

The Role of Study Skills & Strategies in the University Environment

Students who arrive on UT's doorstep are what faculty and administrators would typically call "good students" – young men and women who excelled in several areas during their high school careers.

Although many of these students navigate the university academic environment with little or no trouble, a good number of them find their way to the UT Learning Center because of difficulties. Their GPA may have dipped below the 2.0 mark, or perhaps they realized that they are drowning in a seemingly endless sea of classes, tests, papers, and homework. What we hear most often from these students is a variant on this theme: "I did great in high school. I don't know what's wrong now."

Many talented high school students don't have to study to do well. They go to class, listen during lecture, and show up to take tests that they "ace." They expect their college life to be similar to their high school years. Thus, they are often confused and dismayed when their college experience fails to mirror their high school academic success, but instead introduces the arrival of academic difficulties. *(continued on page 2)*

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"I did great in high school. I don't know what's wrong now."

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Active Learning and the UT Learning Center

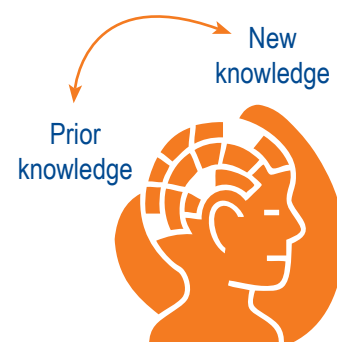
One of the biggest adjustments students new to the University of Texas face is the increased responsibility they will have to accept for their own learning. In contrast to the weekly quizzes and frequent classroom recitation they experienced in high school, they now find themselves faced with complete learning autonomy. When students confuse a professor's loose classroom structure with loose accountability, they often seek the Learning Center to gain an understanding of active learning.

All of the Learning Center's programs are designed to help students take charge

of their learning, and by extension their education, by focusing on active learning techniques. Active learning has many benefits for students, including increased motivation, self-confidence, and self-reliance. When students use active learning techniques, they must access their prior knowledge – what they already know – and then draw connections between that knowledge and what it is they are trying to learn. Making these connections between prior knowledge and new knowledge allows students to create inferences from their own memory. Thus, learning becomes more real and pertinent to the student, increasing the probability that *(continued on page 5)*

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Role of Study Skills and Strategies – continued from page 1

In working with these students, we frequently find that they lack basic study skills and strategies – in short, they don't know how to study, and, when something goes academically wrong, they don't know how to recover. Given that they may have never had to engage in such practices, this is probably not surprising. Furthermore, study skills and strategies instruction is often viewed as remedial in nature, thus beyond the purview of the university. Research, however, suggests that study skills are fundamental to academic competence and student success (Gettinger & Siebert, 2002). Also, perhaps ironically, most universities have as an overall goal the cultivation of high-order thinking skills – and, study skills, at their best, promote this level of cognitive engagement. Thus, perhaps it's time we rethink our role in teaching these skills and strategies.

Gettlinger and Siebert (2002) identified four clusters of study skills: repetition or rehearsal-based; procedural or organization-based; cognitive-based, and metacognitive-based. At the UT Learning Center, we find that most students understand and engage in appropriate rehearsal-based strategies (e.g., memorization), which are easy to use and apply, but which do not lead to deep processing of material. Fewer students correctly use procedural skills, which include study routines (e.g., time management) and material organization. Cognitive and metacognitive skills, including actively processing academic material and the selection and application of appropriate strategies to learn the material, are frequently lacking. Research suggests that these skills can be effectively taught through both modeling and direct instruction (Gettlinger & Siebert, 2002; Schunk & Zimmerman, 1994; Weinstein & Mayer, 1985).

Four clusters of study skills:

- repetition, or rehearsal-based
- procedural, or organization-based
- cognitive-based
- metacognitive-based

(Gettlinger and Siebert, 2002)

At the Learning Center, we emphasize to the students selected as peer tutors and peer mentors the importance of serving as “good student” role models. A tutor who arrives on time for an appointment models good time management; a mentor who discusses strategies for learning difficult material models appropriate academic cognitive engagement. Additionally, center staff conducts seminars, as well as multi-week workshops, in several components of study skills and strategies, providing more intensive and direct instruction to UT students. While these services scaffold students during times of trouble, they are ultimately designed to put learning, and the capacity for learning, back into the hands of the students – thereby providing them with the assets needed to carry them through UT and beyond. ●

REFERENCES

Gettlinger, M., & Seibert, J.K. (2002). Contributions of study skills to academic competence. *School Psychology Review*, 31(3), 350-365.

Schunk, D.H., & Zimmerman, B. (Eds.) (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Erlbaum.

Weinstein, C.E., & Mayer, R.F. (1985). The teaching of learning strategies. In M.C. Wittrock (Ed.), *Handbook of research on teaching*. New York: Macmillan.



Enriching the UT Experience for First-Generation College Students

The transition from high school to college presents a challenge for any entering UT student – but the transition often proves even more difficult for first generation college students.

Factors contributing to the first generation student's difficulties may include unrealistic expectations regarding college life, inadequate academic preparation, lack of guidance and support (parental, campus-related, and/or financial) and even culture shock driven by unfamiliarity with new surroundings and a completely new peer group.

Vincent Tinto asserted that students must achieve “social integration” and “academic integration” in order to be successful in higher education. Research supports this assertion, suggesting that a sense of belonging has a direct impact on a student's decision to stay in school. (Tinto et al., 1993). This sense of belonging can be increased or decreased through the quality of the students' interactions with the university's academic and social communities. The opportunity students have to develop one-to-one relationships with university representatives, including faculty and staff as well as other students, seems to be of particular importance in achieving social and academic integration (Chickering & Gamson, 1987).

In an effort to maximize the academic and social integration of first-generation college students at UT, Academic Enrichment Services (AES), part of the Office of the Dean of Students, offers nine programs designed to enhance students' overall success at the university and beyond: Achieving College Excellence (ACE), Gateway, Gateway to Graduate and Professional School, Grad Prep, Longhorn Link, the Mentor Program, Moo-vin' On, Preview, and Welcome.

The core components of the nine programs facilitate students' social and academic integration into higher education and assist them with graduate school preparation. One of the most important components of these programs is the personalized advising that students receive from their peer advisors and program coordinators. Students in AES programs usually develop close relationships with their peer advisors, with whom they meet regularly to discuss the questions, struggles and successes that come with college life. Students also have direct access to the program coordinators, with whom students can meet anytime to discuss both academic and personal issues. Students greatly benefit from the personal connections they make with students and staff in the programs and are reassured to know that someone at the University cares about their success.

Another core component of AES programs is the variety of academic enrichment services that are offered. Students in these programs have access to free tutoring, study groups, intrusive academic advising, study skills workshops and, in some cases, smaller classes. These students benefit from the extra instruction they receive and from the opportunities to discuss difficult course material with others. The smaller learning communities that are created provide an enriching atmosphere for in-depth study and reflection. ●

REFERENCES

- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, March, 3-7.
- Tinto, V., Goodsell, P. and Russo, P. (1993). Building community among new college students. *Liberal Education*, 79(4), 16-21.

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The AES Mission Statement:

“Academic Enrichment Services creates avenues facilitating the capacity of all students to take charge of their learning and their lives. Through programs and services students become engaged members of the University community, exemplifying academic and personal excellence from their first semester at UT to graduation.”

Asking Good Questions Means Getting Good Data

by Marcus Davis

Marcus Davis is the Systems Analyst at the UT Learning Center

Although the adage “less is more” may often hold true, it falls short in relation to data collection. Indeed, most analysts and researchers declare that only more is more. But, how do we get good data? One way is to ask good questions. In fact, journalism’s long-held questioning mantra works well: *who*, *what*, *when*, *where*, and *how* are questions all data collectors should learn to ask.

When faced with the task of building a data collection system for a learning center, the systems analyst is simultaneously faced with two evolving challenges: a system must meet the learning center’s current staff and student needs, and the system must collect enough information to satisfy current research needs as well as fuel future research agendas. Complicating these challenges is the fact that neither the needs of staff and students nor researchers are static – both require that the system develop to keep pace with ever-changing and ever-growing needs. Here’s how we use the journalist’s five questions to support our research agenda.

Knowing **who** is requesting services goes far beyond collecting a student’s name and electronic student identity. Although the Learning Center sees the same types of issues repeatedly (e.g., time management quandaries, concentration problems) each student is unique. In addition to basic information, our system allows staff who initially see the student to use free-form text to enter this “uniqueness factor” into our database. Although this information is not used for data generation per se, it does provide us with a history that allows us to provide appropriate follow-up services for the student without having to ask the same questions over and over. Additionally, the information can be used to develop new student services.

WHO
WHAT
WHEN
WHERE
HOW

We must also keep track of **what** the student wants. Specifically, we need to track what services the student asks for, and be able to recommend appropriate additional services to the student. We offer a wide array of assistance choices, including tutoring, supplemental instruction, study strategies classes, and math exam reviews. A student will often come to us because they’ve been “told” to (for a grade contract, for example) but not have any idea of what services we can provide. Instant database access to assistance choices allows us to make appropriate – and more importantly, perhaps, timely – recommendations to our students. We are also able to track the numbers of students using each type of service.

Keeping track of **when** the student requests and/or uses our services is also important. In the immediate, it allows us to provide sufficient staffing and facilities to meet needs. Additionally, it provides us with information about how our service delivery can be improved. Do we, for example, need to schedule morning review sessions? Should study strategy classes be offered in the evenings? Tracking the “when” can help us answer these questions.

Good data collection also asks **where**. Do students, for example, most often access our services from their own computers, or come into our offices? How frequently do they visit our facility for tutoring? Again, answers to these questions provide us with current information about our student clients while allowing us to prepare for their future needs.



Combining the answers to the *who*, *what*, *when*, and *where* questions provides us with essential student usage information. These findings can be used to steer service options and to predict service level needs. But, the answers to these questions provide little information about student satisfaction. For the Learning Center, **how** is the last, and perhaps most important, question asked: we want the student to tell us how we did, to evaluate the particular services they used. Well-crafted evaluation tools give us a snapshot of the past and provide directional clues for the future. Student evaluations enable the service provider to fine-tune current and future staffing, scheduling, and assistance options. Additionally, evaluation responses, when closely examined, provide information about improving the evaluation instrument itself. For example, questions that might be asked include, “Does the time of day seem to influence the response tone?” and “Does the length of time between service and evaluation response seem to affect the reported level of satisfaction?” Answers to questions like these provide the researcher with a way to fine-tune the instrument to maximize both reliability and validity.

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Evaluations, especially when combined with student usage information, can also be mined for more succinct information about the students we serve. For example, are students who complete evaluations immediately after the service was provided different from students who wait days or even weeks to complete evaluations? Do students immediately use the services recommended, or do they wait days – or even weeks – before accessing the service? Answers to these types of questions may provide the researcher with important information about a student’s motivation or persistence.

Building a good data set – the foundation of good research – requires a little creativity and a lot of discussion with staff regarding both their immediate needs as well as their future goals, desires and wishes. Architects of data collection systems must plan ahead to meet these needs. Most importantly, perhaps, the systems analyst never forgets that finding the best answers starts and ends with asking the best questions. ●

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the new information will be transferred into long-term memory. A correct answer on a test then becomes a product of gained knowledge rather than skill at just recognizing a correct statement. As students begin to understand that they can control their learning and improve their retention, they become more confident – and more successful – in their courses.

The UT Learning Center provides services to 12,000 students every year. Ongoing program evaluation, including qualitative feedback and anecdotal reports, demonstrates that students benefit from these services.

Additionally, the Learning Center enjoys substantial student “repeat business” – e.g., almost 78% of tutees received more than one hour of tutoring, and almost 25% received at least 10 hours of tutoring. In an effort to more systematically explore the impact of center services on students, including exactly how students benefit and what the center can do in the future to help students become more proactive and effective learners, additional research efforts are being undertaken. Evaluation instruments in several programs (e.g., Teaching, Counseling, Supplemental Instruction, and University Outreach) have been or are being redesigned.

Additionally, in light of new research on effective practices, several new research projects are being initiated. For example, data was collected last spring to determine if the training Supplemental Instruction leaders received in the affective needs of students resulted in a stronger sense of classroom community. A longitudinal study is being developed (*continued on page 8*)

Surpassing Ourselves

Book review by
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Hardly a day goes by that we are not reminded of society's extravagant need for high performance. We seek it in missile systems, athletics, electronics, micro-surgical techniques and survival television shows. Indeed, over the past thirty years research on high performance—the capacity of human beings to surpass themselves—has created a whole body of literature on “expertise.”

By framing the question as what distinguishes novices from experts, however, authors Bereiter and Scardamalia feel previous researchers may have missed the point about expert performance. They've focused on the enormous knowledge and experience gulf which distinguishes beginning practitioners from experts, but they've directed little attention to the actual process by which expertise is acquired. (And as the authors demonstrate, expertise is a process, not a product.) More importantly, earlier researchers have missed the interesting distinction between mediocrity and expertise. As members of an advanced industrialized society we are primarily concerned with what novices will become, not with what they don't know. Will they eventually join the ranks of mediocre functionaries or attain expert status in their chosen fields? The distinction, then, between mediocre and expert performance is what informs this book and gives us additional insight into what best practices at the highest level may comprise.

Unlike animals who have mastered a wide range of physical skills necessary for immediate survival (swimming, hunting, fly catching, etc.), humans develop expertise intentionally and in new domains. Our expertise consists of “effortfully acquired abilities, abilities that carry us beyond what nature has specifically prepared us to do” (p. 3). It follows that many of the examples on which the authors draw come from fields marked by a high degree of intentionality—chess, mechanical engineering, computer science, medical diagnosis and musical performance.

In contrast to experts, specialists, with whom society seems to have a love/hate relationship, carry out practiced routines. They execute the same or similar protocols over and over again until their reliability quotient is so high we feel comfortable entrusting them with procedures we aren't familiar enough to finesse ourselves (such as our annual income tax return.) Experts, on the other hand, engage in progressive problem solving. They work consistently at the edge of their own competence to address problems at the upper limit of complexity. Acquiring the deep knowledge necessary to work at that edge is a conscious decision within a person's career and constitutes a genuine “method of expertise.”

But what do experts actually do? The authors identify several characteristics. For one thing, there is no denying experts know more. Their knowledge base is large, probably the result of at least 10,000 hours of preparation. Ironically, having more knowledge results in “less thinking.” A large knowledge base makes many cognitive functions automatic, resulting in superior pattern recognition and the automatization of many mental procedures. Bereiter and Scardamalia compare the process to our learning how to drive. At first the exercise commands all our attention but after enough repetition, we have seamlessly chunked so many individual procedures (release the clutch, hold down the gear lever) that we can navigate familiar routes one-handed while talking on a cell phone.

But basic mental economies, such as we achieve in driving, don't completely explain expertise. What further distinguishes experts is how they choose to reinvest the mental resources they have just freed up. As we saw earlier in the distinction between specialists and experts, specialists immediately routinize and grow comfortable in the familiar groove

Surpassing Ourselves: An Inquiry into the Nature and Implications of Expertise

Carl Bereiter and
Marlene Scardamalia
Open Court, 1993.

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they have laid down for themselves. Experts, on the other hand, seek out problem-solving scenarios that require new learning, not just the repetition of familiar patterns. In Chapter 6 the authors illustrate the differences between progressive problem-solving approaches (as practiced by experts in music and medicine) and the “best-fit strategies” of specialists who force all new information into pre-existing schema, whether it belongs there or not.

Ultimately, though, Bereiter and Scardamalia want to expand our understanding of expertise beyond the individual. They believe that just as an individual can cultivate personally rewarding modes of performance, so can society as a whole. That would mean as a community or a nation explicitly endorsing “expert-like endeavors,” such as a space program or disease eradication initiative, which would take us out of the comfort zone of specialized routines and into new territory at the edge of our collective competence. From this perspective, expertise is not necessarily just a property of individuals, but can characterize a whole society’s commitment to progressive knowledge building.

That’s an ambitious agenda and one that didn’t convince me as much as a simpler point made earlier in the discussion. In the treatment of creative expertise (Chapter 5) Bereiter and Scardamalia discuss “promisingness” and how to recognize it. They describe one facet of expert learning as being able to make good predictions about what will prove important in the long run (to recognize “promisingness”), even if our immediate experience with the topic may be limited. It occurred to me that much of our work with students involves recognizing what is promising in them (their innate abilities, their dispositions, their habits) and encouraging them to cultivate those very qualities. In that sense, many of our best practices in learning assistance (particularly those which foster self-awareness) are naturally “expert” and intimately connected to the mission of helping all students surpass themselves. ●

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Self-Regulated Learning and the Longhorn Link Program

As students begin their higher education journey, they encounter a variety of new experiences and undergo a series of adjustments. These challenges begin the first day of orientation and continue through graduation. To assist students with the challenges of balancing their academic and social lives, the Longhorn Link Program offers a host of services, including academic advising, peer mentoring, personal counseling, study skills workshops, cultural enrichment opportunities, and access to tutoring and career exploration.

Federally funded by the U.S. Department of Education, the Longhorn Link Program is designed to serve 130 first generation, low income, and/or disabled college students with varying academic needs. The program’s primary goal is to increase retention and graduation rates; these types of services

are especially important for this population as they often face obstacles their peers do not.

Barry J. Zimmerman (2002) used the term self-regulation to refer to the “self-directive process by which learners transform their mental abilities into academic skills.” Furthermore, Zimmerman (2002) specifies three self-regulatory phases: the forethought phase, in which students set goals; the performance phase, in which students deploy the specific strategies necessary to achieve the goal; and the self-regulation phase, in which students reflect and evaluate their progress. To foster the self-regulatory process, Longhorn Link staff work directly with students to help them acquire skills sets in several areas, including goal setting, time management, learning strategies, critical *(continued on page 8)*

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to analyze the effectiveness of Peer Academic Coaching over several semesters (the Peer Academic Coaching Program matches interested students with a trained peer mentor for coaching on academic matters such as study skills and time management). Studies being developed in the tutoring program include a qualitative study to examine how tutoring affects and contributes to the personal growth of the tutor, and a study analyzing tutors' perspectives on the academic skills of the students they tutor. The results of these research efforts will help Learning Center staff be of even greater assistance to students, as well as assist with the training of tutors, mentors, and SI leaders. Look for the results in future issues of *The Learning Curve*. ●

Self-Regulated Learning and Longhorn Link – continued from page 7

thinking skills, and self-evaluation techniques. Through the completion of the self-regulatory process, staff and students realize goal attainment.

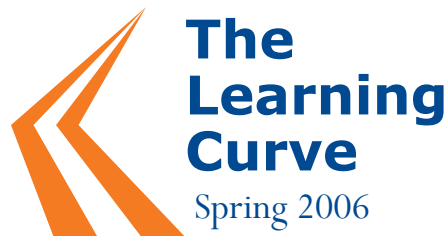
What makes this approach particularly appealing is that it is a practical approach regardless of the end goal sought. Whether a student desires to better manage his or her time, to achieve higher grades, or to get off of academic probation, these stages provide effective tools for both students and staff. Engagement in self-regulatory processes also reap other benefits: studies conclude that students who set and use goals fare better and are more likely to achieve in the target area than students who do not set goals (Bandura & Schunk, 1981), and self-regulated students are more likely to seek out help from others to improve their learning (Zimmerman, 2002). These students, therefore, become more proactive and are able to use their acquired skills throughout their college career and beyond. ●

REFERENCES

Bandura, A., & Schunk, D.H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality & Social Psychology*, 41(3), pp. 586-598.

Schunk, D.H., & Zimmerman, B.J. (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ; England: Lawrence Erlbaum Associates.

Zimmerman, B.J. (2002). Achieving academic excellence: A self-regulatory perspective. In M. Ferrari (Ed.) *Pursuit of Excellence Through Education*. Mahwah, NJ: Lawrence Erlbaum Associates.



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