Program Evaluation Studies: Strategic Learning Delivery Model Suggestions

By Michele L. Simpson

ABSTRACT: Although strategic learning delivery models such as study strategy courses or paired courses are essential in assisting college freshmen with their challenging academic tasks, very few program evaluation studies have been conducted on their efficacy. In order to encourage academic assistance professionals to evaluate their strategic models, the author shares seven suggestions that have been drawn from personal experiences and actual research studies. These suggestions focus on important questions that should be asked, instruments that might be used, possible data analyses methods, and tips for collecting data and writing reports.

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Because the academic tasks vary so dramatically from high school to college, many entering freshmen have difficulties during the 1st year of college (Martin & Arendale, 1994; Nist & Simpson, 2000). According to the extant literature, one reason for these difficulties can be traced to the fact that many college freshmen tend to be passive learners rather than active, strategic learners (Alexander & Jetton, 2000; Hofer, Yu, & Pintrich, 1999). In order to assist college students with these higher level thinking tasks, many colleges have established academic assistance programs that offer generic learning strategy courses as well as content-embedded models such as paired or linked courses (Warkentin, Stallworth-Clark, & Nolen, 1999). Although these academic assistance programs are not recent innovations, only a few evaluation studies of such have appeared in the literature (Weinstein, Husman, & Dierking, 2000). The lack of quality programmatic research is not surprising given that Boylan, Bliss, and Bonham (1997) have found in a survey that approximately 25% of the 4-year institutions complete on-going and systematic evaluation of their academic assistance programs. Much of the program evaluation research that does exist has often been"cursory" (Maxwell, 1997) and has overlooked important issues. More specifically, three criticisms have been leveled against the studies on strategic learning delivery models.

The first criticism of the studies on strategic learning delivery models is that researchers have typically failed to make explicit the theoretical grounding of their studies (O'Hear & MacDonald, 1995). In particular, there seems to be a mismatch between the theory underpinning a program and the questions and instruments used to evaluate that program. Without a consistent theoretical grounding to a program such as a learning strategy course or a paired course, it becomes extremely difficult to gather valid and useful information. The second criticism is that many studies have not examined students' academic performance using a constellation of dependent variables (Gebelt, Parilis, Kramer, & Wilson, 1996). Rather than posing a variety of questions and employing a battery of instruments that provide a more comprehensive picture of students, many studies seem to focus on one variable and one measure (Boylan, Bonham, White, & George, 2000). The third criticism is that many program evaluation studies have overlooked the critical questions addressing students' transfer and modification of strategies to their own academic tasks (Simpson, Hynd, Nist, & Burrell, 1997). That is, students who complete a learning strategy or paired course should have acquired the declarative, procedural, and conditional strategy knowledge necessary to become active learners across the academic disciplines (Hofer, Yu, & Pintrich, 1999; McKeough, Lupart, & Marini, 1995). Admittedly, transfer is difficult to measure and to insure, but in-depth studies using qualitative measures should be attempted if we really believe that the transfer of learning is the ultimate aim of teaching (McKeough, et al., p. vii).

These criticisms of the literature were particularly important to me because I have been coordinating the Adjunct Study Strategy Seminar, an experimental program that was a modification of the paired course model. In that capacity I have spent a considerable amount of time determining what questions I wanted answered about the program, designing instruments to address those questions, collecting and analyzing data, and writing reports. Rather than share the mounds of data I have collected over a period of 8 semesters, I would rather focus on what I have learned from conducting research on the Adjunct Study Strategy Seminar Program. Hence, this article will share seven suggestions, using the experiences and data from my studies to illustrate each point. Such an approach is somewhat unconventional in that

a typical journal article describes in depth one program evaluation effort. However, my overall goal is slightly different in that I hope to assist individuals in thinking about their own institutions and how they might evaluate their own strategic learning delivery models (i.e., a learning strategy course or paired course). Before I discuss these seven suggestions, I will share some background information about the Adjunct Study Strategy Seminar (ASSC).

Background Information

In order to address the needs at our university, I modified the paired or linked course in several ways. At our university the adjunct study strategy courses (ASSC) are 1-hour elective courses that are paired or linked to high-risk core courses such as biology, chemistry, history, and anthropology. With the permission of the professors teaching these core courses, ASSC is attached to their courses and opened to any interested student. Most of the students who choose to enroll in an ASSC are 1st- or 2nd-semester freshmen and are representative of the student body. The ASSC meet once a week for the entire semester and are taught by doctoral students who are knowledgeable in the content of the targeted core course. That is, a botany doctoral student might teach the ASSC biology course, or a chemistry doctoral student might teach the ASSC chemistry course. These doctoral students or ASSC leaders volunteer to participate in the ASSC program because they want teaching experience before they graduate. In order to prepare the ASSC leaders for their responsibilities, they take a 2-hour course in learning theory and classroom management that I teach 1 semester prior to their teaching. In addition, I meet on a weekly basis with the ASSC leaders and observe them three times during the semester in order to make sure that the strategies introduced in ASSC are task-appropriate for the content area and that the students are engaged and participating in the activities.

Although the exact subject matter of each ASSC varies across the content areas, all ASSC leaders teach their students how to think about the specific content, how to interpret academic tasks, and how to employ a variety of learning strategies. These strategies focus on how to (a) read textbook assignments; (b) solve problems; (c) take effective class notes from labs, lectures, and discussions; (d) prepare for objective and essay examinations; (e) plan and set goals; and (f) review and rehearse. In addition, all ASSC leaders involve the students in an evaluation and self-reflection activity after each of the exams in the targeted course.

The ASSC program has been in existence for 4 years. Throughout these 4 years and 8 different semesters I have conducted a variety of qualitative and quantitative studies as a way to improve the instruction and as a way to substantiate its viability to administrators (e.g., vice-presidents) who were in charge of funding. Many of these studies were descriptive or quasi-experimental in nature and had no cohort groups because "traditional experimental designs are less appropriate than other designs for evaluating reading programs" (Boylan, Bonham, White, & George, 2000, p. 387). A few of these studies were experimental and used more traditional methods of data analysis (e.g., ANOVAS, correlations). However, for all of the studies I conducted I made sure that I posed a variety of research questions and employed a constellation of dependent variables (e.g., students' performance, students' choice of strategies, students' satisfaction with the program). The instruments I used in the studies varied, but always had been piloted for reliability and examined for validity. In the next section I share what I have learned from these endeavors in the form of seven suggestions.

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Seven Suggestions for Conducting Program Evaluation Studies

These seven suggestions are relevant to academic assistance professionals involved in delivery models such as learning strategy courses or paired courses. I begin with more theoretical suggestions and end with more pragmatic ones.

Suggestion 1: Seek Instruments that Help Answer the "Why" Questions

Academic assistance professionals should seek out a variety of qualitative and quantitative instruments in order to address the "why" questions about our programs, courses, and interventions. As noted by researchers such as Pressley (2000) and Zimmerman (2000), the why questions are extremely important because they focus on students' cognitive and metacognitive processes, their beliefs, and their strategic behaviors. When we ask why questions it permits us to tease out the reasons for students' growth and changes or the lack thereof. In contrast, the "what" questions tend to examine products or results such as students' grade point average, their performance in a course, or their retention at the university (Casazza & Silverman, 1996; Dembo & Jakubowski, 1999). Admittedly, these types of what questions are important, but if we only know the what we are handicapped in our attempts to improve our programs and to share the results with others.

An example from one of the studies I conducted during the Spring semester of 1999 will illustrate the instructional usefulness of why questions. In this study of 53 students enrolled in history and in our Adjunct Study Strategy Seminar, we examined a variety of questions, but one of the questions concerned the students' metacognitive processing. Using a technique developed by Pressley and his colleagues (Pressley, Snyder, Levin, Murray, & Ghatala, 1987) to measure metacognitive awareness, we asked the students throughout the semester to predict their test performance in the form of a letter grade. These predictions always occurred after they took the exam and before they received the results of the history exam. At the end of the semester we found that the students' accuracy of prediction accounted for 28% of the variance in their overall performance in the history course, [adjusted $R2 = .284$, $F(2, 32) = 7.73$, $p = .002$, $d = .487$]. That analysis provided us a specific, albeit partial, explanation as to why some students succeeded in history and some did not. Consequently, I made use of that why information by making sure that all the ASSC leaders spent time after each exam teaching students how to reflect and evaluate on their performance in the targeted course. Had I only collected the students' grades in the targeted history course, a what piece of data, I never would have known why some students did better than others.

There are a variety of why questions that can guide program evaluation studies and the search for appropriate measures to answer those questions. As noted by Weinstein (1994) and others, one of the most common why questions focuses on students' growth or change over a period of time. For example, in one of my earlier studies I posed several questions, one of which examined students' growth and change in terms of their self-regulated learning. To measure this, I asked the ASSC students to complete a Likert-type scale, the Learning Strategy Inventory (LSI), an instrument that had been piloted the semester before and validated by a panel of experts in reading. The LSI was grounded in self-regulation theory and measured five areas considered important to strategic learning: planning, monitoring, text processing, rehearsing, and reviewing (Zimmerman, 2000). The 176 students enrolled in biology, chemistry, and history and in ASSC completed the LSI at the beginning and end of the Fall semester of 2000. The paired samples tests revealed significant differences between the students' pre- and posttest scores, $t(176) = 8.52$, $p < .001$. In

other words, the ASSC students changed and improved in the ways they were reading, studying, and learning.

I decided to follow up on these gain scores in order to identify some more answers as to why. Thus, I conducted a correlational analysis to determine if there was a relationship between the 176 ASSC students' LSI posttest scores and their grades in the targeted classes. The results indicated that all the correlations were significant, but not particularly strong (e.g., chemistry, $r = .227$). The one exception to that pattern occurred in history where the correlation of .317 was moderately strong for those 53 students, suggesting that there was a relationship between students' reported behaviors and strategies and their performance in history. This was an important piece of information for the students and for me.

I used another type of why question to examine potential differences in students' performance across the academic disciplines. According to Alexander and Jetton (2000), educators have tended to overlook the role that an academic discipline can play in learning from text. Because I wanted to determine if there were any differences in students' performance across the core classes that were targeted for ASSC, I made sure throughout the 4 years of research that I consistently asked these questions using a variety of instruments. One of these instruments, the Getting Acquainted Activity (GAA), measured students' beliefs about learning in a particular academic discipline. As with the LSI, the GAA had been embedded in theory, validated by a panel of experts, and piloted with similar students. In my analysis of the GAA data collected from 176 ASSC students enrolled in biology, chemistry, and history, I discovered that there were significant differences between the students' scores on the GAA pretests and posttests, $t(176) = 19.33$, $p < .0001$. The post-hoc multiple comparisons indicated that the 53 students in the history ASSC scored significantly higher ($p = .046$) on the posttest GAA than the students in the biology or chemistry ASSC. Hence, it appeared that all the students made gains or growth in their belief systems, but the history students made the most.

Because this finding has held true for 3 years, I have made sure that we target at least one history course per semester for an ASSC. In sum, it appears that program evaluation studies become more useful when there is a concerted attempt to answer both the what and the why questions in a variety of ways.

Suggestion 2: Use a Combination of Theory-Based Qualitative and Quantitative Measures

Boylan, Bonham, White, and George (2000) and others (e.g., Strauss & Corbin, 1990) have noted that it is important to use a variety of theory-based qualitative and quantitative instruments when conducting research. Too often, however, academic assistance professionals are hesitant to use qualitative measures such as open-ended questionnaires because they have read of the countless limitations of self-report data (e.g., Garner, 1988; Pajares, 1992). What is often forgotten in these attacks is the fact that quantitatively oriented measures are not perfect either because the data they depend on can be narrow in scope. Although the numbers involved in grades, grade point averages, attendance, or retention appear to be clean data, they, too, are fraught with limitations (Merriam, 1998; Strauss & Corbin, 1990). Students' grade point averages are a case in point. That is, there are so many reasons for the grade point averages students earn (e.g., course load, classes selected) that a mere number cannot reveal all the nuances involved in their growth and learning.

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The ASSC leaders and I found this to be true when we examined the ASSC students' course grades during the 1st year of our program. At least 22 of 80 ASSC students in biology, who earned a final course grade of C in the targeted course, received an F on their first two or three exams. However, these students ended the semester with a strong B on their last exam and/or final. Obviously, these students were not able to earn a B in the targeted course given most biology professors' grading systems, but they did improve significantly and did learn how to be a more strategic learner. Had these data not been collected and examined, these important trends detailing students' improvement would have been camouflaged by the quantitative data collected at the end of the semester.

An added advantage to using a combination of qualitative and quantitative instruments is that the data from one can often be used to triangulate and provide additional substantiation for the data gleaned from the other. When researchers employ multiple sources of data they also enhance the internal validity and reliability of their findings (Merriam, 1998). For example, I have been able to use the ASSC students' answers to several open-ended probes as a way of triangulating the quantitative data that we collect on their final course grades in the targeted class.

More specifically, when I wrote my summary for the Fall semester of 2001, I reported that 89% of the 80 ASSC students in biology received a grade of B or above. I also pointed out that 90% of them (72 students) reported on an open-ended questionnaire that they believed that ASSC influenced their performance in biology. Even more important than these statistics are the students' explanations as to why ASSC influenced their performance, facts hidden by mere tallies of grades. After doing a qualitative content analysis of the students' responses, I discovered that the 80 biology students reported that ASSC influenced their course performance because they learned a variety of test preparation methods (e.g., self-questioning and mapping) and because they learned how to plan and distribute their reading and studying.

Obviously, there are a variety of ways to address program evaluation questions. Two of the most promising and creative ways rely on open-ended probes and scenarios. Because these two mechanisms can strengthen any research endeavor, it is important to review how they might be developed, analyzed, or used.

Open-ended questions and probes. Open-ended questions or probes are excellent ways to answer a variety of program evaluation questions. More importantly, they can be used to determine students' viewpoints and suggestions on strategy courses or paired courses, an important aspect in any program evaluation endeavor (Mealey, 1991). For example, in order to access students' viewpoints on our program (i.e., ASSC), at the end of each semester I ask them to respond to this probe: Would you recommend ASSC to a friend? Why or why not? Over a period of 4 years, 83% of the 1,283 ASSC students from 1998-2002 have reported "yes" to that question. More important than the percentages have been the students' answers to the "why or why not" probe. Thus far, the most common explanation offered by the students has focused on the usefulness of the planning strategies they learned in ASSC.

Also, open-ended probes have been used to determine whether students have transferred and modified the targeted strategies to their other academic tasks, an extremely important question that should be asked of any strategic learning delivery model (Hofer, Yu, & Pintrich, 1999). For example, Randall (2002) used a combination of open-ended probes and questions to determine whether or not her former students were transferring the strategies they had

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learned in her course to the courses that they were taking 1 semester later. Randall's instruments had been piloted with similar students and had been reviewed by a panel of reading experts so that she knew she had clear, unambiguous, valid, and reliable probes and questions. In her descriptive study of 64 former students, Randall determined for one of her research questions that 47% of the students had chosen to annotate their textbooks and that 80% of them did so in the margins of their textbook. For the other students who did not choose to annotate or who did not use the margins of their text for their annotations, Randall also learned their reasons or explanations as to why and their modifications of the strategy (e.g., yellow sticky notes). Probes and questions, creatively written, elicited that type of useful information.

Having touted the usefulness of open-ended questions and probes, it is equally important to point out that these instruments require a more time intensive method of scoring. These methods include the use of rubrics and a qualitative content analysis (Altheide, 1987). I have used the former to score students answers on a variety of open-ended probes. The rubric (see Table 1) was codeveloped by a doctoral student in history (i.e., the ASSC leader) and myself. I have found the rubric to be an efficient and reliable way of scoring students' answers to open-ended probes. Qualitative content analysis, on the other hand, requires a search for overall patterns or trends. For example, when I read the students' answers to the probe asking them to explain whether or not they were using the strategies from ASSC in their other classes–one question I pose to determine strategy transfer–I have been able to group the answers from the students who answered "yes" in three distinct ways. Those groups include the following: (a) I am using self-testing, (b) I am breaking up my reading, and (c) I am annotating my textbook.

Scenarios or case studies. Scenarios or case studies are context-specific problems for which students provide a written solution or answer (Nist & Holschuh, 2000). Scenarios can be broad based, covering an entire semester of instruction, or they can be specific and relevant to a problem, such as procrastination or the lack of concentration. I like the broad based scenario because it allows me to evaluate whether or not the ASSC students have grasped the idea that there is no generic method of study, a basic tenet of strategic learning theory. That is, the ASSC leaders teach their students that strategic learners have a repertoire of strategies and processes and that their use of them depends on the task required in a specific course, their background knowledge, and an informed decision on how they learn best. See the Appendix for an illustrative scenario describing a cultural geography course taught at our university.

The scenario explains the academic tasks required by the geography professor and describes a typical student, Jennifer, as she works through the tasks. At the beginning and end of the semester we ask the ASSC geography students to read the scenario and then write their solutions for the character Jennifer, as if they were talking to her. Students are told at the end of the semester that they are expected to write more and to be far more task-specific with their suggestions. For example, it is not atypical for students at the beginning of the semester to answer question two by suggesting "Jennifer should read her book." However, after a semester of instruction, the ASSC leaders and I expect the ASSC students enrolled in geography to recommend to Jennifer that she should break up the reading into smaller parts, to use the geography professors' web site as a preview for the reading, and to annotate their texts with a focus on theories, visual aids, and the relationships between ideas.

The advantages of using a scenario are quite compelling. First, because scenarios do not provide students prompts for their answers, they have the potential of fully tapping students' beliefs and their strategy knowledge at a conditional and procedural level (Nist & Holschuh, 2000). Second, students' answers to scenarios tend to be more detailed than their answers to open-ended probes, especially after they realize the expectations inherent in their answers. Third, the ASSC leaders and I have found that students tend to complete the scenario in a more diligent fashion. Unlike checklists or Likert-type scales where students often circle down the middle just to complete the task (Pajares, 1992), scenarios tend to engage students in more active thinking and writing. Finally, students' answers to a pretest scenario can help academic assistance instructors understand the beliefs and approaches of undergraduates. I know our ASSC leaders look forward to reading what their students have written and routinely incorporate that information into their lesson plans. Because of these four reasons, I replaced the LSI, my Likert-type scaled instrument, with the scenario and have used these content-specific scenarios for 3 years with considerable success.

One limitation to the use of scenarios is that they require sophisticated methods of analysis. In addition to using rubrics or a content analysis to score a scenario, another possibility has been explored by Holschuh (1998). She set up her scenarios with problems or situations, but added another paragraph in which an imaginary student (e.g., Jennifer in geography) solves the stated problem, usually with some positive decisions and some negative decisions. Hence, the students reading the scenario do not write out their own answers, but reply to the imaginary student's solutions using a 5-point Likert-type scale (i.e., Strongly Agree to Strongly Disagree). For example, in Holschuh's scenario about a character named Chris in biology, students read the scenario about Chris and respond to these statements:

> 11. Chris' plan of taking good notes and trying to memorize facts should be all it takes to get a good grade in Biology 103.
> 12. If Chris tried to understand every theory it would take him too much time to read a chapter (Holschuh, 1998, p. 154).

Hence, using the Likert-type scale with the scenario reduces the scoring burden and produces numbers rather than the patterns that emerge from a content analysis. Regardless of the scoring procedures chosen, the most important

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Table 1
Sample Scoring Rubric for Open-Ended Probes

Question 1.	What do you believe is important to understand and learn in history?
3 (BEST)	*At least two of these*: trends and changes over time, causes/effects, the significance of events or certain individuals, themes and patterns
2	*One of the above answers and one of these or something similar*: the hows and whys, key events, key people, legislation, relevance of past to the future
1	*The emphasis in on:* names, dates, events, legislation, battles, people
Question 2.	What do you do when you read your history assignments?
3 (BEST)	*At least two of these:* make notes in margin of text, pause and think about key points, note key events or people, look for cause/effect and significance, predict possible questions, make connections between ideas, read headings first, compare ideas to lecture
2	*One of the above answers and one of these or something similar:* underline or highlight, outline, focus on important facts and boldface words
1	*The emphasis is on:* reading to remember, reading slowly, highlighting, focusing on dates, battles, people, trying to memorize

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thing to remember is to use a variety of qualitative and quantitative theory-based instruments.

Suggestion 3: Assess the Perceptions of the Major Stakeholders

Although students are the major stakeholders in their educational experiences, they rarely are asked for their perceptions about a new program or innovation. As Maxwell (1997) and Mealey (1991) have pointed out, students have unique insights into the academic challenges they encounter which academic assistance professionals often cannot fully understand. Students can also tell us which component or part of a particular program or course has had the most impact on them and which components need improving.

Using an open-ended questionnaire that asked students about their ASSC experiences, for example, I learned from them that they resented the time spent at the beginning and end of the semester completing program evaluation instruments. Consequently, I modified and shortened the instruments and omitted one of them so that the time spent in class completing instruments was drastically reduced. On the positive side, a resounding majority of the ASSC students told me that they loved the ASSC class because it was small and informal, allowing them time and a context that encouraged them to communicate with each other and with their ASSC leader. Had I not collected this information, I would not have been able to convince administrators that these ASSC courses needed to be small (i.e., less than 25) in order to build that sense of community so often missing from the typical lecture class of 300. In short, it is always advantageous to listen to the voices of our students.

Suggestion 4: Conduct Program Evaluation Studies Over a Sustained Period of Time

As noted by the American Association for Higher Education (1992) and numerous experts (e.g., Boylan, Bonham, White, & George, 2000; Elifson, Pounds, & Stone, 1995), academic assistance professionals should carefully plan their program evaluation studies to insure that they collect data over a sustained period of time. When studies are replicated or longitudinal in nature, we gain the advantages of strengthening the internal reliability of our findings, increasing confidence that we draw reasonable conclusions and avoid erroneous decisions (Merriam, 1998). An example from my own experiences will aptly illustrate the importance of collecting data over a period of time.

After the 1st year of data collection it seemed to me that the biology ASSC students were not performing well in the targeted course (i.e., biology), nor were they employing the strategies that we taught them. At the end of the 1st year I could have decided to seek other core courses for the ASSC instruction, but I decided, instead, to try 1 more year of targeting this introductory biology course that troubled so many freshmen and sophomores. Luckily, my hunches paid off because the 2nd, 3rd, and 4th years of ASSC for biology have reversed the trends from the initial year and have become an extremely positive experience for everyone involved: the students, the ASSC leaders, and the biology professor. Interestingly, this past year the biology ASSC students outperformed the other ASSC students in that not one of the 43 students received a course grade lower than a B in biology. In retrospect, the findings from the 1st year were probably an aberration caused by the newness of the program and by my tentativeness in helping the biology ASSC leaders identify appropriate strategies and classroom management techniques.

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Collecting data about a program over a period of time is important. But equally important is following, over a period of time, the students who participate in a strategic learning delivery model (Boylan, Bonham, White, & George, 2000). Given the difficulty of locating students and encouraging them to participate in a program evaluation study several semesters after they have taken a learning strategy or paired course, it makes sense that academic assistance professionals resort to short-term data collection. However, it is possible to collect the follow-up data from students, especially if incentives are provided. For example, Randall (2002) has reported providing several incentives to her former students for their participation in her study. For one of these incentives the researcher has described offering a drawing for a considerable amount of money in order to insure her students' active participation. Thus, I would urge academic assistance professionals to collect data over time and to be creative in finding ways to enlist students' participation in these important studies.

Suggestion 5: Systematically Collect Information Throughout the Semester

At first glance, this 5th suggestion may appear to be a repeat of the 4th suggestion. However, the essence of this suggestion is different in that I am stressing the importance and usefulness of collecting formative data from the students that can be used to modify and enhance instruction. Experts would certainly concur with this suggestion (e.g., Boylan, Bonham, White, & George, 2000; Payne, 1994). Data such as students' test scores in the targeted course or their evaluations about the strategies they used when studying for the tests can help academic assistance instructors understand why students are performing as they are. Moreover, this information, if organized creatively, can assist students in improving how they go about reading, studying, and learning. For example, our ASSC leaders prepare a report and class presentation for the students after each exam that describes the strategies and plans of the students receiving an A or B and the strategies and plans of the students receiving a D or F.

I remember one dramatic classroom session that occurred in the chemistry ASSC in which students learned that A and B students were studying less but using more strategies than the other students. When they entered the classroom, these chemistry students were prepared to hear that they "just had not studied long enough." Once they left class they realized that they had to alter the number and type of strategies they were using and that they needed to be studying throughout the unit, not countless hours the night before the exam. Had the ASSC leaders not collected, analyzed, and reported these data, many students would have continued to use their high school techniques.

These data can also become, in a serendipitous fashion, useful information for final reports that must be handed in to administrators (e.g., Directors, Deans). I regularly include in my final reports the number of ASSC students who have made two or three jumps in their exam grades. For example, many ASSC students in biology and history score a D on the first exam, but jump to a B or A on the next and subsequent exams. I also report these trends for the papers and projects that ASSC students have to complete for targeted core courses such as political science and anthropology. Over the 4-year period I have found that ASSC students' grades on papers and projects have been consistently higher than the class averages. Thus, whether data are used in writing a report or in designing a lesson to nudge students' beliefs and behaviors, it is important to remember to collect that information.

Suggestion 6: Train the Individuals Administering the Program Evaluation Instruments and Prepare the Students

If academic assistance professionals want the highest quality data, it is imperative that

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they take the time to train the individuals who will be administering the instruments and the individuals who will be completing the instruments (i.e., the students). I learned this the hard way. During the 1st semester of the ASSC program I gave the ASSC leaders the instruments I wanted them to administer to their students. Although I discussed the necessity of collecting data about the program, I neglected to be specific and practical in my remarks. After my observations of several classes and discussion with the leaders, I discovered that they had waited until the last 5 minutes of the class period to distribute the instruments to the students. Moreover, they had not discussed the importance of these evaluation instruments, nor had they conducted any type of review with the students during the class period. Naturally, the students hurried through them so they could leave class early. As I read what the ASSC students had written, I realized that we had collected information that was not particularly useful. Consequently, since that time I have methodically trained the ASSC leaders on how to administer each of the instruments and how to motivate students to complete them in a detailed and honest manner.

Suggestion 7: Highlight the Findings and Trends in Creative Ways

As Payne (1994) and others have noted, academic assistance professionals conduct program evaluation studies for a variety of reasons. Most importantly, we do so in order to improve our programs or interventions. However, many of us conduct these studies because we also need to justify our programs to university administrators. Although both reasons stimulated my program evaluation efforts, the latter reason was particularly strong for me because I had to demonstrate success if the funding for the ASSC program were to be continued. But I also knew that I had to summarize and represent my findings in a final report that would capture the interest of a busy administrator not inclined to read lengthy prose documents.

To solve this dilemma, I scrutinized the world of business and, in particular, advertising. I examined how experts in advertising represented data and how they captured the attention of the public. After this examination I decided to implement four guidelines as I wrote my report. First, keep the findings brief and bulleted. Second, avoid the use of jargon (e.g., self-regulated learning) and technical procedures (e.g., regression analysis) because many administrators are not conversant with this language. Third, use graphics such as bar graphs or pie charts whenever possible. And finally, orchestrate situations where the customers (i.e., the students) provide testimonials about the advantages of the product (i.e., the ASSC program).

To accomplish the final guideline, I asked the ASSC leaders to identify several students in their classes who would be willing to be videotaped. I wanted males and females who had succeeded in the targeted course (i.e., an A or B) or who finally "got it" and pulled out a satisfactory grade (i.e., C). I ended up with an impressive cross-section of students and a compelling videotape and CD that I sent to the administrators responsible for funding our program. I would also add that I found it best to have a professional do the videotaping in a campus studio in order to avoid the "talking heads" syndrome that occurs when amateurs, like myself, attempt to become a producer and director. In sum, think about the audience for your data and make sure that there is some creativity in how you communicate with that audience.

In the process of writing this manuscript I have considered the possibility of an 8th suggestion: Academic assistance professionals should share the results of their program evaluation studies at conferences and in journals. However, after considerable thought I have decided that this 8th suggestion is really more of a plea. Published program evaluation studies on strategic learning delivery models are virtually nonexistent except for the work of individuals such as Weinstein and her colleagues (e.g., Weinstein, Dierking, Husman, Roska, & Powderill, 1998). Hopefully, these seven suggestions that have focused on important questions that should be asked, instruments that might be used, possible data analyses methods, and practical suggestions for writing reports will stimulate academic assistance professionals to conduct more studies of their own strategic learning models.

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Appendix
Example of a Scenario

Directions: Below you will find a scenario or situation that describes your geography course. Read the situation carefully, thinking about how you would read and study for this course. After reading the situation, answer the five questions that follow. I will use the information from your responses to plan the activities for this course.

Jennifer is enrolled in her first geography course. Although she was a good geography student in high school who could memorize vast amounts of information, Jennifer is experiencing some difficulties with this course. On the first exam she received a low C even though she read and studied the chapters five hours the night before the exam. Jennifer's geography professor gives two exams that are a combination of multiple choice, short answer, and essay questions. Her geography professor writes exams that require students to understand key terms, sense relationships between concepts, apply concepts to real life situations, and interpret maps and graphs. The professor's lectures are similar to the textbook, but Jennifer often has difficulties in keeping up with the professor's lectures because of the fast pace of the class and the many overheads. However, the professor makes her overheads available on the Web. In addition to weekly lectures and assigned reading, Jennifer is required to take a map quiz and complete four lab assignments outside of class.

1. Overall, what problems do you see with Jennifer's approaches to the geography course?
2. What advice would you give her about her textbook reading?
3. What advice would you give her about taking lecture notes?
4. What advice would you give her about planning and time management?
5. What advice would you give her about studying for the geography tests?

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