further broken down into scores for each of the ten LASSI categories.

Graph One contains the categories: Attitude, Motivation, and Anxiety, which are affective attributes that are difficult to change with classroom instruction. Graph Two contains the categories of Time Management, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self Testing, and Test Taking Strategies.
As the graphs show, those who were academically successful scored higher in every category on the LASSI except Time Management (which showed a -0.08 point difference). Also notable is the score spread: In general, scoring lower than 50 in a LASSI category indicates a concern. With the exception of Study Aids and Test Strategies, those who were successful in reading intensive classes scored above, or very close to, the 50 mark. In contrast, those who were unsuccessful scored lower than 50 in all categories except Time Management and Concentration. While it cannot be stated that there is a categorical difference between a score of 49 and a score of 51, breaking the spread of scores along this line does seem to verify the contention of the LASSI authors that students scoring below 50 are less likely to be academically successful without some intervention.

There are, however, exceptions to this contention. In this study there were three students at each end of the continuum who did not perform as predicted. The answer for why three students scored well on the LASSI and did so poorly in the classroom may be extracted from a series of studies conducted by a Dr. Justin
Kruger and Dr. David Dunning. Four studies were summarized and the results published in the *Journal of Personality & Social Psychology* Vol 77(6), Dec 1999, 1121-1134 entitled *Unskilled and unaware of it: How difficulties in recognizing one’s own incompetence lead to inflated self-assessments.*

Drs. Dunning and Kruger suggest that the abilities that allow students to do well in the classroom are abilities necessary to evaluate their performance. Since these students are unable to properly evaluate their own performance, their scores are not reflective of reality. In fact, remedial help for these students should lower their LASSI scores as the students learn how to evaluate their own performance. A similar study by Koriat, Asher, et al, entitled *Assessing our own competence:* *Heuristics and Illusions,* points toward the same conclusion: students with poor cognitive abilities frequently overestimate their performance.

At the other end of the continuum, three students were academically successful (a GPA above 3.0 for all three) had scored extremely low on the LASSI. Since it can be assumed that students who are academically successful have the cognitive abilities to evaluate their own performance, perhaps this underestimation of ability stems from an emotional base. If this hypothesis is true, self-confidence may be interfering with a realistic assessment of the students’ performance.

**CONCLUSIONS**

It is clear that for the overwhelming majority of
students, the LASSI appears to be a good instrument of measurement with regards to success in reading intensive courses. In this particular group 94% of the students were adequately represented by their LASSI scores based on reading intensive GPA. Students who were academically successful scored, on average, above 50 in all categories of the LASSI. Students who were academically unsuccessful scored, on average, below 50 in all ten LASSI categories.

Although LASSI is an effective screening tool, it is important for instructors to be cognizant of the small group of students (approximately 6% in this sample) for whom the LASSI is not predictive of academic success. This group includes students who don’t have the skills to accurately assess their own abilities through the LASSI’s questions. These students may need remediation to begin to build accurate self-assessment abilities. One would expect that these students’ scores would actually decline as they gained the skills necessary to assess their own abilities. Conversely, some students do well in the classroom, yet score poorly on the LASSI. It is assumed that these students have logical assessment skills since these are abilities necessary to do well in the classroom. Therefore, it can be inferred that their self misassessment is based on low self-confidence or other unknown factors.

*Academic Success (Successful) = 2.0 or above. Unsuccessful = less than 2.0. This GPA is for all reading intensive courses taken during the quarter in which the LASSI was given.*
Patrick Henry Community College has been an ELASSI user for approximately 10 years (Web LASSI since 1999). We use it in many of our developmental, nursing and some of our first year seminar classes. To a lesser degree we have used it for advising prior to registration. Many of us had confidence that we could tell how a student would do based on certain scores. However, we had not conducted a thorough analysis until recently. The college is involved with a grant project that is focusing on data-driven decision making. We are scrutinizing our data very carefully. We happen to have a large enough database of students who have taken the WEB LASSI to see if the student's scores could be a predictor. We have definitely found that the motivation score has a direct correlation to student success. It appears that the student's score on concentration is a predictor as well, but we will conduct more research to confirm this finding. In the fall, the college will be using WEB LASSI as an advising tool for high-risk students. If all goes well, we plan on expanding use to all in-coming students.
In the spring of 2007, Texas A&M International University (TAMIU) completed a year-long Foundations of Excellence® self study, which culminated in a set of recommendations to strengthen its First-Year Experience for incoming freshmen. Among the many recommendations made by the Foundations of Excellence self study group were to enroll incoming freshmen into learning communities, to articulate overall student learning outcomes for the First-Year Experience, and to develop an assessment plan to determine the extent to which first-year students were achieving those outcomes.

For TAMIU, the term, "First-Year Experience" includes, but goes beyond the required freshman seminar and courses linked to it in the learning communities, to include all coursework and experiences, in and outside of the classroom. Eight student learning outcomes, aligned with TAMIU's Principles of Undergraduate Learning, were articulated for the First-Year Experience. One of the First-Year Experience learning outcomes was that students would "improve specific attitudes and behaviors that lead to academic success."

In the inaugural year of the first-year learning communities at TAMIU (2007-2008), the Learning and Study Strategies Inventory (LASSI) was utilized to explore linkages between study skills, attitudes and strategies, freshman academic success, and first-year retention; and to measure student gains in study skills, attitudes
and strategies over the course of the First-Year Experience. The LASSI was administered twice to the same cohort of first-year freshmen: once early in their first semester of enrollment (Fall 2007), and once again at the end of their first academic year (Spring, 2008).

The LASSI consists of ten scales: Anxiety, Attitude, Concentration, Information Processing, Motivation, Selecting Main Ideas, Self Testing, Study Aids, Test Strategies and Time Management. It is important to note that the LASSI is not a performance-based assessment, but a perceptual survey where students complete Likert-type scales indicating the extent to which statements in the inventory are "typical" of them. Each LASSI scale consists of the combined scores of eight questionnaire items, which are spread randomly throughout the inventory.

The LASSI pretest was administered to 436 TAMIU First-Year freshmen enrolled in the UNIV 1101 freshman seminar in October of 2007. Students were directed to the testing center to take the inventory in its on-line administration mode. The LASSI post-test was administered to 447 First-Year freshmen enrolled in the second semester of the freshman seminar, UNIV 1102, in late April and early May of 2008. The researcher was able to match pre- and post-test records of 334 First-Year freshmen to determine gains in study skills, attitudes and behaviors over the course of the first year of academic study.
Higher LASSI Scores Are Associated With Higher Academic Achievement

The LASSI pretest scores of 431 First-Year TAMIU freshmen were compared to the grades they earned that same semester (Fall 2007). Although there was no significant difference between the LASSI scale scores of students whose semester grade point averages were below a 2.0, and those students whose averages were 2.0 to 2.99, the LASSI scale scores of students who averaged at least a 3.0 were significantly higher than those of students in either of the other two grade categories.
Although causality cannot be inferred, higher scores on some of the LASSI scales are associated with better academic performance among TAMIU freshmen, and higher LASSI scores appear to be useful predictors of academic achievement above a 3.0.
• 48.5% of the students who scored above the group average on the Anxiety Scale went on to earn a 3.0 average or above for their Fall semester grades, compared to only 34.7% of the students who scored at or below the group average on the Anxiety Scale (p = .006).

• 50.6% of the students who scored above the group average on the Attitude Scale attained a Fall semester GPA of 3.0 or above, compared to only 30.8% of the students who scored at or below the group average on the Attitude Scale (p = .000).

• 48.5% of those students who scored above the group average on the Concentration Scale earned Fall semester grades averaging at least 3.0, compared to only 35.4% of the students who scored at or below the group average (p = .008).

• 46.9% of the students who scored above the group average on the Information Processing Scale earned Fall grades averaging at least 3.0, compared to only 36.6% of the students who scored at or below the average (p = .039).

• 54% of those students who scored above the group average on the Motivation Scale earned Fall semester grades averaging at least 3.0, compared to only 29.2% of those students who scored at or below the group average (p = .000).

• There were no significant differences between those scoring above or below average on the Self Testing, Select Main Ideas, or Study Aids scales when it came to earning a Fall semester GPA of at least 3.0.

• 47.9% of the students who scored above the group average on the Time Management Scale earned a Fall semester GPA of at least 3.0, compared to only 34% of the students who scored at or below average on that scale (.005).

• 49.1% of the students who scored above the group average on the Test Strategies Scale achieved a Fall semester GPA of at least 3.0, compared to only 33.8% of the students who scored at or below the group average (.002).
Higher LASSI Scores Are Associated with Student Persistence

First-Year persistence patterns were examined. Students in the Fall 2007 first-year freshman cohort who dropped out of TAMU before the fall of 2008 had significantly different scores on seven LASSI items, than students in the same cohort who persisted. First-Year freshman behaviors which seem to signal high risk of attrition include:

- Not setting goals for the grades wanted in classes,
- Worrying when taking tests and allowing that worry to interfere with concentration,
- Worrying about flunking out of school,
- Getting distracted from one’s studies,
- Not setting aside more time to study subjects that are difficult,
- Getting behind in class assignments, and
- Going to one’s instructors for help when having trouble with class work.

See Table on Following Page
<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEAN SCORE OF PERSISTERS</th>
<th>MEAN SCORE OF NON-PERSISTERS</th>
<th>SIGNIFICANCE (95% CONFIDENCE LEVEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#42. I set goals for the grades I want to get in my classes. Descending scale.</td>
<td>3.94</td>
<td>3.52</td>
<td>.001</td>
</tr>
<tr>
<td>#43. When I am taking a test, worrying about doing poorly interferes with my concentration. Descending scale.</td>
<td>3.08</td>
<td>2.68</td>
<td>.007</td>
</tr>
<tr>
<td>#46. I worry that I will flunk out of school. Descending scale.</td>
<td>3.15</td>
<td>2.74</td>
<td>.021</td>
</tr>
<tr>
<td>#55. I am very easily distracted from my studies. Descending scale.</td>
<td>2.92</td>
<td>2.60</td>
<td>.019</td>
</tr>
<tr>
<td>#62. I set aside more time to study the subjects that are difficult for me. Ascending Scale</td>
<td>3.38</td>
<td>3.07</td>
<td>.016</td>
</tr>
<tr>
<td>#65. I am up-to-date in my class assignments. Descending scale.</td>
<td>3.95</td>
<td>3.65</td>
<td>.008</td>
</tr>
<tr>
<td>#66. When I am having trouble with my coursework, I do not go to the instructor for help. Ascending scale.</td>
<td>3.29</td>
<td>2.97</td>
<td>.020</td>
</tr>
</tbody>
</table>
LASSI items are scored on a five-point Likert-type scale, where students are asked to pick a point along the scale which is a, "Not at all typical of me," b, "Not very typical of me," c, "Somewhat typical of me," d, "Fairly typical of me," or e, "Very much typical of me;" These scales are either ascending, where a = 1 and e = 5, or descending, where a = 5 and e = 1.

**LASSI Pre- and Post-Test as a Measure of Value Added by the First-Year Experience**

Details about TAMIU first-year freshman gains on the LASSI scales over the 2007-2008 academic year are provided in a set of tables in Appendix A. In these tables, the LASSI scale score information is banded in yellow, followed by information on each of the eight inventory items which contributed to the scale score. Mean differences are given (column 6), along with statistical significance (column 9), and effect size (column 10). In the tables, statistical significance is indicated by a green border around the cell, and effect size of .20 or larger is indicated by a red border around the cell.

Effect size is a standardized measure (the mean difference of scores divided by the standard deviation) of the extent to which two means are different (lack of overlap given error margins). It is a statistical convention to show the possible effect of an intervention on mean scores (.20 is small, .50 is medium, and .80 is large).

Given that the 2007-2008 academic year administration of the LASSI was TAMIU’s first use of the inventory to measure value added by the First-Year Experience, it is impossible to be certain if changes are due to student maturation or something intentional in the First-Year Experience. Having established these 2007-2008 scores as benchmarks, however, will allow TAMIU to interpret future changes more precisely.

First-year students who entered TAMIU Fall 2008 will take their LASSI post-test in late April of 2009. Their gains in study skills, attitudes and behaviors
will be compared to those of the 2007 cohort, whose results are reported here.

Changes over the 2007-2008 academic year indicate some possible early successes of the First-Year Experience.

- The largest positive effect (.28) of the First-Year Experience was to reduce students' anxiety about their academic performance or about approaching academic tasks.
- The next largest positive effect (.22) was to improve the test strategies of students, followed by improving their ability to select main ideas (.18), and to concentrate (.14).
- Somewhat disturbing and worth examining was that the First-Year Experience had a negative effect (-.21) on students' attitudes about academic work.

TAMIU will strive for significant differences and medium-to-large effect sizes in all ten of the LASSI scales.

Ongoing administration of the LASSI as an assessment tool will help TAMIU continually sharpen the focus and effectiveness of instruction and support services for first-year students to enable them to build stronger study skills, attitudes and strategies. This study suggests that strengthening the study skills, attitudes and strategies of first-year students will pay high dividends when it comes to their persistence and academic achievement.

Policy Center on the First Year of College – Foundations of Excellence®,
http://www.fyffoundations.org/
In an attempt to increase the number of students to graduate from high school with the prospects of enrolling into post secondary education, the University of Florida's College Reach-out Program (CROP) targeted the rural high schools in Alachua County, Florida with an after-school program through the Recruitment, Retention, and Multicultural Affairs Office in the College of Education in order to motivate low-income and educationally disadvantaged students in grades 6-12 (Welch, Bowie, St. Juste, 2004). During the 2002-2003 semesters, the CROP participants' learning and study strategies for academic settings were observed as one component of a pilot study to determine the academic strengths in a rural high school in Alachua County, Florida. At the end of the school year, the CROP participants in grades 9-12 took via the computer the *Learning and Study Strategies Inventory-High School Version (LASSI-HS)*, as the first component of a pilot study. The computer version gave the student the results of each of the ten (10) subscales. The prompt, individualized feedback of the *Inventory* 's results motivated the students to begin seeking ways to eliminate their deficiencies.

The second component of the pilot study was to determine the group's academic strengths and weaknesses according to *LASSI-HS* 's ten (10) subscales: *attitude, motivation, time management, anxiety, concentration, information processing, selecting main ideas, study aids, self-testing and test strategies*. 
The after-school program director used the Inventory's results as an instructional tool to design the after-school academic program during the school-term in order for all to pass the Florida Comprehensive Assessment Test (FCAT), a requirement for earning a high school diploma. The Inventory's findings were also used to design individualized, on-the-campus summer-school intervention program for students to perform better on their SAT and ACT tests, the prerequisites for enrolling in most colleges and universities.

Of special interest were the African American boys' academic weaknesses on the LASSI-HS' subscales, since historically their enrollment in the University of Florida was less than the African American girls. Consequently, the research team decided to isolate the African Americans' (eleven boys and nine girls) scores for further analysis by gender. Significantly, the findings by gender were different. The African American girls' strengths were in self-testing and test strategies, while their weaknesses were anxiety and attitude. In contrast, the African American boys' strengths were in three areas: concentration, study aids, and time management, with test strategies and information processing as their weaknesses.

Next, the African American's scores for information processing were analyzed. Attention was given to this subscale of the inventory because a score below 50% indicated the students needed to improve their overall studying
and learning skills to avoid problems for success with academic work that would prevent them from graduating from high school, as well as a post secondary program (Weinstein, Woodruff, & Await, 2004). Foremost, the results of the second component also indicated that all of the African American CROP students in grades 9-12 needed an intervention program to develop better information processing skills to perform well for a post secondary educational program after high school.

Most significantly, the second component of the pilot study's analyses also revealed that the African American boys' scores in information processing were the lowest of all the students taking the inventory. Their underperformance indicated that they needed an immediate, concentrated one-on-one instructional intervention program to develop pertinent skills for completing high school in general and for performing well on standardized tests in particular.

The third component of the pilot study involved reviewing the ten instructional modules that were designed to complement each of the LASSI-HS subscales to address the students' deficiencies with quality teaching. From the list of skills to be developed, a skillful teacher would tailor a curriculum to teach pupils how to overcome the deficiencies. For example, information processing skills would be developed by using quality children's literature or trade books for teaching reading
comprehension (Duffy, 2003). Or, oral pieces such as *The Pledge of Allegiance* could be written from memory by students for comparative study and analyses to model the mental process involved in critical thinking (Tatum, 2000). In general, African American students tend to have a high-interest level for positive, reading materials, and "easy reading" selections for counseling about Africa, their culture and heritage (Tatum, 2006; Welch, 2007). For example, short biographies about famous African Americans, historical writings about Africa and its ancient world would be most appropriate to teach how to read in order to learn (Tatum, 2005; Welch, 2004, 2007; Priestly-Jackson, 2008). Acquiring literacy skills of this nature would be transferable for acquiring skills embedded in some of the other *LASSI-HS* subscales. Skillful literacy teachers often used short, high-interest topics like sexuality, race, racism, and politics for classroom discussions, as Beverly Tatum (1992) illustrated to teach higher-level thinking social skills, as well as higher-level reading skills.

The information processing subscale also assessed how well students used imagery, elaboration, organization strategies, and reasoning skills as learning strategies to help build bridges between what students already know and what they were trying to learn and remember (Weinstein, Woodruff, & Await, 2004). The instructional module further
emphasized how to develop cognitive skills and study strategies that were also analogous with reading comprehension skills (Duffy, 2003; Pressely, 1993). Hence, the third component of the pilot study revealed that students could acquire both the information-processing skills and the study-strategies from learning reading comprehension skills (Duffy, 2003; Pressley, 2003), if they "read well to learn" (Chall, 1996). Students that read well to learn were often the better test-takers on standardized tests and also performed academically in the upper percentile ranks of their classes (Comer, Joyner, & Ben-Avie, 2004).

By analyzing reader responses to children's literature from African American boys in grades 3, 4, and 5, the researcher determined which information processing skills were being used as cognitive strategies from their cognitive activities when they read for pleasure. A high frequency of strategies indicated the students had acquired the technique of "reading to learn" (Chall, 1996), one of the vital literacy skills for academic achievement and other personal achievement.

The results of the findings from the LASSI-HS inventory and the skills that were embedded in the LASSI Instructional Modules for information processing were most helpful for designing the pilot study, which ultimately provided directions for one of the CROP researchers to study "Cognitive Strategies of Underperforming African American Boys in Response
to Children’s Literature" (Welch, 2007).

Conclusion

LASSI-HS is an inventory useful for students in grades 9-12 to identify their learning skills, as well as their study skills' strengths and weaknesses. The Inventory also is an effective planning tool for shaping curricula for individualized instruction. Some children have different learning styles; therefore, methods of instruction should not be "one-size fits all" even in public or private schools' classrooms because children have different learning styles. Therefore, the methods of instruction and academic activities should accommodate their differences (Priestly Jackson & Welch, 2009). Thus, parents engaging in home schooling, as well as other parents, teachers, and academic counselors could benefit from using the results of the Inventory to address revealed weaknesses for individualized instruction and transformation (Welch, 2007). Ideally, students should take the LASSI-HS at the end of the eighth grade, so that they can have three years to eliminate their deficiencies before completing high school. At the end of the third year after initially taking the LASSI, they should take the Inventory again to determine their growth before enrolling in a post secondary education program, so that they can become aware of their personal learning style for lifelong learning (Priestly Jackson & Welch, 2007).

References

References Continued


This study sought to determine if the use of weekly goal planning analysis forms, without teacher assistance, could be instrumental in helping online learners in developing self-regulatory learning skills, thereby improving their online academic achievement. The study used a non-equivalent comparison group quasi-experimental design to investigate this question. The Learning and Study Strategy Inventory (LASSI) was used to evaluate learners' perceived use of learning and strategic study strategies. The LASSI proved to be an invaluable instrument to evaluate participants' strategic use of learning and study strategies. Additionally, the reliabilities of the pre-test and post-test measures were highly reliable; alphas were .902 for the pre-test measures and .92 for post-test measures. Data obtained from the LASSI's pre- and post-tests were stored and placed in an Excel data file by the H & H Publishing Company. This data also included average scores of learners across the country for each of the LASSI constructs. In other words, the LASSI fulfilled all my research needs and made my study doable.

The Goal Planning Analysis Form was used as a motivational tool for online learners. Participants for this study were 27 postsecondary students enrolled in one of two sections of the same online college course. Findings from this research indicate that learners' use of weekly goal planning analysis forms promoted the development of self-regulated learning strategies in postsecondary
online learners without teacher assistance. Three research questions guided this study. The first research question was "How do online learners employing weekly goal planning analysis forms perform academically in comparison to learners not using weekly goal planning analysis forms?" The results indicate that learners employing a weekly goal planning analysis form did not perform better academically than learners not using the weekly goal analysis planning form. The second research question was "How do online learners employing weekly goal planning analysis forms score on their use of self-regulation strategies in comparison to learners who did not receive the weekly goal planning analysis forms?" The results indicate that learners employing a weekly goal planning analysis form improved but showed only minor improvement on their use of self-regulation strategies. The third research question was "How do online learners who are less skilled in deliberate learning and study strategies employing weekly goal planning analysis forms demonstrate use of learning and study strategies compared to learners who are, to some extent, already self-regulated?" The results indicate that learners employing weekly goal planning analysis forms experienced an increased in use of learning and study strategies but there was not a statistically significant increase. Recommendations based on the findings suggest collection of participants’ prior grade point average and an increase in sample size.