SYLVAN RESEARCH INSTITUTE

SylvanSync™

Research in Action: Advanced Study Skills

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SylvanSync™

Research in Action: Advanced Study Skills

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The staff of Rockman et al includes researchers with advanced degrees in education, cognitive science, communications research, child development, research design, educational technology, psychology, and the humanities. Since 1990, Rockman et al has conducted hundreds of evaluations and research studies and has often served as the external evaluator for grant-funded projects supported by foundations, state and federal agencies, and private industry.

3925 Hagan Street
Bloomington, IN 47401

595 Market Street, Suite 2570
San Francisco, CA 94105

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INTRODUCTION

Sylvan Learning's Advanced Study Skills curriculum reflects the changes in skills that students need for the 21st century digital environment in which they live, learn, and work. The Advanced Study Skills program is part of a suite of highly personalized programs offered through SylvanSync, Sylvan's new digital teaching platform. This platform uses tablet computers to deliver and manage digital content, which teachers can tailor to students' individual needs. This program, as with all of Sylvan's programs, can be delivered at Sylvan Learning centers or at schools or community sites.

According to the program design, after completing the Advanced Study Skills program, students will be able to:

- Recognize the relationship between effective study skills and strategies and academic success;

- Demonstrate an understanding of how to apply study skills and strategies appropriate for various learning situations and contexts; and

- Demonstrate an understanding of how to apply 21st century skills.

In addition to the tablet computer based Advanced Study Skills program, Sylvan Learning also delivers a Sylvan Study Skills Back-to-School Camp. Designed to enrich students' academic experience through engaging, creative, and collaborative activities, this small-group program focuses on helping students set short- and long-term goals and develop the organizational and time management skills necessary to use strategies in various learning situations.

The objectives of these programs are aligned to the skills described in this paper, especially the metacognitive skills that independent learners use to select and assess the skills and strategies they employ. The programs also support many of the skills set forth in the new Common Core State Standards (CCSS), as well as the skills that currently define digital and media literacy.

For over two decades, researchers have explored how students acquire the skills and strategies that make them successful learners. Recently, however, interest in the field has grown-among not just researchers and theorists but also practitioners and policymakers-for several reasons. First, a substantial body of research has shown that the self-regulation strategies, study skills, and behaviors that help students become "masters of their own learning processes" play an important role in academic success (Zimmerman, 2008, p. 181; see also Allan & Clarke, 2007; Nordell, 2009; Pintrich & De Groot, 1990; Tuckman, 2003). To succeed in school, students may need better time-management, note-taking, and test-taking skills, along with a set of memory cues that help them store and retrieve information or link it to what they already know. They may also need more complex metacognitive skills, which range from determining what a task requires or teacher expects, to routinely asking themselves, "Did I learn this well enough?" (Winne & Muis, 2002).

"The spine of everything we do is college readiness."

--Jon L. Erikson, ACT Inc., Education Division

According to researchers, the most successful students have multiple strategies at their disposal. The more they practice applying these strategies, the more automatic the skills become and the more nimble students are at transferring them to other tasks and learning environments. Less successful students may simply not know how to study. For them, studying may mean reading material once or trying to memorize information, which may result in frustration and discouragement, especially as assignments become more challenging (Cano, 2006; Gettinger & Seibert, 2002).

Fortunately, these deficits can be remedied, and a growing body of evidence that learning abilities are neither innate nor fixed has heightened the interest both in study skills and in the best ways to teach them. Students are not destined to go through school as either successful or unsuccessful learners. Through coaching and practice, they can acquire not only the skills to understand and monitor their learning, but also what Carol Dweck, whose research focuses on how to foster success, calls a "growth mindset" (Dweck, 2010). The authors of a recent review of the nonacademic attitudes and behaviors that shape school performance came to a similar conclusion about the necessity-and malleability-of the skills that contribute to an "academic mindset" (Farrington et al., 2012).

What has also made study skills not just a frequent but also urgent topic of late is that the skills students need in school and beyond are changing, and traditional study strategies or note-taking skills may simply not be enough. To meet the more stringent requirements of the Common Core State Standards (CCSS) and companion high-stakes tests, students may need higher-level study skills. To navigate through the vast amounts of information available online, students need a certain level of digital and media literacy to evaluate what they find, even before they begin to interpret the information and hone the 21st century critical thinking and analysis skills needed for college-level work. They also need an understanding of online etiquette and privacy to responsibly take part in online sharing and interactive digital communities.

The urgency of teaching study skills also stems from reports from colleges, which suggest that, too often, students arrive unprepared. According to the Educational Policy Review Center, 40% of admitted and enrolled students take at least one remedial course, and close to 20% need a reading course (Conley, 2012).

These and other findings about what students need to succeed in school, in college and university courses, and in careers have led educators and policymakers to rethink college readiness and remediation and propose new learning standards and assessments. In a recent article, both Jon Erikson of ACT's Education Division and David Coleman from the College Board stress the new emphasis on readiness, or what Erikson says has become the "national agenda" (Lewin, 2013). These findings have also led Sylvan Learning to develop the Sylvan Advanced Study Skills curriculum, which includes not just traditional study skills, but also digital and media literacy skills, support for college-bound students, and other skills that students need to succeed.

Each of the nine courses in the Sylvan Advanced Study Skills program focuses on a different skill group. Embedded throughout the program are questions and activities that prompt critical thinking and metacognition, motivating students to "think about their thinking." These include:

- Study Skills and Goal-Setting Essentials

- Improved Organization and Time Management

- Reading for School Success

- Powerful Communication and Presentations

- Note-Taking Strategies That Work

- Test-Taking with Confidence

- Writing to Win

- Navigating the Digital World

- Conquering College/University Admissions

THEORETICAL VIEWS OF STUDY SKILLS AND STRATEGIES

Since the early 1990s, researchers and theorists have sought to define the concepts, processes, and behaviors that fall into the broad category of study skills and strategies. Their definitions may vary, but most agree that these are key foundational skills that enable students to acquire, organize, retain, and use information. More broadly, study skills and strategies allow students to regulate their own learning-that is, determine where they are having difficulty, devise a strategy to tackle the task at hand, and cycle back through the process if the initial strategy proves ineffective (Ford, Smith, Weissbein, Gully, & Salas, 1998; Pintrich & De Groot, 1990; Winne & Hadwin, 1998; Zimmerman, 2001).

Even though the goal is for these skills and strategies to become second nature, most theorists also agree that developing effective study habits involves an intentional, purposeful process (Cleary & Zimmerman, 2004; Zimmerman & Schunk, 1989). According to Zimmerman (2001), intentional learning means that the student sets out with a specific goal and selects the strategies and settings most favorable to learning. The gamut of intentionally applied skills he lays out include: "self-evaluation, organization and transformation, goal setting and planning, information seeking, record keeping, self-monitoring, environmental structuring, giving self-consequences, rehearsing and memorizing, seeking social assistance (peers, teacher, or other adults), and reviewing (notes, books, or tests)" (Zimmerman, 2001, p. 7).

While acknowledging that intention is individual and varies from learner to learner, researchers divide the strategies available to learners into three general categories: resource-oriented strategies, such as "creating a favorable learning environment, controlling attention, and sustaining concentration"; cognitive strategies, such as rehearsal, organization, and elaboration; and metacognitive strategies, such as planning, monitoring, and regulation (Helmke & Schrader, 2001, pp. 13553-13554; see also McKeachie, Pintrich, Lin, & Smith, 1986; Snow & Swanson, 1992; Weinstein & Mayer, 1986).

Metacognition involves an awareness of and control over cognition (Flavell, 1979; Ozsoy, Memis, & Temur, 2009; Zimmerman, 1998), but the strategies that some researchers de-

fine as metacognitive are also similar to the resource-oriented procedural strategies. They involve thinking about what is conducive to effective studying and taking responsibility for learning. For example, setting aside an hour without TV or other recreational screen time in order to read could be a metacognitive strategy. However, metacognition more often involves "deep processing," which Winne (1996) describes as the application of studying tactics such as:

> Retrieving concepts and ideas relevant to material currently being studied, monitoring relationships between new information and prior knowledge, assembling propositions into elaborated structures, rehearsing and transforming information into meaningful schemata, and metacognitively monitoring and adapting learning tactics according to the requirements of a task. (p. 344)

The learner must not only retain the information, but also see how it fits within the context of the material being learned and how it connects to other ideas. Generally, the more a learning strategy involves manipulating or organizing material rather than just reviewing it, the more likely it is to lead to deep understanding (Weinstein & Mayer, 1986).

The Sylvan instructional approach helps support the learning processes that lead to this deep understanding of content. Sylvan teachers devise a plan for each student, which includes direct instruction followed by opportunities for students to practice skills and strategies independently, then apply them when the opportunity presents itself. We call these activities Independent Practice and Skills Application. The Skills Application lessons prompt students to apply skills to their lives and schoolwork and then reflect on the process. The transition from Guided Practice to Independent Practice to Skills Application incorporates structured support, or scaffolding, from the teacher. Follow this link to see an illustration of a student's Daily Plan and the Sylvan instructional approach.

Researchers also agree that self-regulated learning is a multiphase, iterative process. Zimmerman's (2000) cyclical model of self-regulation defines three phases-forethought, performance, and self-reflection-which serve as a framework for promoting students' learning in an academic context. The initial, forethought phase includes task analysis and some source of motivation; the performance phase includes self-control or the various strategies the learner uses to complete the task. The final, self-reflection phase is the metacognitive monitoring of one's performance. Separating the goal-setting and enactment or performance steps, Winne and Hadwin (1998) define a four-phase, recursive model for self-regulated learning (see also Winne, Jamieson-Noel, & Muis, 2002), and Farrington and her research colleagues (2012) pose questions that learners might ask themselves as they cycle through these four phases:

- The first phase focuses on identifying the learning task: What does the task require of me? How is it related to other things I've done? What do I know about this already? How hard will this be?

- Phase 2 involves setting goals related to the task, developing plans, and selecting strategies to reach them. This phase also includes deciding on some kind of standard for success: What will it look like if I've done this successfully?

- In Phase 3, the student enacts the selected strategies and monitors what happens: How well is this tactic working? Why didn't it work? Am I as good at this as I thought I was? Should I try a different strategy? Did I learn this well enough?

- The fourth phase involves students rethinking how they will approach future tasks, which, since it is based on cumulative experiences, may take time to develop and apply (p. 40).

Students who engage in this kind of self-regulation also develop a sense of self-efficacy, what Farrington and colleagues term the "I can succeed at this mindset" (2012, p. 40). Recent research suggests strong links between self-regulation, self-efficacy, intrinsic task interest, and academic achievement (Zimmerman & Kitsantas, 2007; Zimmerman, 1998; Zimmerman & Martinez-Pons, 1988, 1992; Schunk, 1991; Pintrich & De Groot, 1990). These factors are in turn related to increased academic perseverance-the "grit" that enables students to continue putting forth effort when schoolwork gets challenging. It works the other way as well: Students with higher self-efficacy or who place a high value on their work are much more likely to use metacognitive and self-regulatory strategies to engage in learning.

The Student Learning Log and Skills Application lesson, key parts of Sylvan's instructional approach, work together to address the multiphase approach that research has linked to self-regulated learning:

- Teachers begin all lessons by activating prior knowledge for the student. This takes the form of the lesson Objectives and Introduction.

- Next, the Application section of the lesson provides activities that require the student to apply the skill to a school-based context or to life.

- Questions included in this lesson prompt students to reflect on their application of the skill.

- At the end of each session, students respond to a Learning Log prompt that requires students to reflect on what they learned during the session as a whole, how they learned, and how they will apply what they learned in the future.

Below is a sample of a Student Learning Log. This link will take you to a sample of a Skills Application lesson.

STUDENT LEARNING LOG

Prompts

To conclude each session, ask students to provide a written response to an assigned prompt.

K–2

1. What questions do you have about what you learned today?
2. What is the most important thing you learned today? Why is it important?
3. How will you use what you learned in your session today?
4. Draw a picture showing something you learned in today's session. Explain how you feel about what you learned.
5. Describe something you are proud of learning and explain why you are proud.

3–5

1. What is the most important thing to remember from your session today? Why do you think it is so important?
2. What did you learn today that will help make you a better student? How will it help?
3. Write an e-mail to a friend, teacher, or family member explaining a new word, idea, or skill that you learned today. Or, describe something you are proud of learning and explain why you are proud.
4. Name something that you learned today that you know will require more practice before you have mastered it. Explain why.
5. What questions do you have about what you learned today, or what ideas do you want to know more about?
6. Draw a picture of what you are proud of learning today. Explain how it relates to what you learned.

6–8

1. Which learning strategies worked well for you in this session? What was challenging for you today? Explain why.
2. How can you use a skill you learned in your session today in another subject, such as math, English, social studies, or science?
3. Name something that you learned today that you know will require more practice before you have mastered it. Explain why.
4. Write an e-mail to a teacher, friend, or family member explaining something that you are proud of learning today and how it will help you in school.
5. List the key words to remember from your session today. Pick one and explain why it is important, or how it relates to school or your daily life.

9–12

1. Summarize in one paragraph what you learned today. Explain how you can use what you learned in school.
2. How can you use a skill you learned in your session today in another content area, such as math, English, social studies, or science?
3. What suggestions would you give to other students working on the concepts you learned today? Why?
4. List three ways you think your understanding of a skill or topic has improved as a result of today's session.
5. Name something that you learned today that you know will require more practice before you have mastered it. Explain why.

Recent research has removed any doubts about the role of study skills and strategies in academic performance and instructional support for students. Far more than "tricks of the trade" that effective learners pull out when needed, these strategies are habits of mind, and among the factors that make up the "academic mindset" that students need to succeed (Farrington et al., 2012; Gettinger & Seibert, 2002).

The research has also confirmed that the cluster of skills and dispositions that attach to academic success are malleable, part of what Carol Dweck and colleagues call a "growth mindset" (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2006, 2010). Dweck (2010) identifies two types of learners: those with an "entity" theory view, who see intelligence as unchangeable or fixed, and those who hold to an "incremental" theory, which sees intelligence as malleable, increased through effort. The entity group may include students who doubt their skills and avoid challenging tasks. Those with an incremental view, or "growth mindset," may increase their efforts when faced with roadblocks, and consider different approaches (Dweck, 2010). Interestingly, those with a history of success but an entity view may be vulnerable, and unable to pivot to a new strategy, when they finally run into a roadblock. Knowledge of these patterns constitutes the research base for the Sylvan Advanced Study Skills curriculum.

TEACHING STUDY SKILLS AND STRATEGIES

This section shifts the focus from why study skills and strategies should be learned to how they should be taught. There is a growing body of research on explicit study skills instruction, as well as proof of its positive effects on academic performance (see, for example, Gettinger & Seibert, 2002). Although the goal of this instruction is to create independent learners, until those learners have acquired the skills and achieved that independence, teachers' coaching and monitoring are important. Zimmerman and others agree that study skills should be taught in naturalistic environments, either in a classroom or other learning setting, and they emphasize the value of feedback (Cleary & Zimmerman, 2004; Zimmerman, 2000). Farrington and colleagues (2012) also stress the importance of creating environments where students can build self-efficacy.

Instruction generally includes some form of feedback or assessment, but study skills instruction should, according to theorists, involve explicit modeling and questioning. The teacher may model a strategy or behavior by "thinking aloud" while performing a similar cognitive task, and then ask students themselves to think aloud (Gunning, 2008). Questions such as "What is next?", "What do you think?", "Why do you think so?", and "How can you prove this?" can trigger critical thinking and reflection. Checklists, writing rubrics, or journaling can help build students' reflective skills, and, over time, help them develop their own metacognitive strategies (Gunning, 2008; Hacker, Dunlosky, & Graesser, 2009; Nordell, 2009; Ozsoy et al., 2009).

According to Zimmerman (1998, 2000), modeling the phases of self-regulated learning described earlier helps students learn to monitor themselves. Teachers should begin by explicitly modeling the strategies in the cycle, then, as learners gain facility with each strategy, phase out support. The aim is scaffolded independence, which enables students to fine-tune their work and examine their studying, their strategies, and the outcomes.

Specific Study Strategies

Researchers typically divide skills and strategies into three or four categories, in some cases according to cognitive complexity. Allan and Clarke (2007), for example, define three basic types of skills for instruction: generic study skills (sometimes referred to as procedural strategies), study skills related to specific content, and the gradually-developed cognitive and metacognitive learning skills, all described in more detail below.

Generic Study Skills (Procedural Strategies)

Generic or procedural study skills are the traditional skills that help students become more efficient learners: time management, goal setting, note taking, and organization. To build these skills, instructors might teach strategies such as setting specific learning goals or choosing the best time of day or best place to study. Whether learners are assessing personal needs or devising practical solutions-gauging their mental energy, using earplugs to reduce noise, or facing a wall to limit visual distractions-these strategies help them optimize time and energy (Gettinger & Seibert, 2002; Ozsoy et al., 2009; Zimmerman, 1998).

Instruction in these procedural strategies should help learners, independently: (a) complete difficult work when they are most alert and have the fewest distractions, (b) segment long assignments into smaller more manageable tasks, (c) vary study tasks (e.g., alternate between reading and writing), and (d) build some flexibility into study times in case schedules or circumstances change (Gettinger & Seibert, 2002).

Teachers can also embed comprehension tasks such as pre-reading, analyzing text structure, and reviewing or pre-learning vocabulary into these procedural routines (Gunning, 2008). Students themselves can also set up a system of rewards for achieving a study goal, such as granting themselves television or game time (Zimmerman, 1998).

> The first two courses of the Sylvan Advanced Study Skills program focus on generic (procedural) strategies. Students are introduced to the concepts of study skills and strategies, then prompted to set a personal purpose for the course as a whole. Teachers guide students through the process of understanding themselves as learners, establishing personal expectations, and setting short- and long-term goals in order to achieve this purpose. They also help students develop strategies that can be used to execute these goals and meet personal expectations. These strategies include key organization and time-management skills, such as how to use an academic planner, set personal schedules, and organize a personal study area.

The Advanced Study Skills program guides students through the process of organizing their schoolwork, offering tools that help them evaluate and document their work and thereby develop the organizational skills and study habits that are critically important for success in school and in life. Follow these two links to see an example of a Skills Application lesson and the Ongoing Skills Tracking feature.

Domain or Content-Specific Skills

Allan and Clarke's (2007) second category focuses on study skills related to content, and they maintain that study skills instruction is more effective when embedded in content instruction. In other words, math teachers should teach students to study for math in conjunction with teaching specific math curriculum. Embedded instruction allows students to immediately apply a content-appropriate strategy, rather than having to expend energy deciding which strategy to use. While most study strategies should be generalizable to other subject areas, the immediate, course-specific success that learners experience will build self-efficacy and increase the motivation to continue studying (Allan & Clarke, 2007; Zimmerman, 1998).

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[1] Some researchers distinguish between "study skills" and "study strategies" (Strichart, Mangrum, & Iannuzzi, 1998), noting that study skills actually refer to a learner's ability to manage study strategies. This discussion makes the same distinction where appropriate, but in some cases the terms are interchangeable or paired.

Teaching students skills within a specific domain or content area is particularly important when content is new or unfamiliar-when, for example, students encounter the nonfiction texts stressed in the new Common Core Standards or their first molecular biology reading assignment-and requires conscious, focused effort. As learners gain expertise in a given subject, choosing a strategy becomes automatic, even with new or dense content (Ericsson & Smith, 1991; Winne, 1996). For these reasons, Sylvan courses include content-specific study skills in addition to general skill instruction.

> All of the skills and strategies taught in all courses of the Sylvan Advanced Study Skills course are intended for application to all content areas. In addition, students are provided with domain-specific reading and study strategies within the Reading for School Success and Test-Taking with Confidence courses.

In the Reading for School Success course, students learn how to apply strategies to content-specific texts for English language arts (ELA), mathematics, social studies, and science; specifically, they learn how to better understand the content by examining the structure and features of each text. Click here for a sample of a textbook-reading activity.

Within the Test-Taking with Confidence course, students learn and apply specific study strategies for spelling, vocabulary, literature, math, science, and social studies. Follow this link for a sample vocabulary activity.

Repetition-Based Cognitive Strategies

As noted above, some theorists (Allan & Clarke, 2007) categorize strategies based on their cognitive complexity. Most consider repetition-based strategies, often used with novice learners, to be the least complex. These strategies are typically content-specific and involve memorizing information, such as spelling words, dates, or definitions. They can include flashcards and mnemonic devices, such as abbreviation, acronyms, and recitation. Rhyming strategies-"In fourteen hundred ninety-two/ Columbus sailed the ocean blue"-help students functionally organize the information into simple, memorable formats (Strichart et al., 1998).

Simple and easy to learn and apply, all these strategies assist with the recall of information. They may not, however, be effective beyond simple memorization (Gettinger & Seibert, 2002; Strichart et al., 1998). As students begin to create their own mnemonics, they may need to build more cognitive complexity into their repetition-based strategies, or rely on other strategies to remember sizeable quantities of information (Nordell, 2009).

Students learn a variety of repetition-based strategies within Sylvan's Test-Taking with Confidence course. Specifically, the Memory Techniques lesson covers a variety of memorization strategies, including use of mnemonic devices, chunking, repetition, visualization, movement, and rhyming. In addition, various domain-specific repetition strategies are taught within the corresponding domain-specific study lessons. This link illustrates some of the memory techniques that students learn.

Complex Cognitive Strategies

More complex cognitive strategies help students organize information into manageable chunks, or assimilate new material into existing schema or knowledge sets (Gettinger & Seibert, 2002; Gunning, 2008). These strategies include, for example, reading for meaning rather than for detail, underlining passages and key words, summarizing passages, identifying main ideas, using concept maps, and synthesizing information into essays pertinent to the subject matter (Farrington et al., 2012; Gunning, 2008).

In mathematics, students might learn the acronym PEMDAS (Parentheses, Exponents, Multiplication, Division, Addition, Subtraction), which can help them correctly perform the order of operations. They might also learn imaging strategies, slightly more demanding than rote memorization, which help them access information by creating mental pictures or stories (Strichart et al., 1998). A picture, model, or story about the material being learned can also give teachers an opportunity to engage students in discussions and think-alouds and help them see how elements in the lesson are connected. A drawback to such strategies is that students need time to be able to use them independently, but practicing them in small group or one-on-one settings can help students gain competence more quickly (Allan & Clarke, 2007). Writing about representations or discussing cognitive organizers can further reinforce students' learning.

Cognitive-based strategies are not only embedded within and across the majority of the Sylvan Advanced Study Skills courses, but also are taught explicitly. Table 1 provides examples of how Sylvan teaches these interconnected strategies.

Table 1. Study Skills Course and Instructional Approaches

COURSE	INSTRUCTIONAL APPROACH
Reading for School Success	Students are taught a variety of active-reading strategies, which can be applied to all school subjects, to break down and synthesize information.
Note-Taking Strategies That Work	This course teaches students a variety of strategies to record, organize, and subsequently study information from texts and language.
Test-Taking with Confidence	This course teaches a range of strategies to study then retrieve information.

Metacognitive Strategies

Reflective, metacognitive strategies help students monitor their learning or think about their thinking (Gettinger & Seibert, 2002; Ozsoy et al., 2009; Zimmerman, 1998). As students take more control over their learning, they can ask themselves the kinds of questions that instructors ask of novice learners: "Why am I studying this passage?", "What am I trying to learn?", "Do I understand this material?", or "Is this strategy helping me?" Expert students constantly monitor their learning, checking for comprehension throughout the learning process rather than waiting for results from an outside source (Allan & Clarke, 2007; Zimmerman, 1998).

Research suggests that instruction in metacognitive strategies, usually specific to certain content areas, can have a positive impact on student performance. In a meta-analysis by Haller, Child, and Walberg (1988), the average effect size of metacognitive instruction on reading comprehension across 20 studies was 0.72, a very large effect. Seventh and eighth graders benefitted most, which is consistent with Piaget's theory that the formal operational stage of cognitive development occurs around age 12 (Flavell, 1963). During this developmental stage, children begin to think about abstract ideas and develop deductive reasoning skills and systematic planning, making it an ideal time to introduce learning strategies that draw upon these processes. In Haller, Child, and Walberg's study, the most effective metacognitive strategies helped students look for textual inconsistency and use self-questioning to monitor comprehension. Researchers also found that reading comprehension was highest when instructors encouraged students to combine several metacognitive strategies rather than focusing on only one or two (Haller et al., 1988).

Teaching Study Skills in a Digital Environment

In their research on how best to teach study skills for a digital or virtual environment, Allan and Clarke (2007) suggest a blended learning curriculum model that combines face-to-face, text-based, and digital learning materials. Face-to-face interactions allow instructors to teach study methods directly, either as general study skills or content-specific skills; combining such an approach with other environments allows them to vary scaffolding, from a highly guided approach to highly independent learning. As with any effective learning model, the instructor offers specific strategies for learning and retaining material and helps the learner build metacognitive skills.

Digital learning environments also provide opportunities for what Allan and Clarke (2007) describe as "learning-together-apart" (p. 66). In recent years, technology has become an integral part of the college experience, with instructors using tools such as virtual chat rooms, web-based instruction, and online practice tests. This technology can be beneficial for students not only because it assists in the learning process, but also because it helps them develop valuable workplace skills (Bernacki, Byrnes, & Cromley, 2012).

> The Sylvan Advanced Study Skills program uses the latest technology to adapt instruction to meet each individual student's needs, regularly evaluates and collects data on each student, and gives teachers and students an engaging, interactive environment in which to teach and learn.

While SylvanSync delivers guided instruction to students and provides opportunities to independently practice skills, it also prompts students to apply skills to school texts and external activities, with support and coaching from the instructor. Via the use of a Skills Search tool, the program provides students with opportunities to review and/or apply skills according to their immediate, school-related needs. Follow this link to see how the tool works.

COMMON CORE STATE STANDARDS AND STUDY SKILLS

In addition to defining the content skills that students will need to meet the increasing demands of school and college classrooms, the Common Core State Standards in mathematics and ELA/literacy also include other essential learning skills. Achieve, Inc., commissioned an analysis to identify these skills, which drew on two other sets of benchmarks, the Deeper Learning Standards (DLS) and the Career Cluster Essential Knowledge and Skills Statements (ESS). Achieve's report lists skills included in the Common Core standards and the instruction that is aligned to them. In many ways the Sylvan study skills curriculum described below embodies these findings. (See Table 2.)

Table 2. CCSS Study Skills and Sylvan Advanced Study Skills Courses

Study Skills Strongly Reflected in CCSS (Achieve, Inc., 2012)	Sylvan Advanced Study Skills Courses
• Communications skills (e.g., speaking, listening, messaging)	• Powerful Communication and Presentations • Writing to Win • Navigating the Digital World • Conquering College/University Admission
• Problem-solving skills (e.g., analyzing information, evaluating solutions)	• Study Skills and Goal-Setting Essentials • Improved Organization and Time Management • Reading for School Success • Powerful Communication and Presentations • Note-Taking Strategies That Work • Test-Taking with Confidence • Writing to Win • Navigating the Digital World
• Teamwork/collaboration skills (e.g., working in groups, goal setting)	• Study Skills and Goal-Setting Essentials • Improved Organization and Time Management • Test-Taking with Confidence • Navigating the Digital World • Conquering College/University Admission
• Reasoning skills (e.g., critical thinking, forming arguments, using logic)	• Study Skills and Goal-Setting Essentials • Improved Organization and Time Management • Reading for School Success • Note-Taking Strategies That Work • Test-Taking with Confidence • Writing to Win • Navigating the Digital World • Conquering College/University Admission
• The application/extension of core content in various situations (e.g., modeling)	• Reading for School Success • Note-Taking Strategies That Work • Test-Taking with Confidence • Writing to Win
• Research skills (e.g., gathering and analyzing information and sources)	• Writing to Win • Navigating the Digital World
• Time management skills (e.g., developing goals, prioritizing tasks)	• Study Skills and Goal-Setting Essentials • Improved Organization and Time Management • Test-Taking with Confidence • Conquering College/University Admission

DIGITAL LITERACY AND THE COMMON CORE

In addition to delineating the new academic standards, the Common Core authors also describe standards for digital literacy. We noted in the introduction how the digital environments in which students work and learn and the digital literacies they need to do so efficiently have broadened the scope of study skills and study skills instruction. Digital literacy also involves important procedural skills-understanding citations and copyright for online materials; assessing websites for inaccuracies, bias, or questionable authorship; and searching databases and submitting queries. Being literate in a digital age also includes the cognitive and metacognitive skills required to formulate good research questions.

> To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, report on, and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to research and to consume and produce media is embedded into every element of today's curriculum.
>
> --Common Core State Standards Initiative (2010)

A white paper on digital and media literacy from the Knight Commission on the Information Needs of Communities in a Democracy describes the "constellation of life skills necessary for full participation in our media-saturated, information-rich society" (The Aspen Institute, 2010, p. vii). Viewed through the lens of effective studying, these skills include both procedural and metacognitive strategies: locating materials, using digital tools, analyzing messages, reflecting on choices, and evaluating the quality and credibility of content.

Table 3 lists the skills recommended by the Knight Commission to address digital literacy, alongside sample Sylvan Advanced Study Skills lessons that address these skills.

Table 3. Knight Commission Recommendations and Sylvan Advanced Study Skills

Knight Commission Recommended Digital Literacy Skills (The Aspen Institute, 2010)	Related Sylvan Advanced Study Skills Lessons
Make responsible choices and access information by locating and sharing materials and comprehending information and ideas.	• Digital Literacy–Locating Information • Digital Literacy–Analyzing and Evaluating Information • Digital Literacy–Collaboration • Digital Literacy–Presenting Information
Analyze messages in a variety of forms by identifying the author, purpose, and point of view, and by evaluating the quality and credibility of the content.	• Digital Literacy–Analyzing and Evaluating Information • Media Literacy • Online Safety
Create content in a variety of forms, making use of language, images, sound, and new digital tools and technologies.	• Presentation Strategies • Digital Literacy–Presenting Information
Reflect on one's own conduct and communication behavior by applying social responsibility and ethical principles.	• Digital Etiquette • E-mail Etiquette • Online Safety

COLLEGE/UNIVERSITY READINESS

The college/university readiness skills currently defined by educators, researchers, and policymakers encompass all of the skills, concepts, behaviors, and mindsets described here. Obviously students need the academic preparation and mindset required to succeed in college courses, but they also need the skills to get there, or what some reports call "college knowledge": understanding the admissions process, the available options, placement requirements, tuition costs and financial aid, and the generally higher academic and behavioral expectations (Conley, 2005, 2007; Lundell, Higbee, Hipp, & Copeland, 2004).

All of the self-regulation skills reviewed here may be even more essential in a college/university environment. That environment may demand more of students, who will likely find it harder to monitor their studying, prioritize assignments and tasks, and prepare for exams. They may have to devote more time to learning outside of class and learn to use multiple resources-including sophisticated digital resources and databases. To do so effectively, students need reflective and metacognitive strategies in their toolkits, as well as the skills to apply them to particular subjects. Perhaps most important, students need to know what they know and don't know, when they are not learning, and how to how to apply a strategy to a new setting or a novel, ambiguous task (Allan & Clarke, 2007; Bransford, Brown, & Cocking, 2000; Conley, 2007; Gettinger & Seibert, 2002; Ozsoy et al., 2009; Ritchhart, 2002). They also need to know when to ask for help and how to accept critical feedback.

The Sylvan Advanced Study Skills program has developed a Conquering College/University Admission course in order to meet the needs of students navigating the admissions process and-independently-applying study skills and strategies once they begin their higher education. This link features an Advanced Study Skills activity that guides students through the process of setting short- and long-term goals to achieve college/university readiness.

CONCLUSIONS

The Sylvan Advanced Study Skills program provides a comprehensive, systematic, re-search-based approach to study skills instruction. Drawing on a wide variety of research, the Advanced Study Skills program operates under the philosophy that a student's success in the program and, in turn, in school and life, is directly related to two things:

1. Explicit instruction in related skills and strategies

2. Real-world, consistent, and independent application of study skills and strategies

In addition to the robust collection of courses that support different areas of study skills, the Advanced Study Skills program contains three unique features that help facilitate the relationship between the skills taught in the learning center and the student's ability to in-dependently apply them in school or in life: the Ongoing Skills Tracking section of the Daily Plan, the Skill Search tool, and the Skills Application lesson object. The automation of these features as part of SylvanSync allows for a seamless relationship between the skills taught at Sylvan and their authentic application to school and life.

In addition to the content and instructional approach of the Advanced Study Skills pro-gram, Sylvan is well positioned to provide effective supplemental and remedial instruction to a wide range of students through its other programs. Based on well-founded theories of teaching and learning and scientifically-based evidence on study skills acquisition and effective instructional practices, Sylvan provides intervention programs that offer system-atic, intensive, and explicit instruction. These programs focus on students' identified gaps, provide ample opportunities for practice, and incorporate appropriate levels of program-matic and responsive scaffolding. This instructional method allows Sylvan to maximize the effectiveness of each student's Advanced Study Skills program. The professional develop-ment component included in all Sylvan programs ensures teachers' knowledge of program implementation, quantitative and qualitative assessments, progress monitoring strategies, and core program content. Sylvan's commitment to parent and teacher involvement further serves to support students in their academic achievement.

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