Strategic Learning Assessment

College Version

User's Manual

by

Michael Ealy, M.B.A.

Sharon Field Hoffman, Ed.D.,
Wayne State University

Katherine R. Brendli Brown, Ph.D.,
Cornell University

Strategic Learning Assessment (SLA)

College Version User's Manual

TABLE OF CONTENTS

©2025, Longsdale Publishing

All rights reserved. It is a violation of the law to copy any or all of this publication without written permission of the publisher.

(727) 389-8026
service@longsdalepub.com
www.longsdalepub.com

PART 1: OVERVIEW OF THE STRATEGIC LEARNING ASSESSMENT

The Strategic Learning Assessment (SLA) is a comprehensive self-assessment tool designed to empower college students to develop skills that will improve their academic performance. The SLA is both diagnostic and prescriptive. As a diagnostic tool, it helps identify students' strengths and opportunities for growth in key learning areas. As a prescriptive tool, it provides tailored recommendations and strategies for improvement. The SLA assesses critical psychological and motivational factors (e.g., critical thinking, test preparation, communication) that significantly influence learning and academic performance. Each factor is causative in nature, accounts for a meaningful amount of the variation in student success, and is amenable to change through educational intervention. The overarching goal of completing this assessment is to help students become more strategic and self-regulated life-long learners.

College students often face difficulties identifying and addressing their unique learning challenges. This lack of awareness can impede academic success. While current assessment tools provide valuable insights, they may not always offer the depth and specificity needed for practical guidance and improvement. The SLA addresses this issue by offering a thorough, strengths-focused approach to learning assessment and development, based on the latest research in educational psychology.

The SLA is a self-administered questionnaire comprised of 66 items, each rated on a five-point Likert scale. The assessment covers 11 key learning areas, which consists of essential learning strategies and study skills that provide a holistic view of the student's learning profile. These key learning areas include: Communication, Critical Thinking, Effective Learning Strategies, Focus and Concentration, Growth Mindset, Persistence, Seeking Help, Sense of Belonging, Stress Management, Test Preparation, and Time Management. Each scale focuses on topics that students can actively employ to directly influence or improve their own learning, going beyond passive reception of information and helping students take charge of their learning process. Upon completion of the assessment, students receive a personalized Profile Report outlining their strengths and areas for growth, along with actionable recommendations to enhance their academic performance. Student and group data are available to instructors/advisors through the Administrative Dashboard, where multiple reports and downloadable data are available.

Uses for the Strategic Learning Assessment

Individual Students:

Identify Strengths and Areas for Growth: The SLA helps students understand their areas of strength and growth related to their ability to learn and succeed in academic pursuits. This self-awareness is crucial for effective learning.

Personalized Recommendations: Based on the assessment results, students receive tailored recommendations and resources to improve their learning strategies and study skills.

Goal Setting and Action Planning: The SLA can be used to help students set specific, measurable, achievable, relevant, and time-bound (SMART) goals for improving their learning and academic performance.

Increased Motivation and Engagement: By providing personalized feedback and actionable strategies, the SLA can motivate students to take ownership of their learning and actively engage in their education.

Track Progress and Growth: Students can take a post-test to monitor their progress over time and see how their learning strategies and study skills are developing.

Institutions and Educators:

Early Intervention: The SLA can identify students who may be at risk academically, allowing for early intervention and support services to be provided.

Targeted Support Programs: Institutions can use SLA data to develop and refine support programs that address the specific needs of their students, such as workshops on time management, stress management, or effective learning strategies.

Improve Teaching and Learning: Instructors can use aggregated SLA data to gain insights into the learning strengths and challenges of their students, informing their teaching practices and course design.

Assessment of Program Effectiveness: The SLA can be used to evaluate the effectiveness of academic support programs and interventions, providing data to support continuous improvement efforts.

Promote a Growth Mindset Culture: By emphasizing the importance of a growth mindset and providing resources to develop it, the SLA can help institutions foster a culture that values effort, perseverance, and continuous improvement.

PART 2: DESCRIPTION OF THE INDIVIDUAL SCALES

The SLA is comprised of 11 key learning areas designed to assess factors that contribute to student learning and academic success. These scales, grounded in educational psychology and learning theory research, provide a comprehensive picture of a student's learning profile. This section provides a detailed description of each scale, including its theoretical underpinnings, the specific skills and strategies it measures, and the potential challenges students may face in that area. Each scale description concludes with a list of references that provide further support and context for the information presented. Understanding the nuances of each scale is essential for interpreting student results, providing tailored feedback, and developing effective interventions to support student learning and growth.

SCALES

- Communication
- Critical Thinking
- Effective Learning Strategies
- Focus and Concentration
- Growth Mindset
- Persistence
- Seeking Help
- Sense of Belonging
- Stress Management
- Test Preparation
- Time Management

COMMUNICATION SCALE

Effective communication is a cornerstone of academic success in college. Students who possess strong communication skills can articulate their thoughts clearly, participate actively in class discussions, build rapport with professors and peers, collaborate effectively on group projects, and advocate for their academic needs. Conversely, students who struggle with communication may face numerous challenges, hindering their overall academic performance and personal growth.

Importance of Communication in College

In the academic context, communication is not merely about conveying information; it encompasses a wide range of skills, including active listening, verbal and nonverbal communication, and interpersonal skills. Research indicates a significant connection between

communication skills and academic achievement [1]. Moreover, effective communication facilitates critical thinking and problem-solving, as students engage in discussions, debates, and presentations, refining their analytical and persuasive abilities [2].

Challenges Faced by Students with Weak Communication Skills

Students who lack effective communication skills may encounter a myriad of obstacles. They may struggle to understand lectures and course materials, ask questions to clarify doubts, participate in class discussions, or seek help from professors or academic advisors. Consequently, they may experience lower grades, decreased motivation, and increased stress levels [3]. Additionally, poor communication can hinder collaboration with peers, which can lead to conflicts and misunderstandings in group projects. Furthermore, students with weak communication skills may face difficulties in networking with professors and professionals, potentially missing out on valuable opportunities for internships, research projects, and career guidance.

Strategies, Skills, and Techniques for Effective Communication

Developing strong communication skills is crucial for students to thrive in college. They can enhance their communication abilities through various strategies, skills, and techniques. Active listening involves paying attention to the speaker, asking clarifying questions, and providing feedback. Verbal communication skills can be honed through practice, attending workshops or courses, and seeking feedback from professors or peers. Nonverbal communication, such as body language, facial expressions, and tone of voice, plays a significant role in conveying meaning and building rapport. Interpersonal skills, including empathy, assertiveness, and conflict resolution, are essential for effective communication in academic and professional settings.

To facilitate the development of communication skills, college students can utilize various resources and support services available on campus. Academic support centers, writing centers, and communication labs offer workshops, tutoring, and individual consultations to help students improve their communication abilities. Additionally, student organizations and clubs provide opportunities for students to practice communication skills in a supportive environment.

The Communication scale is designed to identify areas of strengths and opportunities for growth in students. By pinpointing specific communication challenges, students can seek out resources and develop targeted strategies to enhance their skills, ultimately leading to improved academic performance, personal growth, and career prospects.

References

[1] Cavanagh, T. M., Leeds, C., & Peters, J. M. (2019). Increasing oral communication self-efficacy improves oral communication and general academic performance. Business and Professional Communication Quarterly, 82(4), 440-457.
[2] Hargie, O. (2022). Skilled interpersonal communication: Research, theory, and practice (7th ed.). Routledge.
[3] Ericson, Philip & Gardner, John. (1992). Two Longitudinal Studies of Communication Apprehension and Its Effects on College Students' Success. Communication Quarterly. 40. 127-137. 10.1080/01463379209369828.

Critical Thinking Scale

Critical thinking skills are fundamental to academic success in college. They equip students with the ability to analyze, evaluate, and synthesize information, leading to a deeper understanding of complex concepts and effective problem-solving. As students transition to college, the need to use their critical thinking skills is heightened as a result of a greater demand for engaging with diverse perspectives, evaluating the credibility of information sources, and constructing well-reasoned arguments [1]. The item pool for the Critical Thinking scale encompasses a range of essential skills, including analyzing arguments, evaluating evidence, synthesizing information, identifying biases, and challenging personal assumptions.

Challenges Students Face in Thinking Critically

Many students entering college have not been explicitly taught critical thinking skills or have not had sufficient opportunities to practice them. Common challenges include [2]:

- **Difficulty distinguishing between facts, opinions, and unsupported claims:** Students may accept information at face value without seeking to verify its accuracy. They struggle to identify biases in sources, and/or to differentiate between credible and unreliable sources. As the degree to which we obtain information from the internet continues to increase with a

continuous evolution in technological advancements, this has become an even more challenging endeavor.

- **Synthesizing information from different sources:** Integrating information from various sources and forming a comprehensive understanding of a topic can be overwhelming for some students.
- **Identifying and challenging personal assumptions:** Students may be unaware of their own biases and assumptions, which can hinder their ability to objectively evaluate new information.
- **Overcoming cognitive biases:** Confirmation bias, the tendency to seek information that confirms pre-existing beliefs, can impede critical thinking by preventing students from considering alternative perspectives.
- **Limited exposure to diverse viewpoints:** Students may have limited experience engaging with ideas that challenge their own, making it difficult to evaluate arguments and develop nuanced perspectives.

The Transition to College-Level Critical Thinking

College coursework demands a deeper level of engagement compared to high school curriculums, because it requires students to analyze more complex information. Further, college students are often expected to evaluate conflicting viewpoints and develop original arguments [3].

Developing Critical Thinking Skills: A Lifelong Endeavor

Developing critical thinking skills is a continuous process that requires deliberate practice and intentional effort. Students can enhance their critical thinking abilities through [4]:

- **Active participation in class discussions:** Asking clarifying questions, presenting counter-arguments, and engaging in respectful debate can foster critical thinking by exposing students to diverse perspectives and challenging them to articulate their own ideas.
- **Analyzing and evaluating academic readings:** Identifying the main arguments, evaluating the evidence provided, and considering potential biases can help students develop a deeper understanding of complex texts.
- **Breaking down complex problems:** Decomposing complex problems into smaller, more manageable parts can facilitate analysis and lead to more effective problem-solving.

- **Seeking out multiple perspectives:** Engaging with diverse viewpoints can broaden students' understanding of a topic and challenge them to consider alternative explanations.
- **Reflecting on personal biases and assumptions:** Identifying and challenging personal biases can promote objective evaluation of information and lead to more nuanced perspectives.

The Strategic Learning Assessment: A Tool for Assessing Critical Thinking Skills

By identifying areas of strength and opportunities for development, the Critical Thinking scale can inform targeted interventions and support students in developing the critical thinking skills necessary for academic success.

Conclusion

Critical thinking skills are essential for academic success in college and beyond. By understanding the challenges students face, the differences in critical thinking involved in college vs. high school, and the work it takes to develop these skills, college and university professionals can provide targeted support and empower students to become independent thinkers and lifelong learners [5]. The Strategic Learning Assessment is a valuable tool in this process, providing insights into students' critical thinking abilities and informing targeted interventions.

References

[1] Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., & Zhang, D. (2015). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, 85(1), 4–107. https://doi.org/10.3102/0034654308326084

[2] Snyder, L. G., & Snyder, M. J. (2008). Teaching critical thinking and problem solving skills. *The Delta Pi Epsilon Journal*, 50(2), 90-99.

[3] Lai, E. R. (2011). Critical thinking: A literature review. Pearson Research Reports.

[4] Halpern, D. F. (2014). Thought and knowledge: An introduction to critical thinking (5th ed.). Routledge.

[5] Facione, P. A., & Gittens, C. A. (2016). Think Critically (3rd ed.). Pearson Education.

Effective Learning Strategies Scale

The Effective Learning Strategies scale is designed to assess the cognitive and metacognitive strategies that college students employ to acquire, process, and retain information. This scale combines two dimensions of learning: techniques students use to actively engage with learning materials and students' familiarity with evidence-based techniques that can enhance their learning effectiveness [1].

The first dimension encompasses the techniques students use to actively engage with learning materials. These strategies include monitoring one's comprehension, using active listening and reading techniques, and integrating new information with existing knowledge [2]. Students who effectively monitor their learning can identify areas of further study, which often leads to more targeted and efficient study habits. Active listening and reading strategies (e.g., summarizing key points, taking notes, and asking clarifying questions) can enhance focus and retention during lectures and while reading. Integrating new information with existing knowledge structures helps students retain information for long-term use and apply it to new situations. [3, 4]

The second dimension refers to students' familiarity with evidence-based techniques that can enhance their learning effectiveness. These techniques include spaced repetition, retrieval practice, elaboration, interleaving, dual coding, concrete examples, self-explanation, active recall, feedback, and collaboration. Research has shown that these strategies can significantly improve students' recall, comprehension, and ability to apply knowledge to new situations [5].

Challenges in Developing Effective Learning Strategies

Despite the benefits of these strategies, many students are unaware of their existence or struggle to implement them effectively. Some common challenges include:

- **Lack of awareness:** Many students are never explicitly taught effective learning strategies.
- **Misconceptions:** Students may hold inaccurate beliefs about learning, such as the idea that cramming is an effective study method or that rereading notes is sufficient for exam preparation. These misconceptions can hinder students from adopting more effective strategies and instead they may rely on ineffective methods like rote memorization, highlighting or re-reading texts or their notes. These methods may create an illusion of

familiarity with the material but do not necessarily lead to deep understanding or long-term retention.

- **Time management:** Implementing effective learning strategies requires time and effort, which can be challenging for students with busy schedules.
- **Motivation:** Students may lack the motivation to change their study habits, especially if they have been successful with less effective methods in the past.

The Importance of Developing Strategies

Developing metacognitive skills, or the ability to think about one's own thinking and learning, is crucial for students to become self-regulated learners. Metacognition enables students to monitor their learning, select appropriate strategies, and evaluate their progress. Professionals in Student Support Services, Academic Advisement, and Learning Resource Centers can play a pivotal role in fostering these skills by offering workshops, individual consultations, and online resources that explicitly teach effective learning strategies. They can also create a supportive learning environment that encourages students to experiment with different strategies and reflect on their effectiveness. By fostering a positive and supportive learning environment, professionals can create a space where students feel comfortable taking risks, trying new strategies, and ultimately becoming more effective learners.

References

[1] McGuire, S. Y., & McGuire, S. (2023). Teach Yourself How to Learn: Strategies You Can Use to Ace Any Course at Any Level. Routledge. Chapter 5: Metacognitive Learning Strategies at Work.

[2] Agarwal, P. K., & Bain, P. M. (2019). Powerful Teaching: Unleash the Science of Learning. Jossey-Bass.

[3] Clayton, K.K., Asokan, M.M., Watanabe, Y., Hancock, K.E. and Polley, D.B. (2021) Behavioral Approaches to Study Top-Down Influences on Active Listening. Frontiers in Neuroscience.

[4] Zepeda, C. D., Martin, R. S., & Butler, A. C. (2020). Motivational strategies to engage learners in desirable difficulties. Journal of Applied Research in Memory and Cognition, 9(4), 468–474.

[5] Brown, P. C., Roediger, H. L., and McDaniel, M. A. (2014) Make It Stick: The Science of Successful Learning. Cambridge, MA: Harvard University Press.

Focus and Concentration Scale

The ability to focus and concentrate is a cornerstone of academic achievement, especially for college students. Research underscores this notion. An abundance of research supports that multitasking interferes with task achievement. For example, a 2013 study published in the journal *Computers & Education* found a negative correlation between multitasking and academic performance, highlighting the importance of focused attention for effective learning [1]. Additionally, a 2023 study in *Cyberpsychology, Behavior, and Social Networking* demonstrated that students who reported higher social media use during study sessions had lower GPAs [2].

College students face a unique set of challenges that can hinder focus. The ubiquity of social media, with its constant notifications and attention-grabbing content, is a major culprit.

Why is it so important to develop focus and concentration skills?

- **Enhanced Learning and Retention:** Focused attention allows students to deeply engage with complex material, fostering better understanding and knowledge retention. A study in *Frontiers in Psychology* found that a focused learning approach led to superior performance compared to a surface-level learning approach [3].
- **Improved Efficiency:** When students can concentrate well, they can absorb information more effectively, leading to shorter, more productive study sessions. A 2009 study in the *Journal of Experimental Psychology* showed that students who reported better concentration skills spent less time studying while achieving higher grades [4].

Given these challenges, institutions can implement several strategies to support students in developing their focus and concentration skills:

- **Time management techniques** to create dedicated study periods free from distractions.
- **Active learning strategies** that promote deeper engagement with the material.
- **Mindfulness practices** to improve students' ability to regulate attention and manage distractions.

The Focus and Concentration scale provides valuable insight for student support professionals. By pinpointing students who struggle with focus, the assessment empowers educators to equip them with the strategies and techniques they need to thrive in their academic journey.

References:

[1] Junco, R., & Cotten, S. R. (2012). No A 4 U: The Relationship between Multitasking and Academic Performance. Computers & Education, v59, n2 p505-514.
[2] Zavala, J. & Trenz, R. & Tzanis, D. & Malette, C. & Marin, N.. (2023). The Impact of Social Media Use for News on Academic Performance in Underrepresented Undergraduate College Students. Cyberpsychology, Behavior, and Social Networking. 26. 10.1089/cyber.2022.0303.
[3] Farley, J., Risko, E. F., & Kingstone, A. (2013). Everyday attention and lecture retention: the effects of time, fidgeting, and mind wandering. Frontiers in Psychology, 4, 619.
[4] McVay, J. C., Kane, M. J. (2009). Conducting the train of thought: Working memory capacity, goal neglect, and mind wandering in an executive-control task. Journal of Experimental Psychology: Learning, Memory, and Cognition, Vol 35(1), Jan 2009, 196-204.

Growth Mindset Scale

A growth mindset is a critical factor in academic achievement, particularly for college students navigating the challenges of a rigorous academic environment. Research by Carol Dweck [1] differentiates between a growth mindset, where individuals believe their abilities can be developed through effort, and a fixed mindset, where intelligence and talent are seen as static and difficult, if not impossible, to change. Students with a growth mindset exhibit greater resilience, embrace challenges as opportunities for learning, and persist in the face of setbacks.

Research by Yeager and Dweck showed that students who developed a growth mindset displayed significant improvements in grades, standardized test scores, and course persistence compared to their fixed-mindset counterparts. These findings were particularly pronounced for students from disadvantaged backgrounds, highlighting the potential of a growth mindset to bridge equity gaps in higher education [2].

Challenges in Fostering a Growth Mindset

Despite the benefits, fostering a growth mindset is not without its challenges. College students often encounter setbacks, such as poor grades, difficulty with coursework, or standardized test scores that fall short of expectations. These experiences can trigger a fixed mindset, leading students to question their abilities, including their ability to change and potentially disengage

from academics [2]. The distinction between fixed and growth mindsets significantly influences how students perceive feedback, setbacks, and challenges [3].

The Impact of Mindset on Student Perception

Students with a **growth mindset** are more likely to:

- **Embrace challenges** as opportunities for growth and learning,
- **Perceive feedback** as constructive input to guide improvement rather than a personal criticism,
- **Persist** in the face of setbacks, viewing them as temporary obstacles to overcome, and
- **Value effort** and understand that hard work is essential for success.

Conversely, students with a **fixed mindset** tend to:

- **Avoid challenges** to protect their perceived abilities,
- **View feedback** as a personal attack on their intelligence or competence,
- **Give up easily** when faced with setbacks, attributing failures to inherent limitations, and
- **Overemphasize innate talent** and underestimate the role of effort.

Implications for Academic Advising and Support

Understanding a student's mindset is crucial for effective academic advising and support [4]. By assessing a student's growth mindset, advisors and support professionals can:

- **Tailor feedback and interventions** to resonate with the student's perspective.
- **Build resilience** by emphasizing the role of effort and perseverance.
- **Foster a supportive environment** that encourages risk-taking and learning from mistakes.
- **Provide appropriate resources and strategies** to help students develop a growth mindset.

For instance, a student with a fixed mindset might benefit from reassurance about their abilities while focusing on specific strategies to improve performance. In contrast, a student with a growth mindset might respond well to challenges and opportunities for skill development.

The SLA's Growth Mindset scale is designed to help identify a student's mindset and inform tailored support strategies. By understanding a student's perspective on intelligence, effort, and

setbacks, advisors can create a more effective and impactful support plan. By understanding the nuances of growth and fixed mindsets, advisors and support professionals can play a pivotal role in helping students develop the mindset and skills necessary for academic success.

References

[1] Dweck, C. S. (2006). Mindset: The new psychology of success. Random House.
[2] Yeager, D. S., & Dweck, C. S. (2020). What can be learned from growth mindset controversies? American Psychologist, 75(9), 1269–1284.
[3] Willingham, D.T. (2022) 'Does Developing a Growth Mindset Help Students Learn?', American Educator, 46(4), pp. 35–39.
[4] Markle, R. & Pope, A. (Hosts). (2023, November 21). Advising (Ep. 3) [Audio podcast episode]. The College Version 2 Podcast. https://www.issaq.net/cv2/episode/90093cab/cv2-ep-3-advising.

Persistence Scale

Persistence, the ability to maintain effort and motivation towards a goal despite challenges and setbacks, is a crucial quality for college students' academic success [1, 2]. Research suggests that persistence may be a stronger predictor of achievement than even raw cognitive ability [3].

Challenges to Persistence in College

The transition to college presents a unique set of challenges that can undermine a student's persistence. These challenges include:

- **Increased Difficulty of Coursework:** Compared to high school, college courses often demand a deeper understanding of complex concepts, requiring students to dedicate more time and effort to mastering the material [4].
- **Greater Independence and Self-Discipline:** College students have more autonomy over their schedules and learning, requiring them to manage their time effectively and take responsibility for their academic success.
- **Experiencing Setbacks and Disappointments:** Students inevitably encounter setbacks like poor grades, challenging exams, or rejections from programs. These setbacks can be demotivating and lead to decreased persistence if students lack strategies to cope [5].

The Role of Study Strategies in Persistence

Developing effective study strategies and techniques can significantly enhance a student's ability to persevere through academic challenges. These strategies include:

- **Goal Setting:** Setting clear, achievable goals for coursework provides a roadmap for progress and helps students maintain focus.
- **Effective Time Management:** Knowing how to allocate time effectively for studying, assignments, and other commitments allows students to avoid feeling overwhelmed and maintain consistent effort.
- **Self-Regulated Learning Skills:** Developing skills like self-monitoring, critical thinking, and metacognition allows students to identify areas of difficulty, adjust their study approach, and persist through challenges [6].

Measuring Persistence

By measuring aspects of a student's approach to academic challenges, the Persistence scale provides valuable feedback to the student as well as insights for advisors and support service providers. This information can be used to identify students who may benefit from interventions that target learning skills development, goal-setting strategies, and self-regulation techniques to bolster persistence and ultimately enhance academic success.

References

[1] Bloomsights (2022, July 26). Persistence Can Predict Achievement. https://bloomsights.blog/2022/07/26/persistence-can-predict-achievement/

[2] Kuh, G. D., Kinzie, J. L., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). What matters to student success: A review of the literature (Vol. 8). Washington, DC: National Postsecondary Education Cooperative. URL: https://nces.ed.gov/npec/pdf/Kuh_Team_Report.pdf

[3] Duckworth, A., Peterson, C., Matthews, M., & Kelly, D. (2007). Grit: Perseverance and Passion for Long-Term Goals. Journal of personality and social psychology. 92. 1087-101. 10.1037/0022-3514.92.6.1087.

[4] Pascarella, E. T., & Terenzini, P. T. (2005). How College Affects Students: A Third Decade of Research (2nd ed.). San Francisco, CA: Jossey-Bass. Chapter 3: How College Affects Students' Cognitive Development.

[5] Wolters, C. A. (2011). Regulation of Motivation: Contextual and Social Aspects. Teachers College Record, 113(2), 265-283.
[6] Zimmerman, B. J., & Schunk, D. H. (Eds.). (2011). Handbook of self-regulation of learning and performance. Routledge/Taylor & Francis Group.

Seeking Help Scale

The ability to seek help when encountering difficulties in a course is a critical factor for academic success in college students. Several studies within the last decade highlight the positive correlation between help-seeking behavior and academic achievement [1]. Conversely, a reluctance to seek help can negatively impact academic performance and increase the likelihood of course failure or withdrawal [2].

Despite its importance, many college students struggle to ask for help when needed. Several challenges contribute to this resistance:

- **Self-efficacy beliefs:** Students with low self-efficacy may doubt their ability to succeed in a challenging course and avoid seeking help due to the belief that it won't help anyway and to the fear of appearing incompetent [3].
- **Help-seeking stigma:** A negative perception surrounding help-seeking can exist within certain academic cultures, leading students to believe that asking for help signifies weakness or a lack of intelligence.
- **Uncertainty about available resources:** Students may be unaware of the various academic support services offered by their college or university.

In light of these challenges, universities must prioritize developing student awareness and positive attitudes towards help-seeking behaviors. By normalizing help-seeking and promoting the vast network of available academic support resources (e.g., tutoring centers, learning specialists), institutions can foster a more supportive learning environment.

The Seeking Help scale provides valuable insights into student perceptions and behaviors related to seeking assistance. Items gauge a student's comfort level in approaching instructors and their awareness of on-campus resources. This information can be used to identify students who may benefit from targeted interventions.

Beyond Awareness: Developing Effective Help Seeking Skills

It is not enough to simply encourage students to seek help. Equipping them with the skills and strategies to navigate available support systems is equally important. This can involve workshops or training sessions that address:

- **Identifying help-seeking opportunities:** Students often struggle to recognize situations where seeking help would be beneficial. Training can help them identify early warning signs of academic difficulty and develop a plan for proactive help-seeking (e.g., attending office hours if they find a concept presented in class confusing or after a poor exam score).
- **Communication skills for effective help-seeking:** Approaching instructors or tutors effectively can be daunting for some students. Role-playing exercises and guidance on how to clearly articulate academic challenges can empower students to have productive help-seeking interactions.
- **Building self-advocacy skills:** Successful help-seeking often requires students to advocate for their own learning needs. The inventory can identify students who may benefit from additional support in developing self-advocacy skills, such as assertively requesting specific accommodations or learning strategies.

By implementing a multi-faceted approach that combines awareness campaigns with skills development workshops, colleges and universities can empower students to view help-seeking as a normal and essential part of the academic experience.

References

[1] Fong, C. J., Gonzales, C., Hill-Troglin Cox, C., & Shinn, H. B. (2023). Academic help-seeking and achievement of postsecondary students: A meta-analytic investigation. Journal of Educational Psychology, 115(1), 1–21. https://doi.org/10.1037/edu0000725

[2] Pascarella, E. T., & Terenzini, P. T. (2005). How college affects students. San Francisco: Jossey-Bass.

[3] Streeting, A. J., Kunnath, S., & Terenzini, P. T. (2014). Help-seeking behaviors and the academic success of first-year college students: Exploring the roles of gender, race/ethnicity, and socioeconomic background. Research in Higher Education, 55(2), 117-144.

Sense of Belonging Scale

A strong sense of belonging is a critical factor for academic success in college students. Research consistently demonstrates a positive association between feeling like part of the college community and a range of positive outcomes, including [1]:

- **Higher academic performance and persistence:** Students with a stronger sense of belonging achieved higher grades, persisted through challenging coursework, and were more likely to stay enrolled in college.
- **Improved mental health:** Belonging has been shown to be protective against mental health struggles commonly faced by college students, such as anxiety and depression.
- **Greater engagement in campus life:** Students who feel like they belong are more likely to participate in extracurricular activities, seek help from faculty and advisors, and develop stronger social connections.

Challenges Faced by Students

College can be a challenging time for many students. They may face difficulties such as:

- **Social isolation:** Leaving behind established social circles and adapting to a new environment can make it hard to make friends.
- **Academic adjustment:** The increased rigor of college coursework can be daunting, leading to feelings of inadequacy and discouragement [2].
- **Feeling like an outsider:** First-generation college students and those from underrepresented backgrounds may especially struggle to find a sense of community within the college environment, particularly in STEM fields [3].

The Importance of Developing Strategies for Belonging

Given the significant impact of belonging on student success, it is crucial for colleges and universities to prioritize strategies that foster a sense of belonging. This includes developing programs and initiatives that address the specific challenges faced by different student populations. The Sense of Belonging scale can be a valuable tool for identifying students who may be struggling with feeling like they belong on campus. By utilizing this information, faculty and staff can take steps to provide opportunities for students to become a part of the campus community. In addition, there are specific steps decision-makers in departments like Student Support Services, Academic Advising, and Learning Resource Centers can take to develop

targeted interventions and support systems [4]. This might involve creating opportunities for students to connect with peers who share similar backgrounds or academic interests, or promoting involvement in social activities that align with student interests. Ultimately, by fostering a strong sense of belonging, colleges and universities can create a more supportive and inclusive environment that empowers students to thrive academically and personally.

References:

[1] Students' Sense of Belonging Matters: Evidence from Three Studies | Teaching + Learning Lab. (n.d.). MIT Teaching + Learning Lab. https://tll.mit.edu/sense-of-belonging-matters/
[2] Cwik, S., & Singh, C. (2022). Students' sense of belonging in introductory physics course for bioscience majors predicts their grade. Physical Review. Physics Education Research, 18(1), 010139. https://doi.org/10.1103/PhysRevPhysEducRes.18.010139
[3] Ovink, S. & Byrd, W. & Nanney, M. & Wilson, A. (2024). "Figuring out your place at a school like this:" Intersectionality and sense of belonging among STEM and non-STEM college students. PloS one. 19. e0296389. 10.1371/journal.pone.0296389.
[4] Kuh, G. D., Kinzie, J. L., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). What matters to student success: A review of the literature (Vol. 8). Washington, DC: National Postsecondary Education Cooperative. URL: https://nces.ed.gov/npec/pdf/Kuh_Team_Report.pdf

Stress Management Scale

Stress management is a fundamental skill for all life endeavors, including academic success in college. Research consistently shows a negative correlation between stress levels and academic performance [1]. While some stress can be motivating, chronic stress can impair cognitive function, leading to difficulties with concentration, memory, and decision-making [2]. This can significantly hinder a student's ability to learn, retain information, and perform well on exams.

College students face a unique set of stressors that can contribute to academic challenges. These include [3]:

- **Increased academic workload and demands** compared to high school.
- **Time management difficulties** in balancing academic commitments with social activities and personal well-being.

- **Financial pressures** from tuition, fees, and living expenses.
- **Social and emotional challenges** such as adjusting to a new environment, forming new relationships, and navigating independence.

The Stress Management scale employs a comprehensive approach to assess the multifaceted nature of stress experienced by college students and their ability to cope with it. It evaluates student perceptions of academic demands, encompassing both workload and time management pressures. The scale further delves into the social and emotional factors that contribute to stress, such as familial expectations and academic performance anxieties. Physiological manifestations of anxiety are also explored, with items addressing symptoms like racing heart rate and sleep disturbances. This multi-dimensional approach allows the Stress Management scale to create a nuanced picture of how stress impacts a student's overall well-being. The instrument's language is carefully chosen to align with common student experiences, facilitating self-reflection on stress levels and related challenges.

Equipping students with stress management strategies is crucial for their academic success. By developing skills and techniques to cope with stress effectively, students can [4]:

- **Improve focus and concentration** during lectures, studying, and exams,
- **Enhance memory and information retention**,
- **Increase motivation and perseverance** in the face of academic challenges, and
- **Improve sleep quality**, leading to better cognitive function and overall well-being.

The Stress Management scale plays a vital role in identifying students who may benefit from additional support in managing stress. By pinpointing areas of difficulty and strengths, this scale can inform the development of targeted interventions and resources to promote academic success and overall well-being for college students.

References

[1] Misra, R., & McKean, M. (2000). College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. Journal of Educational Psychology, 82(4), 760-768.
[2] McEwen, B. S. (2017). The End of Stress as We Know It. Penguin Random House.
[3] Khadka, Chetan. (2024). Academic Stress among College Students. Dristikon: A Multidisciplinary Journal. 14. 45-57. 10.3126/dristikon.v14i1.66001.

[4] Agarwal, P. K., & Bain, P. M. (2019). Powerful teaching: Unleash the Science of Learning. John Wiley & Sons. Chapter 8: Foster a Supportive Environment: Use Power Tools to Reduce Anxiety and Strengthen Community.

Test Preparation Scale

Strong test preparation strategies are fundamental for academic success in college. While content knowledge is undeniably important, research consistently demonstrates that students who possess effective test preparation skills outperform their peers who lack such strategies [1]. In addition to mastering the content, students need to be able to demonstrate their mastery of the content. This is often done through test performance.

This advantage stems from several key factors [2]:

- **Enhanced Knowledge Retention and Application:** Effective studying contributes to a deeper understanding of course material beyond simple memorization. This allows students to not only recall information but also apply it critically in test situations.
- **Improved Time Management:** Strategic test preparation fosters the development of time management skills crucial for success in high-volume coursework. Creating study schedules and allocating appropriate time for different topics empower students to approach exams feeling prepared and less rushed.
- **Reduced Test Anxiety:** A significant challenge for many students is test anxiety, which can hinder performance. By developing effective strategies, students cultivate a sense of control and confidence in their abilities, which can lead to reduced anxiety and improved test performance.

Despite the clear benefits, many students struggle to develop effective test preparation strategies. Here are some of the common challenges [3]:

- **Lack of Awareness:** Students often underestimate the importance of studying beyond simply attending lectures and reviewing course materials passively. They may not be aware of the wide range of effective study techniques available.
- **Misconceptions About Learning:** Some students fall prey to the “cramming” fallacy, believing that intense last-minute studying is sufficient for success. This approach has been shown to be ineffective for long-term retention and application of knowledge.

- **Time Management Difficulties:** Juggling competing academic and personal demands can make it challenging for students to dedicate sufficient time and focused effort to developing and implementing effective strategies.

Given the challenges students face, it is crucial to equip them with the tools and knowledge necessary to develop effective test preparation strategies. This includes [4]:

- **Exposure to a Variety of Techniques:** Students benefit from learning about different study methods, such as retrieval practice (i.e., recalling facts, concepts, or events from memory), spaced repetition (i.e., reviewing information at increasing intervals over time), interleaving (i.e., switching attention between two or more topics during a study session), dual coding (i.e., using multiple types of stimuli to help people encode, store, and retrieve information), and feedback-driven metacognition (i.e., the practice of giving the student the ability to know what (s)he does and doesn't know by thinking about their thinking), along with guidance on how to select the most appropriate approaches for their learning goals and course material.
- **Metacognitive Skills:** Developing an awareness of one's own learning process is vital. Students who can effectively self-assess their understanding and identify areas needing improvement are better positioned to tailor their study strategies accordingly.
- **Time Management Skills:** Helping students develop time management plans that allocate dedicated study time for each course, while considering workload distribution throughout the semester, empowers them to approach exams feeling prepared and less overwhelmed.

The Connection Between Test Preparation and Test-Taking Strategies

While test preparation focuses on acquiring knowledge, test-taking strategies optimize performance during the exam. Students should understand the test format, time management techniques, and effective answer-selection strategies. However, strong test-taking skills are built upon a foundation of solid preparation. By combining effective test preparation with sound test-taking strategies, students can maximize their academic potential and achieve greater success in their college courses.

By incorporating these elements into interventions and support services, colleges and universities can equip students with the skills they need to not only excel in test-taking situations but also develop a strong foundation for lifelong learning.

References

[1] Roediger, H. L., Karpicke, J.D. (2006) Test-enhanced learning: taking memory tests improves long-term retention. Psychological Science. Mar;17(3):249-255.
[2] Agarwal, P. K., & Bain, P. M. (2019). Powerful Teaching: Unleash the Science of Learning. Jossey-Bass. https://journals.sagepub.com/doi/abs/10.1177/00220574221112627
[3] McGuire, S. Y., & McGuire, S. (2015). Teach Students How to Learn. Chapter 2: Why Don't Our Students Already Know How to Learn? Stylus Publishing, LLC.
[4] Sumeracki, M., Nebel, C., Kuepper-Tetzel, C., & Kaminske, A. N. (2023). Ace that test: A Student's Guide to Learning Better. Routledge.

Time Management Scale

Effective time management is a cornerstone of academic success in college. Studies consistently show a positive correlation between strong time management skills and higher GPAs [1]. Conversely, research indicates that poor time management habits are linked to lower academic performance, increased stress, and even higher dropout rates [2]. Understanding the challenges students face and the strategies they employ is vital for developing effective support systems.

Challenges Faced by College Students:

- **Feeling Overwhelmed by Workload:** The transition to college often presents students with a significantly increased workload compared to high school. Juggling multiple classes, assignments, exams, and extracurricular activities can be daunting, leading many college students to feel overwhelmed [3].
- **Procrastination:** The pressure of deadlines and competing priorities can lead to procrastination, a well-documented problem among college students [4]. Procrastination not only increases stress but also reduces the quality of completed work, ultimately impacting academic performance.
- **Difficulty Prioritizing and Planning:** Students often lack the experience or skills to effectively prioritize tasks and create realistic study schedules. This can lead to them feeling like they don't have enough time and struggling to stay on top of their workload [5].

- **Multitasking and Distractions:** The digital age presents a constant stream of distractions, making it difficult for students to focus on studying. Multitasking while studying has been shown to be ineffective, leading to decreased comprehension and retention [6].

Importance of Time Management Strategies

The Time Management scale includes items that capture behaviors associated with effective time management. These strategies can help students overcome the challenges listed above and achieve academic success.

- **Planning and Scheduling:** Creating a schedule that incorporates class time, study time, assignments, extracurricular activities, and relaxation allows students to visualize their week and allocate time effectively.
- **Prioritization:** By learning to identify and prioritize important tasks, students can ensure they dedicate sufficient time and focus to the most critical aspects of their academic workload.
- **Focused Study Habits:** Scheduling dedicated blocks of uninterrupted study time and minimizing distractions allows for deeper focus and improved learning outcomes.
- **Time Reflection and Adjustment:** Regularly evaluating how effectively they are using their time allows students to identify areas for improvement and adjust their strategies as needed.
- **Utilizing Time Management Tools:** Many tools and resources are available to support effective time management, including calendars, planners, and time management apps.

The Time Management scale provides valuable insights into a student's ability to manage their time effectively. By understanding a student's specific challenges and the importance of time management skills, student support professionals can tailor interventions and resources to empower students to develop these skills and achieve their academic goals. The targeted support can address specific areas of weakness identified through the inventory, such as offering workshops on creating effective study schedules or providing tips for identifying and avoiding distractions while studying. Ultimately, by equipping students with the tools and strategies necessary to manage their time effectively, college faculty and student support services can play a vital role in fostering a culture of academic success.

References:

[1] Macan, T., Shahani, C., Dipboye, R. & Phillips, A. (1990). College Students' Time Management: Correlations With Academic Performance and Stress. Journal of Educational Psychology. 82. 760-768. 10.1037//0022-0663.82.4.760.

[2] Xu, J., & Bao, H. (2019). The effects of time management, self-efficacy, and stress on academic performance of college students: A structural equation modeling analysis. Frontiers in Psychology, 10, 1234. doi: 10.3389/fpsyg.2019.01234.

[3] Christiansen, A., Salamonson, Y., Crawford, R., McGrath, B., Roach, D., Wall, P. & K., & Lucie, M. & R. (2019). 'Juggling Many Balls': Working and Studying among First Year Nursing Students. Journal of Clinical Nursing. 28. 10.1111/jocn.14999.

[4] Steel, Piers. (2007). The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. Psychological Bulletin 133: 65-94. Psychological bulletin. 133. 65-94. 10.1037/0033-2909.133.1.65.

[5] Calonia, J., Pagente, D., Desierto, D., Capio, R., Tembrevilla, J., Guzman, C., & Nicor, A. (2023). Time Management and Academic Achievement: Examining the Roles of Prioritization, Procrastination and Socialization. International Journal of Innovative Research in Science Engineering and Technology. 8. 766-775. 10.5281/zenodo.8115965.

[6] Junco, R., & Cotten, S. R. (2012). No A 4 U: The Relationship between Multitasking and Academic Performance. Computers & Education, v59, n2 p505-514.

PART 3: RESEARCH EVIDENCE BASE

The Strategic Learning Assessment (SLA) is grounded in a rich tapestry of research from educational psychology and learning theory. This section explores five key theoretical frameworks that provide a foundation that underpin the SLA:

1. Metacognitive Strategies
2. Information Processing Model
3. Model of Strategic Learning
4. Social Learning Theories
5. Self-Determination and Self-Regulated Learning

Table 1 illustrates how the SLA Scales are linked to each of the learning strategies frameworks.

Table 1

SLA Scales	Metacognitive Strategies	Information Processing Model	Model of Strategic Learning	Social Learning Theories	Self-Determination and Self-Regulated Learning*
Communication	x		x	x	x
Critical Thinking	x	x	x	x	
Effective Learning Strategies	x	x	x	x	x
Focus and Concentration	x	x	x	x	x
Growth Mindset	x	x		x	x
Seeking Help	x		x	x	x
Persistence	x	x			x
Sense of Belonging				x	x
Stress Management	x	x	x		x
Test Preparation	x	x	x	x	x
Time Management	x	x	x	x	x

Metacognition Strategies

Metacognition, often referred to as “thinking about thinking,” involves awareness and understanding of one’s own cognitive processes. Metacognitive strategies are deliberate actions learners take to plan, monitor, and evaluate their learning. These strategies empower learners to become more self-regulated, independent, and successful in academic pursuits.

The SLA directly assesses metacognitive strategies through several scales, including Effective Learning Strategies, Test Preparation, and Time Management. These scales measure students’ use of planning, monitoring, and evaluating strategies, providing insights into their metacognitive abilities and identifying areas where they can develop more effective learning approaches.

Widely Agreed Upon Metacognitive Strategies

1. **Planning:**
    - Setting goals
    - Activating prior knowledge
    - Predicting outcomes
    - Selecting appropriate strategies
2. **Monitoring:**
    - Self-questioning
    - Checking for understanding
    - Identifying confusion or difficulties
    - Tracking progress
3. **Evaluating:**
    - Assessing performance
    - Reflecting on strategies used
    - Identifying areas for improvement
    - Adjusting plans as needed
4. **Debugging:**
    - Identifying and correcting errors
    - Seeking help when needed
    - Revising strategies

5. **Self-Regulation:**
    - Managing time and effort
    - Motivating oneself
    - Controlling emotions and distractions

Additional Strategies:

- **Think-aloud:** Verbalizing thoughts and reasoning while working on a task.
- **Summarizing:** Condensing information into key points.
- **Creating analogies:** Relating new information to familiar concepts.
- **Using graphic organizers:** Visually representing information.

By employing metacognitive strategies, learners can gain deeper insights into their own learning processes, identify strengths and weaknesses, and make informed decisions about how to optimize their learning experiences. The research clearly demonstrates the effectiveness of metacognitive strategies in promoting academic success and lifelong learning. The SLA provides a valuable tool for assessing these strategies and empowering students to become more metacognitive learners.

Selected Citations and Findings

- **Flavell, J.H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. American Psychologist, 34, 906-911.** This seminal work introduced the concept of metacognition and laid the foundation for further research.

- **Brown, A. L. (1987). Metacognition, executive control, self-regulation, and other more mysterious mechanisms.** This paper explored the relationship between metacognition and self-regulation, highlighting the importance of metacognitive strategies for successful learning.

- **Schneider, W., & Pressley, M. (1997). Memory Development Between Two and Twenty (2nd ed.). Psychology Press. https://doi.org/10.4324/9780203774496.** This book delves into the development of memory and metacognitive skills throughout childhood and adolescence, emphasizing their role in academic achievement.

- **Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology.** This review article synthesized research on various learning techniques, including metacognitive strategies, and found that they can significantly enhance learning outcomes.

Information Processing Model

The Information Processing Model (IPM) offers a framework to understand how learners acquire, process, store, and retrieve information. It likens the human mind to a computer, with input, processing, storage, and output stages. While the IPM has its roots in cognitive psychology dating back several decades, its relevance in understanding study skills remains pertinent, with recent research continuing to refine and expand upon its principles.

Specific Skills and Strategies Addressed in the Information Processing Model:

1. **Sensory Memory:**
    - **Skill:** Paying attention and selecting relevant information from the environment.
    - **Strategy:** Minimizing distractions and focusing on the task at hand.
2. **Working Memory (Short-Term Memory):**
    - **Skill:** Holding information in mind while actively processing it.
    - **Strategies:** Chunking information, using mnemonic devices, rehearsal, elaboration.
3. **Long-Term Memory:**
    - **Skill:** Storing information for later retrieval.
    - **Strategies:** Organizing information, creating meaningful connections, using retrieval practice, spaced repetition.
4. **Encoding:**
    - **Skill:** Transforming information into a format that can be stored in memory.
    - **Strategies:** Elaboration, creating visual representations, summarizing.
5. **Retrieval:**
    - **Skill:** Accessing information from memory when needed.
    - **Strategies:** Using retrieval cues, self-testing, practicing in a variety of contexts.
6. **Metacognition:**
    - **Skill:** Monitoring and regulating one's own cognitive processes.
    - **Strategies:** Planning, setting goals, monitoring comprehension, evaluating progress, adjusting strategies.

By understanding and applying the principles of the Information Processing Model, learners can develop effective study strategies that optimize their cognitive processes and enhance their

academic performance. This model provides a valuable framework for educators to design instructional materials and activities that support information processing and promote deep learning. The SLA contributes to this understanding by providing a comprehensive assessment of students' information processing skills.

Selected Citations and Findings

- **Alloway, T. P., & Alloway, R. G. (2010). Investigating the Predictive Roles of Working Memory and IQ in Academic Attainment. Journal of Experimental Child Psychology, 106, 20-29.** This study highlights the role of working memory, a central component of IPM, in academic success.

- **Dehn, M. J. (2008). Working Memory and Academic Learning Assessment and Intervention. New Jersey: John Wiley & Sons, Inc.** This book provides a comprehensive overview of working memory and its implications for academic learning, offering practical strategies for intervention.

- **Gestsdóttir, S., & Lerner, R. M. (2008). Positive Development in Adolescence: The Development and Role of Intentional Self-Regulation. Human Development 51(3): 202-224.** This study discusses the role of cognitive processes, including those outlined in the IPM, in adolescent development and learning.

- **Mayer, R. E. (2014). Incorporating Motivation Into Multimedia Learning. Learning and Instruction, 29, 171-173.** This study explores the interaction between motivation and cognitive processes in multimedia learning environments, emphasizing the importance of attention and engagement in information processing.

Model of Strategic Learning

Claire Ellen Weinstein's Model of Strategic Learning (MSL) is a comprehensive framework that emphasizes the learner's active role in the learning process. It identifies four key components crucial for successful learning: Skill, Will, Self-Regulation, and Academic Environment. The SLA aligns with the MSL by assessing multiple facets of strategic learning.

Strategies for Increasing Students' Ability to Learn:

- **Explicitly teach learning strategies:** Model, explain, and provide opportunities for practice.
- **Foster metacognition:** Help students become aware of their thinking processes and how to regulate them.
- **Encourage self-regulation:** Teach students how to set goals, monitor progress, and adjust strategies as needed.
- **Create a supportive learning environment:** Provide a positive and structured environment that promotes engagement and autonomy.
- **Personalize instruction:** Tailor instruction to meet individual needs and interests.

By addressing all four components of the Model of Strategic Learning, educators can create a more holistic and effective approach to teaching and learning that empowers students to become strategic and independent learners. The SLA serves as a valuable tool in this process by providing insights into students' strengths and needs across these key components.

Selected Citations and Findings

- **Weinstein, C. E. (1994). Strategic learning/strategic teaching: Flip sides of a coin. In P. R. Pintrich, D. R. Brown, & C. E. Weinstein (Eds.), Student motivation, cognition, and learning: Chapter in honor of Wilbert J. McKeachie (pp. 257-273). Hillsdale, NJ: Lawrence Erlbaum.** Wilbert J. McKeachie's extensive research on various aspects of college teaching and learning, including student motivation, cognition, and different instructional approaches, has significantly influenced the field of higher education.

- **Weinstein, C. E., Husman, J., & Dierking, D. R. (2000). Self-Regulation Interventions with a Focus on Learning Strategies. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of Self-Regulation (pp. 727–747). Academic Press.** This chapter

provides an overview of research on self-regulation interventions and highlights the importance of learning strategies in promoting self-regulated learning.

- **Weinstein, C. E., Acee, T. W., and Jung, J.-H. (2010). Learning strategies. In B. McGaw, P. L. Peterson, and E. Baker (Eds.), International Encyclopedia of Education (3rd Ed., pp. 323–329). New York: Elsevier,.** This chapter provides an overview of learning strategies, encompassing behavioral, cognitive, metacognitive, motivational, and affective processes that facilitate the understanding, learning, and integration of new knowledge and skills.

Social Learning Theories Framework for Effective Learning

Social learning theories emphasize the importance of social interaction, observation, and modeling in the learning process. These theories posit that learners acquire knowledge and skills not only through direct experience but also by observing and imitating others. In the context of study skills, social learning theories highlight the value of collaborative learning environments, peer interactions, and the influence of role models.

Specific Skills and Strategies Widely Accepted as Part of the Social Learning Theories Framework:

1. **Observational Learning:**
   - **Skill:** Learning by observing the behaviors and actions of others (models).
   - **Strategies:** Watching instructional videos, observing demonstrations, attending study groups, seeking feedback from peers and mentors.
2. **Modeling:**
   - **Skill:** Imitating the behaviors and actions of others to learn new skills and knowledge.
   - **Strategies:** Practicing skills alongside a model, role-playing, receiving constructive feedback from others.
3. **Vicarious Reinforcement:**
   - **Skill:** Learning from the consequences of others' actions.
   - **Strategies:** Observing the successes and failures of others, receiving feedback and rewards for imitating desirable behaviors.
4. **Self-Efficacy:**
   - **Skill:** Believing in one's ability to succeed in a particular task or situation.
   - **Strategies:** Setting achievable goals, receiving positive feedback, observing successful models, building confidence through practice and mastery.
5. **Collaborative Learning:**
   - **Skill:** Working with others to achieve a common learning goal.
   - **Strategies:** Participating in study groups, engaging in peer tutoring, collaborating on projects, discussing and debating ideas.
6. **Social Persuasion:**
   - **Skill:** Being influenced by the encouragement and support of others.
   - **Strategies:** Seeking feedback and encouragement from peers, mentors, and teachers, participating in supportive learning communities.

By incorporating social learning strategies into their study routines, learners can benefit from the power of social interaction, observation, and modeling. These strategies can enhance motivation, self-efficacy, and engagement, leading to improved learning outcomes and academic success. The SLA can help identify students who may benefit from interventions that promote social learning strategies and foster a more collaborative learning environment.

Selected Citations and Findings

- **Schunk, D. H., & Zimmerman, B. J. (Eds.). (2008). Motivation and Self-Regulated Learning: Theory, Research, and Applications. Routledge.** This book explores the role of social influences in motivation and self-regulated learning, highlighting the importance of social learning theories in educational contexts.

- **Bandura, Albert (1991). Social Cognitive Theory of Moral Thought and Action. In William M. Kurtines & Jacob L. Gewirtz (eds.), Handbook of Moral Behavior and Development.** This chapter revisits Bandura's social cognitive theory, a foundational theory in social learning, and discusses its applications to moral development and behavior.

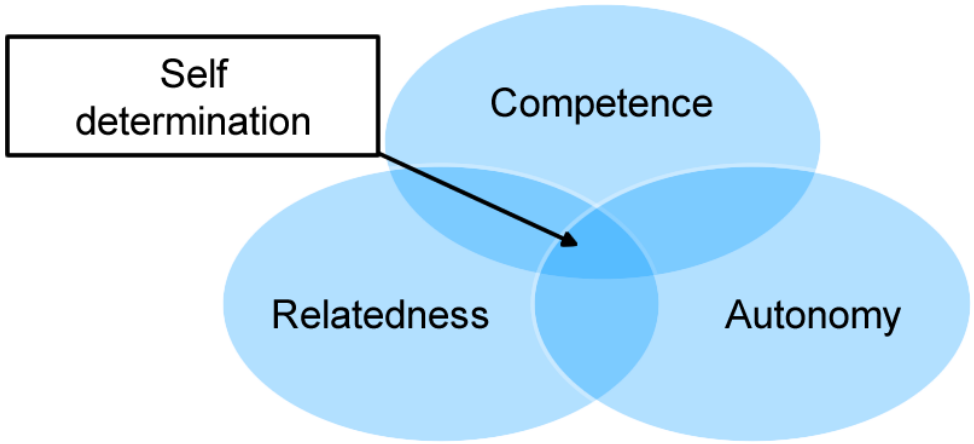
- **Kirschner, Paul & Karpinski, Aryn. (2010). Facebook and academic performance. Computers in Human Behavior. 26. 1237-1245. 10.1016/j.chb.2010.03.024.** This article investigates the relationship between social media use and academic performance, highlighting the potential impact of social interactions on learning outcomes.

Self-Determination and Self-Regulated Learning

Self-regulated learning (SRL) is a multifaceted framework that emphasizes learners' active and intentional engagement in their learning process. It involves setting goals, selecting and implementing effective learning strategies, monitoring progress, and adjusting strategies as needed. Self-regulated learning is closely aligned with the concept of self-determination, which refers to an individual's inherent motivation to explore, learn, achieve, and grow.

Self-Determination Theory (Ryan & Deci, 2000) claims that we all have an innate need for autonomy, competence, and relatedness. When these three needs are met, we experience increased self-determination and intrinsic motivation. When learners feel a sense of ownership over their learning, believe in their abilities, and feel connected to their learning community, they are exhibiting increased self-determination and are more likely to engage in self-regulated learning behaviors and achieve their goals. According to Self-Determination Theory (SDT) (Figure 1), self-determination is increased by the degree to which an individual's psychological needs for autonomy, competence and relatedness are met.

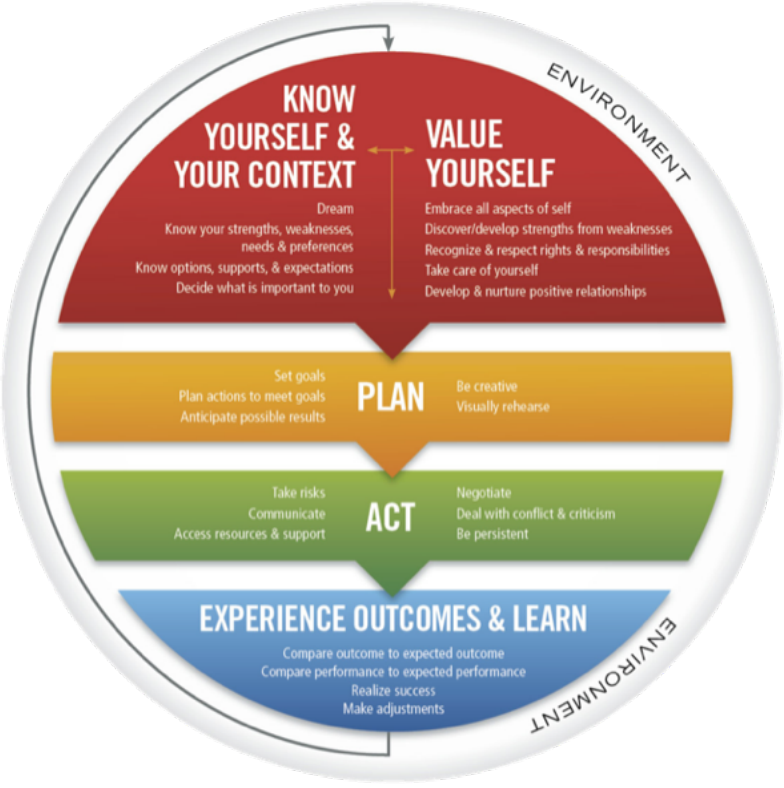
Figure 1.
Self-Determination Theory
(Ryan and Deci, 2000)



The Action Model for Self-Determination (Field & Hoffman, 1992; 2016) delineates the knowledge, skills and beliefs that individuals need to be more self-determined. The Action Model for Self-Determination (AMSD) is consistent with Self-Determination Theory and delineates the knowledge, beliefs, and skills individuals need to help them meet their psychological needs for autonomy, competence and relatedness and be more self-determined. As illustrated in the AMSD model (Figure 2) the degree to which individuals experience self-determination is affected by the opportunities, supports and barriers in the environment within which one is interacting and by the knowledge, skills and beliefs that the individual exercises within that environment. There are many steps students can take to learn the knowledge, skills and beliefs that will help them develop their ability to exercise self-determination. The knowledge, skills and beliefs students need to be more self-determined are delineated in Figure 2 below. Note that the model is cyclical, demonstrating that each act of self-determination leads to growth in self-determination and increased probability of success in subsequent efforts, making self-determination consistent with Carol Dweck's growth mindset research.

Figure 2.

An Action Model for Self-Determination



Field, S. and Hoffman, A. (2015). An Action Model for Self-Determination. Revised from "Development of a Model for Self-Determination," by S. Field and A. Hoffman, 1994, Career Development for Exceptional Individuals,17(2),. p. 165. (For permission to reprint, please contact sharon@beselfdetermined.com.)

Specific Skills and Strategies within the SRL Framework:

1. **Goal Setting:** Setting clear, specific, and achievable goals that align with personal values and interests.
2. **Planning:** Creating a plan of action to achieve goals, including identifying resources, timelines, and potential obstacles.
3. **Strategy Selection:** Choosing appropriate learning strategies based on the task, personal preferences, and available resources.
4. **Strategy Implementation:** Actively engaging in learning activities, utilizing selected strategies, and monitoring progress.
5. **Self-Monitoring:** Tracking progress towards goals, identifying areas of strength and weakness, and reflecting on learning experiences.
6. **Self-Evaluation:** Assessing the effectiveness of chosen strategies, identifying areas for improvement, and adjusting plans as needed.
7. **Self-Reflection:** Critically analyzing learning experiences, identifying personal strengths and weaknesses, and developing a growth mindset.
8. **Self-Motivation:** Maintaining intrinsic motivation, setting rewards, and seeking support from others.
9. **Self-Efficacy:** Believing in one's ability to succeed, cultivating a positive mindset, and overcoming challenges.
10. **Self-Regulation of Emotions:** Managing emotions such as anxiety, frustration, and boredom, and staying focused on learning goals.

By mastering these SRL and self-determination skills and strategies, learners can become more self-directed, motivated, and successful in their academic pursuits and in other facets of their lives. Educators can foster SRL by providing opportunities for choice, autonomy, and feedback, and by creating a supportive and encouraging learning environment.

Selected Citations and Findings

- **Ryan, R. & Deci, E. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. The American psychologist.** Ryan and Deci propose that self-determination theory, which emphasizes the importance of fulfilling basic psychological needs for autonomy, competence, and relatedness, provides a

framework for understanding how to foster intrinsic motivation, social development, and well-being.

- **Field, S., & Hoffman, A. (1994). Development of a Model for Self-Determination. Career Development for Exceptional Individuals, 17(2), 159-169.** The authors present a model for fostering self-determination in individuals with disabilities, emphasizing the development of skills and opportunities for choice, control, and autonomy in their lives and careers.

- **Zimmerman, B. J. (2013). From Cognitive Modeling to Self-Regulation: A Social Cognitive Career Path. Educational Psychologist, 48(3), 135–147.** This article traces the development of SRL theory, highlighting the importance of social cognitive factors.

- **Panadero, E. (2017). A Review of Self-regulated Learning: Six Models and Four Directions for Research. Frontiers in Psychology.** This review article provides a comprehensive overview of different SRL models and identifies key areas for future research.

- **Winne, P., & Perry, N. E. (2000). Measuring Self-Regulated Learning. In Handbook of Self-Regulation of Learning and Performance (pp. 531-566). Routledge.** This chapter discusses various approaches to measuring SRL and highlights the importance of valid and reliable assessment tools.

PART 4: DEVELOPMENT OF THE SCALES, ITEMS, AND FIELD TESTING

SELECTION OF THE SCALE CONSTRUCTS

The development of the Strategic Learning Assessment (SLA) began with a thorough review of relevant peer-reviewed and non-peer-reviewed literature (e.g., academic articles, books, podcasts, etc.) to identify the most critical skills and strategies associated with academic success in college. This review led to the creation of a matrix of 21 potential competency areas for inclusion in the self-assessment. A panel of experts in educational psychology and learning evaluated these competencies based on three primary criteria:

- **Prevalence in the literature:** The extent to which the competency was identified as essential for college success.
- **Trainability:** Whether the competency could be effectively taught or developed through intervention.
- **Measurability:** The clarity with which the competency could be defined and measured in a self-assessment format.

Through this rigorous evaluation process, the initial list of 21 competencies was refined to the 11 core scales included in the SLA. This selection ensures that the SLA focuses on the most impactful and actionable factors influencing student learning.

ITEM CONSTRUCTION

Following the selection of the 11 scale constructs, we developed a comprehensive pool of items for each scale, generating up to 24 items per scale. These items underwent multiple rounds of refinement and review by experts in the field. Experts were provided with an introduction to the SLA and asked to evaluate each item based on the following criteria:

- **Clarity and understandability:** Is the item worded clearly and easy for students to understand?
- **Potential for misinterpretation:** Could the item be misinterpreted or lead to ambiguous responses?
- **Construct validity:** Does the item accurately reflect the construct it is intended to measure?

This feedback was invaluable in ensuring the clarity, face validity, and overall quality of the items. Items were further scrutinized to eliminate those exhibiting:

- **Affirmation bias:** The tendency for respondents to agree with statements regardless of their content.
- **Double-barreled structure:** Items that assess two different concepts simultaneously.
- **Confusing or unclear wording:** Items that were difficult to understand or interpret.

This meticulous process resulted in a refined pool of 9 or 10 items per scale. A field test version of the SLA, comprising 106 items (including demographic questions), was then developed. Throughout this process, maintaining strong psychometric properties for the final SLA instrument remained a priority.

ITEM SCORING

In developing the SLA item scoring system, we considered both five- and seven-point Likert scales. Consultation with psychometric experts and a review of relevant literature led us to choose a five-point scale for the following reasons:

- **Clarity for respondents:** A five-point scale is more intuitive and easier for students to understand.
- **Simplified response options:** Reduces cognitive load and potential confusion for respondents.
- **Efficient administration:** Minimizes the time required to complete the assessment.

The five-point scale utilizes the following response options and corresponding values:

Positively worded items:	**Negatively worded items:**
1 = Almost never like me	5 = Almost never like me
2 = Occasionally like me	4 = Occasionally like me
3 = Moderately like me	3 = Moderately like me
4 = Quite a bit like me	2 = Quite a bit like me
5 = Almost always like me	1 = Almost always like me

To mitigate response bias, approximately 33% of the items are negatively worded. This helps to identify respondents who may be exhibiting acquiescence bias (a tendency to agree with all items) or nay-saying bias (a tendency to disagree with all items). By incorporating negatively

worded items, we encourage more thoughtful and accurate responses, ultimately enhancing the validity of the assessment results.

FIELD TESTING

The field test version of the SLA was administered online to a diverse sample of 667 students from 24 postsecondary institutions across the United States, Canada, Caribbean, and the Pacific Rim. Institutions were purposefully selected to ensure representation across various geographic regions and institutional types (see Appendix Tables 1-2). The sample also demonstrated diversity in terms of age, gender, race/ethnicity, first-time college student status, and reasons for enrolling in college (see Appendix Tables 3-7). This diverse sample strengthens the generalizability of the findings from the field test and enhances the SLA's applicability to a wide range of college student populations.

The field test data was analyzed using both conceptual and psychometric methods. This involved a multi-faceted approach that included evaluating the content validity of the items, assessing the internal consistency of the scales, and examining the relationships between the scales:

- **Evaluating the content validity of the items:** We examined whether the items accurately reflected the intended constructs and covered the full breadth of each scale.
- **Assessing the internal consistency of the scales:** We used Cronbach's alpha to determine how reliably the items within each scale measured the same underlying construct.
- **Examining the relationships between the scales:** We explored how the different scales correlated with each other, providing insights into the relationships between various learning strategies and skills.

Based on these analyses, the final version of the SLA was refined to include 11 scales, each consisting of 6 items that best represented the underlying construct and demonstrated strong psychometric properties.

PART 5: RELIABILITY AND VALIDITY

RELIABILITY

The reliability of an assessment refers to its consistency in measuring a particular construct. A reliable instrument produces similar results under consistent conditions. The SLA's reliability is evaluated using Cronbach's alpha, a statistical measure of internal consistency that assesses how closely related a set of items are as a group.

BALANCING RELIABILITY AND VALIDITY

While adding more items to a scale can generally increase reliability (as measured by Cronbach's alpha), it also increases testing time and potential student fatigue, which can negatively impact the validity of the results. Furthermore, solely focusing on maximizing alpha can lead to a narrow selection of items that may not fully represent the complexity of the construct being measured.

For example, solely maximizing alpha for the Communication scale might lead to over-representing items related to public speaking while neglecting other key aspects like active listening, written communication, and non-verbal cues. This narrow focus could result in a scale that is internally consistent but fails to capture the full complexity of effective communication.

Therefore, we aimed for a balance between brevity and reliability, targeting six items per scale. During development, we used Cronbach's alpha to refine the item pool, ensuring that each scale demonstrated strong internal consistency while maintaining adequate content coverage and representing the breadth and depth of each learning skill. This approach ensures that the SLA is both reliable and valid, providing a meaningful and comprehensive assessment of students' strategic learning abilities.

Summaries of the item statistics for each scale can be found in Appendix B, Tables 8-18. Appendix C, Table 19 presents scale statistics (mean, standard deviation, and Coefficient Alpha) for each of the 11 scales.

VALIDITY EVIDENCE

Validity refers to the extent to which an assessment accurately measures what it is intended to measure. Establishing validity for constructs like those in the SLA requires a multifaceted approach. One key aspect is face validity, which is determined by expert judgment. We engaged educational psychologists and learning specialists to review the SLA items and confirm that they accurately reflect the intended constructs.

Beyond face validity, we examined several other forms of validity evidence to ensure the SLA accurately measures the intended constructs.

- **Content Validity:** A thorough review of the item statistics (Appendix B, Tables 8-18) confirmed that each item on the SLA contributes meaningfully to its respective scale, indicating strong content validity.
- **External Validity:** The diverse sample used in the field test, representing a variety of student demographics and institutional types, enhances the external validity of the SLA, supporting its generalizability to a wider college population.
- **User Validity:** Feedback from educators, counselors, and advisors who participated in the scale development and refinement process has been overwhelmingly positive, indicating high user validity and the SLA's practical value in educational settings.
- **Construct Validity:** The scale statistics (Appendix C, Table 19) demonstrate that each of the 11 SLA scales exhibits acceptable internal consistency (Cronbach's alpha), further supporting the construct validity of the instrument. Additionally, the correlations among the scales (Appendix D, Table 20) provide insights into the relationships between the different learning strategies and skills measured by the SLA.

While these findings provide strong initial support for the validity of the SLA, we recognize that validity is an ongoing process. Future research will focus on gathering additional evidence of predictive validity by examining the relationship between SLA scores and long-term academic outcomes, such as GPA, retention, and graduation rates. We will also explore convergent and discriminant validity by comparing SLA scores to scores on other established measures of learning strategies and academic skills.

NORM-REFERENCED SCORING

The SLA utilizes a norm-referenced scoring system, meaning that individual student scores are interpreted relative to the performance of a larger group of students (the norm group). This norm group, as described in Appendix A, comprises a diverse sample of students from 24 postsecondary institutions across the United States, Canada, Caribbean, and the Pacific Rim. The norms can be found in Appendix E, Table 21) of this manual. The data in Table 21 represents the percentile score of students in the norm group that fall at or below a given raw score for each scale.

Norm-referenced scoring, expressed in percentiles, provides valuable context for understanding a student's strengths and areas for growth relative to their peers. For example, a student scoring in the 75th percentile on the Time Management scale indicates that they scored higher than 75% of other individuals answering the same items.

Benefits of Norm-Referenced Scoring

- **Provides a Comparative Framework:** Percentile scores allow for comparisons between individual students and the larger norm group, offering insights into a student's relative standing on each scale.
- **Identifies Areas for Growth:** By comparing a student's performance to their peers, norm-referenced scoring can highlight areas where a student may benefit from additional support or development.
- **Facilitates Goal Setting:** Percentile scores can be used to set realistic and individualized goals for improvement.
- **Tracks Progress Over Time:** Students can retake the SLA (Post-Test) and compare their percentile scores to track their progress and growth in different learning skills and strategies.
- **Enhances Motivation:** Seeing improvement in their percentile rank can motivate students to continue developing their learning skills.

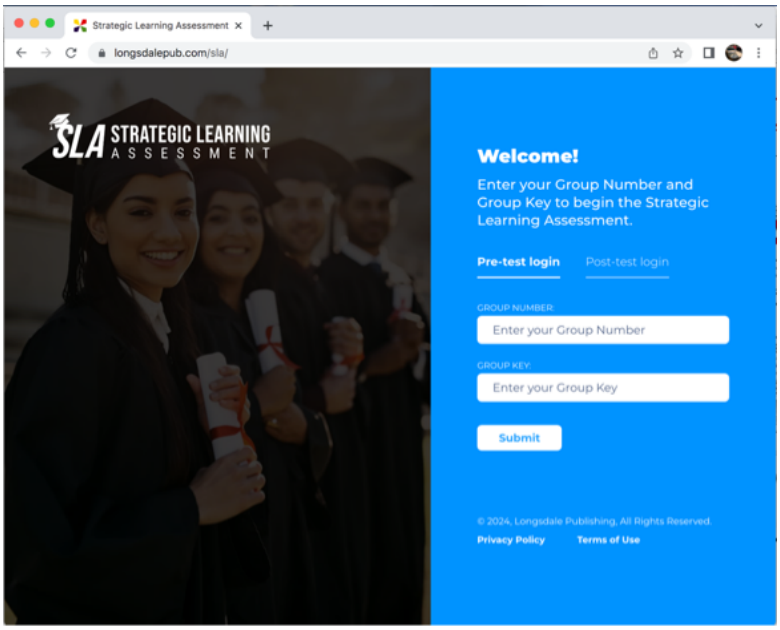
By employing norm-referenced scoring, the SLA provides a comprehensive and meaningful interpretation of student results, empowering students, educators, and advisors to make informed decisions about learning and development.

PART 6: ADMINISTRATION INSTRUCTIONS

This section will guide you through the process of administering the SLA.

ADMINISTERING THE SLA

Figure 2



The SLA is administered online and requires an internet connection and a web browser. The user interface is designed for ease of use and works well on desktop and mobile devices. There are no plug-ins, extensions, or other software required. Upon placing an order for the SLA, you will receive email instructions for the student in PDF format. The instructions direct the student to an introductory page similar to Figure 2. If this is the first time taking the SLA, enter the Group Number and Group Key and select the “Submit” button to continue. If the student is returning to take a post-test, enter a Group Number and Post-Test Code after selecting the “Post-test login” link (Figure 4). The Post-Test Code is unique for each student and is printed on the SLA Student Profile Report each student receives at the conclusion of the pre-test. Administrators can view a list of post-test codes at the Administrative site (Figure 14).

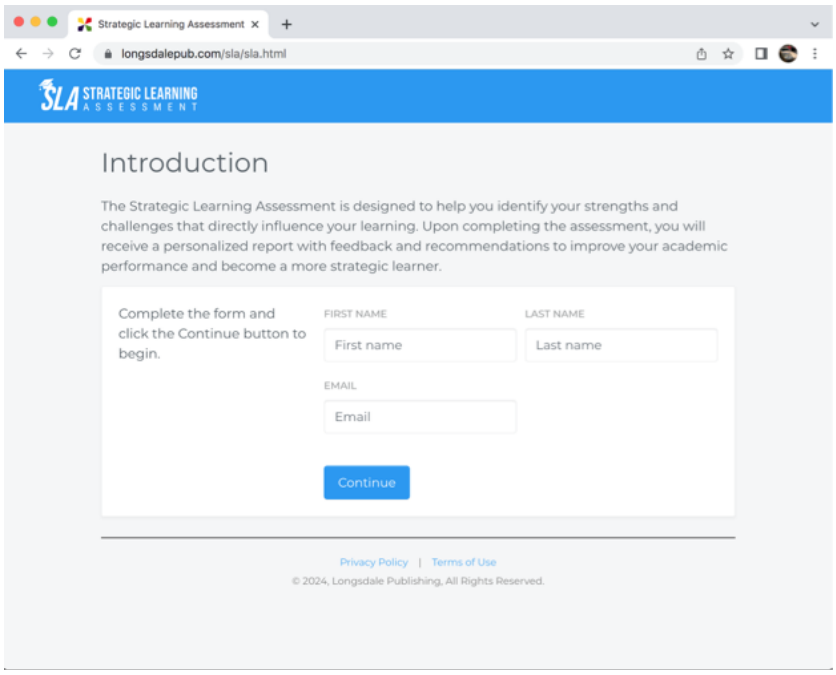
WHO CAN ADMINISTER THE SLA?

One of the advantages of the SLA is its ease of administration. Unlike many other assessments used in higher education, the SLA does not require specialized certification or training for administration. Faculty, advisors, and student support staff can readily integrate the SLA into their existing practices without needing to invest time and resources in additional qualifications. This accessibility makes the SLA a practical and efficient tool for gaining valuable insights into student learning strategies and providing targeted support.

PRE-TEST

Figure 3

Upon entering a Group Number and Group Key and clicking the “Submit” button, the student will be directed to a page similar to Figure 3. This page requires the student to enter a first and last name, and an email address. Click the “Continue” button to proceed.



Note: An ID Number field can be added to this page. Contact your SLA support representative to request this option for your account.

OPTIONAL POST-TEST

If the student enters a Group Number and a valid Post-Test Code into the Post-test login fields (Figure 4), the next screen to appear will be the post-test SLA (Figure 6). Students who wish to receive their Post-Test Code can provide the same email address used during the Pre-Test. The code will be sent to that address (Figure 5). Using the Post-test login fields will assure the student’s pre-test and post-test records are linked in the system.

Figure 4

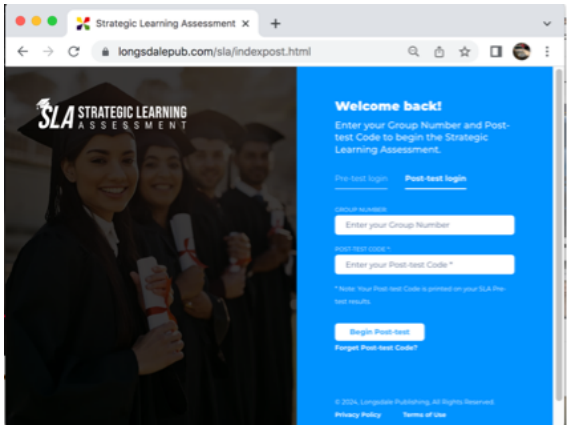
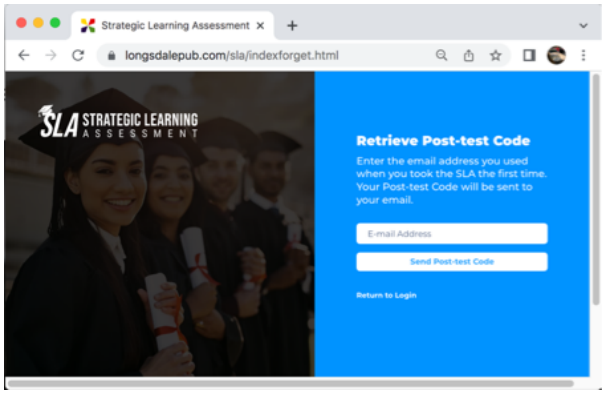


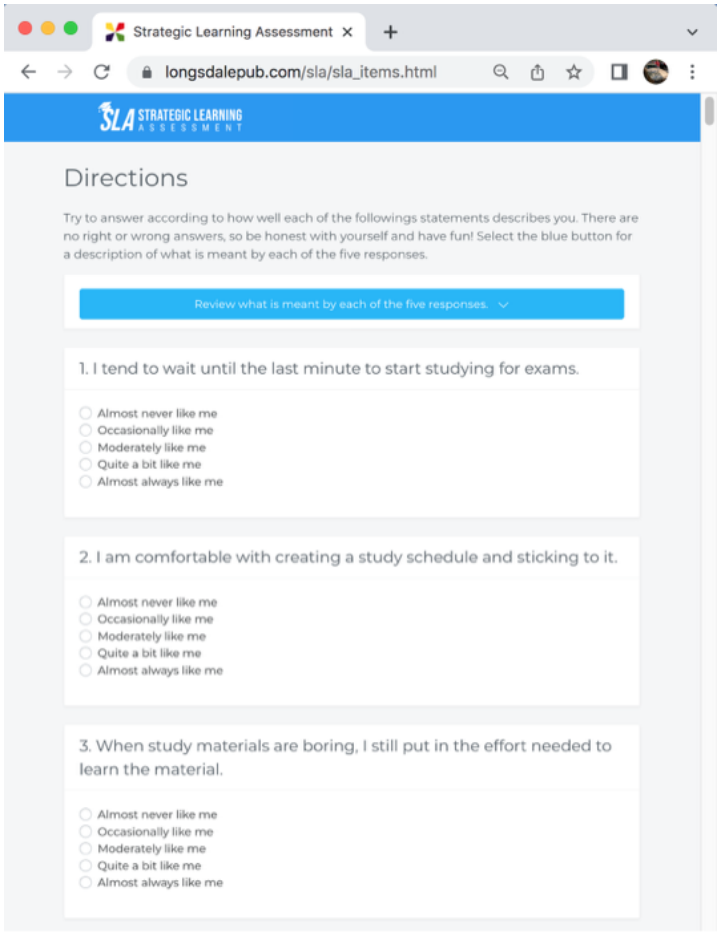
Figure 5



SLA ITEMS

Figure 6

The next screen to appear (Figure 6) requires the student to read each statement carefully and click one of the five responses. To help students decide what is meant by each response, select the blue button labeled “Review what is meant by each of the five responses.” A summary is shown below.



- By **Almost never like me**, we do not necessarily mean that the statement would never describe you, but that it would be true of you only in rare instances.
- By **Occasionally like me**, we mean that the statement generally would not be true of you.
- By **Moderately like me**, we mean that the statement would be true of you about half the time.
- By **Quite a bit like me**, we mean that the statement would generally be true of you.
- By **Almost always like me**, we do not necessarily mean that the statement would always describe you, but that it would be true of you almost all the time.

Although there is no time limit, it is estimated that it will take about 15-20 minutes to complete all items.

STUDENT PROFILE REPORT

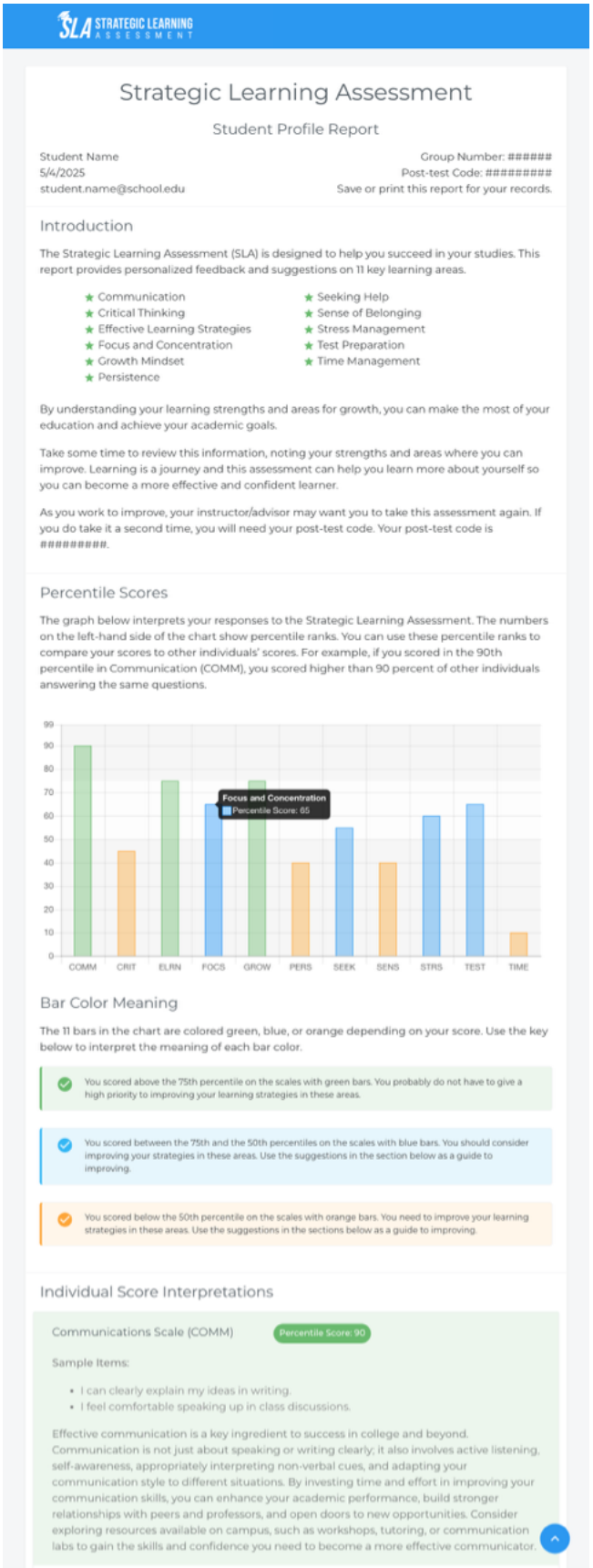
Figure 7

Once a student completes all of the items, a detailed report will be automatically generated. This report provides a detailed breakdown of the student's performance, including percentile scores for each of the 11 skill areas. In addition to scores, the report offers personalized feedback and practical strategies for improvement in each skill area. A sample Student Profile is shown in Figure 7. A link to this report will also be emailed to the student for easy access.

Note: Administrators have two options for managing student access to the profile report:

- **No Results Version:** To prevent students from receiving a profile report, administrators can request the 'No Results Version' of the assessment. This version still allows students to complete the assessment, but no report will be generated or sent to them. However, a copy of the student profile report will still be saved to the Administrative Dashboard for administrator access.
- **Custom Message:** Alternatively, administrators can choose to display a custom message to students instead of the standard report. This allows for personalized communication or redirection to other resources.

To enable either of these options, please contact your support representative.



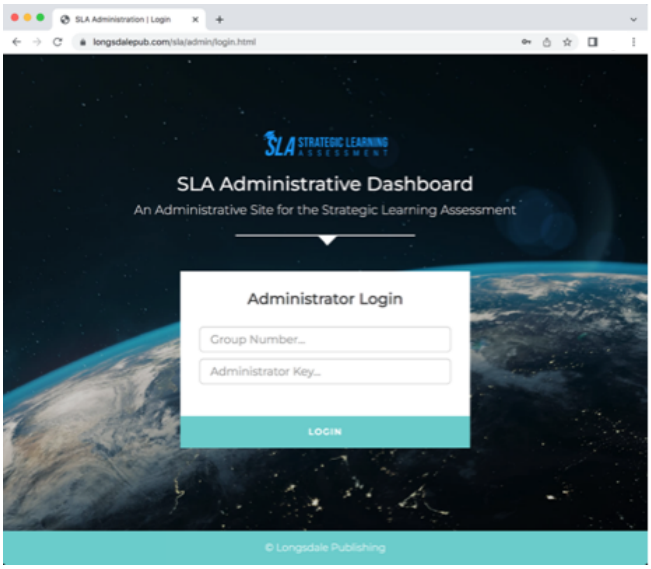
ADMINISTRATIVE DASHBOARD

Administrators have access to a variety of tools and reports to manage your institution's account and review student data. To access these features, please refer to the Administrator Instruction PDF emailed to the administrator overseeing the SLA account. The Administrator Instruction sheet contains sensitive information intended solely for the administrator. Please do not copy or distribute this document to students or other unauthorized individuals.

The following information is available to administrators through the Administrative Dashboard:

- The **SLA Records** tab allows you to search for individual students and displays a report of the following results:
  - Student Name, Email, Administration Date, Percentile Rankings along with an explanation of the 11 scales,
  - A link to the student's original SLA profile report,
  - A link to a report that details how the student responded to all SLA items, and
  - For students who have taken both the pre- and post-tests, a link to an instructor/advisor report with a side-by-side comparison of their responses on both tests.

Figure 8

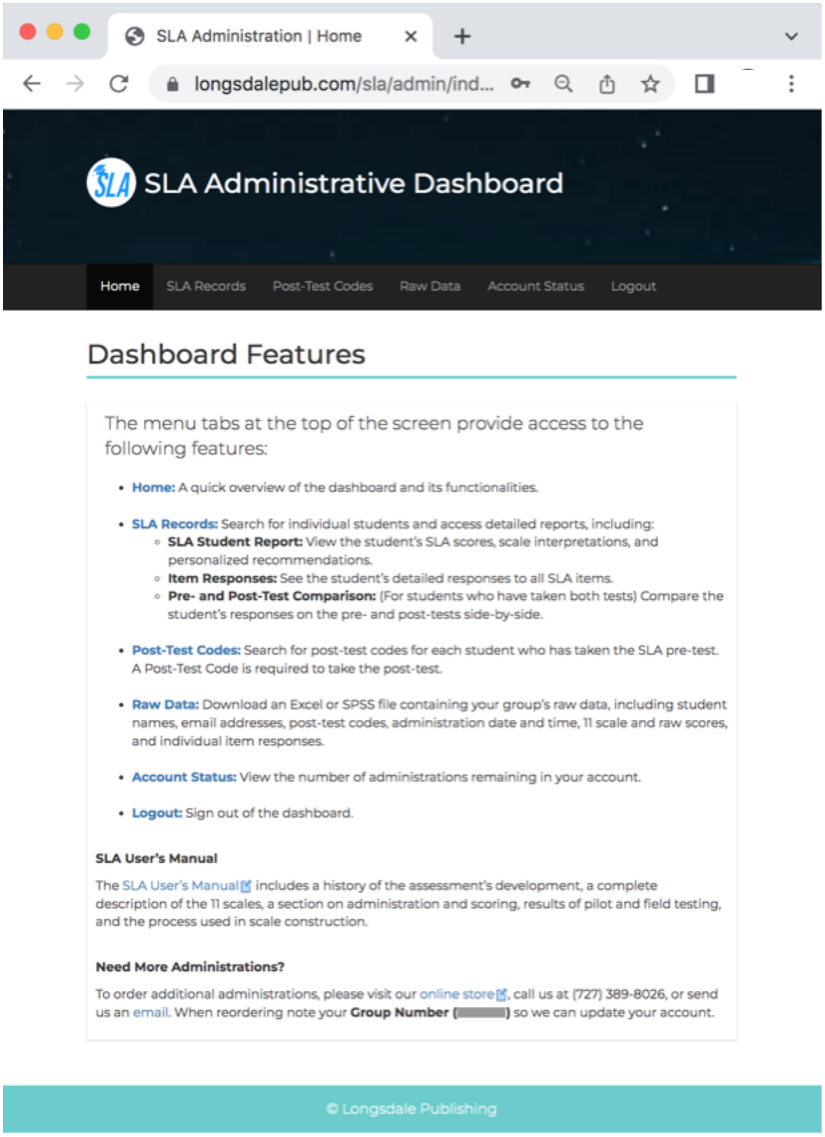


- The **Post-Test Codes** tab shows a list of post-test codes for each student who has taken the pre-test of the SLA. A post-test code is required to take the post-test.
- The **Raw Data** tab allows you to download an Excel file of your school's raw data. The file includes each student's name, email, post-test code, test date/time, 11 percentile scores, 11 raw scores, and all item scores.
- The **Account Status** tab shows how many administrations your institution was issued, the date they were issued, and the number remaining to be used.

HOME PAGE

Figure 9

The home page of the SLA Administrative Dashboard is shown in Figure 9. Navigate the site using the tabs at the top of the page.



SEARCH RECORDS

Figure 10

The page to the right (Figure 10) appears after selecting the “SLA Records” tab. Click the “Search Records” button without selecting any search parameters to find a list of all students in your account. Use the fields to refine your search and return fewer records.

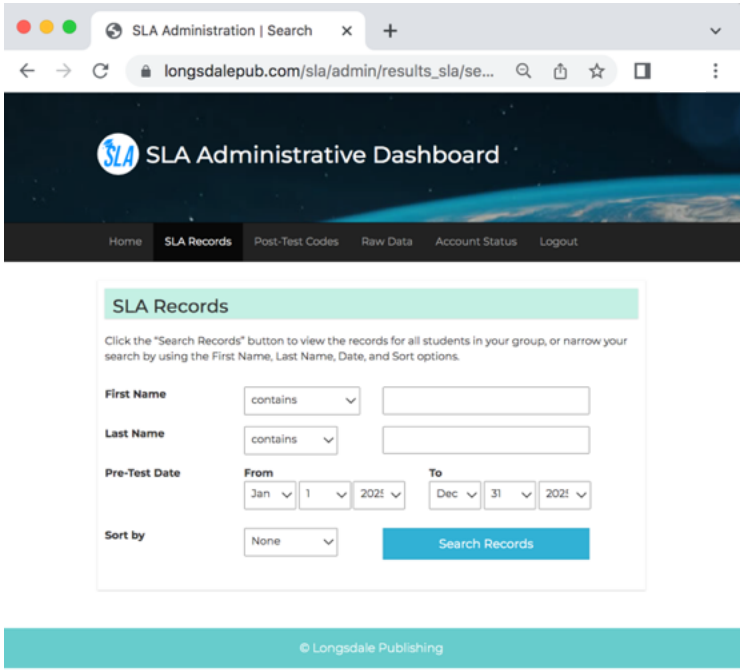


Figure 11

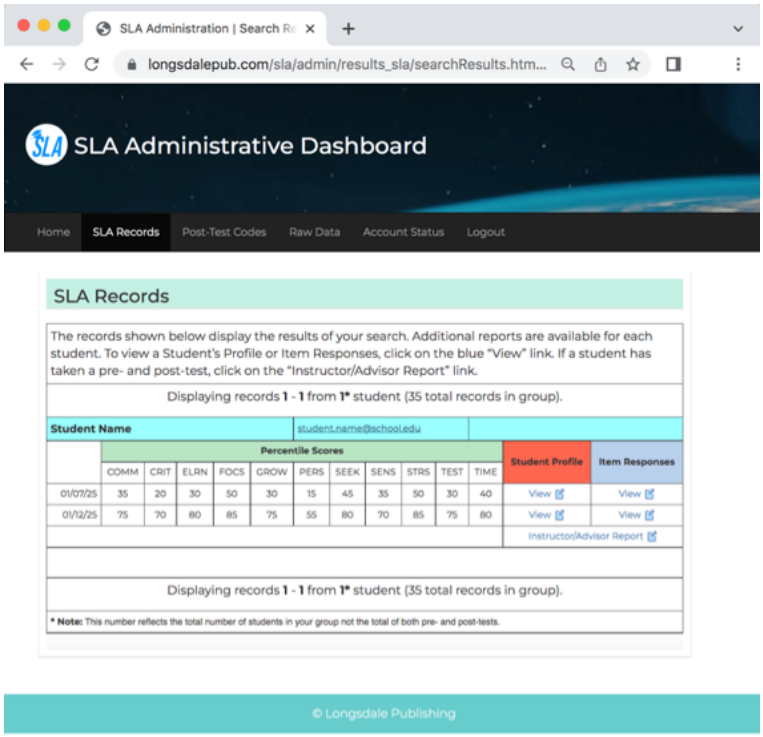
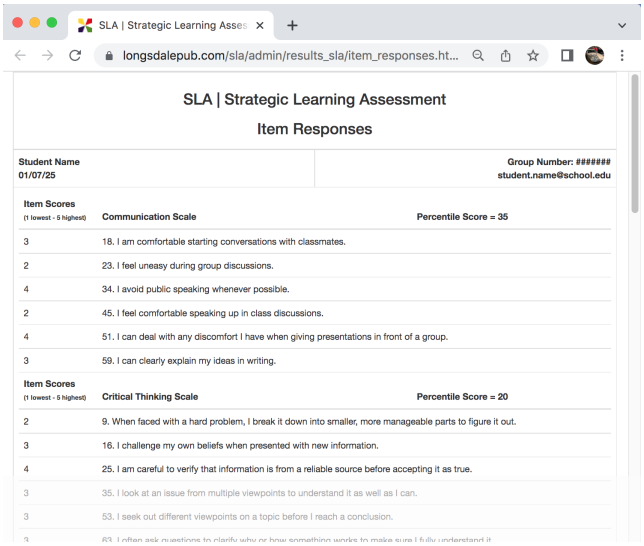


Figure 11 shows the results of a search query. Both pre- and post-test results are shown in the figure. To view a Student Profile Report or Item Responses Report, click the “View” link. A Profile Report is similar to Figure 7.

ITEM RESPONSE REPORT

Figure 12

A sample Item Responses Report is shown in Figure 12. The Item Responses Report groups the SLA items by scale. All the items that make up the 11 scales along with how the student responded to each item are shown. A score of 1 is least desirable while a 5 is the most desirable. This report can be a valuable resource for counselors and academic advisors.



SLA | Strategic Learning Assessment

Item Responses

Student Name 01/07/25		Group Number: ###### student.name@school.edu
Item Scores (1 lowest - 5 highest)	Communication Scale	Percentile Score = 35
3	18. I am comfortable starting conversations with classmates.	
2	23. I feel uneasy during group discussions.	
4	34. I avoid public speaking whenever possible.	
2	45. I feel comfortable speaking up in class discussions.	
4	51. I can deal with any discomfort I have when giving presentations in front of a group.	
3	59. I can clearly explain my ideas in writing.	
Item Scores (1 lowest - 5 highest)	Critical Thinking Scale	Percentile Score = 20
2	9. When faced with a hard problem, I break it down into smaller, more manageable parts to figure it out.	
3	16. I challenge my own beliefs when presented with new information.	
4	25. I am careful to verify that information is from a reliable source before accepting it as true.	
3	35. I look at an issue from multiple viewpoints to understand it as well as I can.	
3	53. I seek out different viewpoints on a topic before I reach a conclusion.	
3	63. I often ask questions to clarify why or how something works to make sure I fully understand it.	

Figure 13

SLA | Strategic Learning Assessment

Instructor/Advisor Report

Student Name University of Central student.name@school.edu	Group Number: ###### Pre-Test Date: 01/03/25 Post-Test Date: 04/15/25

This report provides pre- and post-test SLA score analysis. The first table shows the Pre/Post-Test Score Comparison as well as the percentage of change in raw scores. The second half of the report shows individual item responses on both the pre- and post-tests.

Pre/Post-Test Score Comparison

Scale	Pre-Test Percentile	Post-Test Percentile	Pre-Test Raw Score	Post-Test Raw Score	% Change in Raw Score
Communication	20	70	16	23	44%
Critical Thinking	25	75	19	25	32%
Effective Learning Strategies	65	90	22	26	18%
Focus and Concentration	40	85	17	24	41%
Growth Mindset	30	70	21	23	10%
Persistence	70	90	22	29	32%
Seeking Help	25	80	15	24	60%
Sense of Belonging	35	65	18	23	28%
Stress Management	55	95	19	26	37%
Test Preparation	65	85	22	26	18%
Time Management	50	85	19	25	32%

Pre/Post-Test Individual Item Comparison

Pre-Test Item Score	Post-Test Item Score	Communication (COMM) Scale
3	4	18. I am comfortable starting conversations with classmates.
1	2	23. I feel uneasy during group discussions.
3	4	34. I avoid public speaking whenever possible.
3	4	45. I feel comfortable speaking up in class discussions.
3	4	51. I can deal with any discomfort I have when giving presentations in front of a group.
3	5	59. I can clearly explain my ideas in writing.

(1 lowest - 5 highest)

Pre-Test Item Score	Post-Test Item Score	Critical Thinking (CRIT) Scale
3	5	9. When faced with a hard problem, I break it down into smaller, more manageable parts to figure it out.
3	4	16. I challenge my own beliefs when presented with new information.
4	4	25. I am careful to verify that information is from a reliable source before accepting it as true.
4	5	35. I look at an issue from multiple viewpoints to understand it as well as I can.
3	4	53. I seek out different viewpoints on a topic before I reach a conclusion.
2	4	63. I often ask questions to clarify why or how something works to make sure I fully understand it.

(1 lowest - 5 highest)

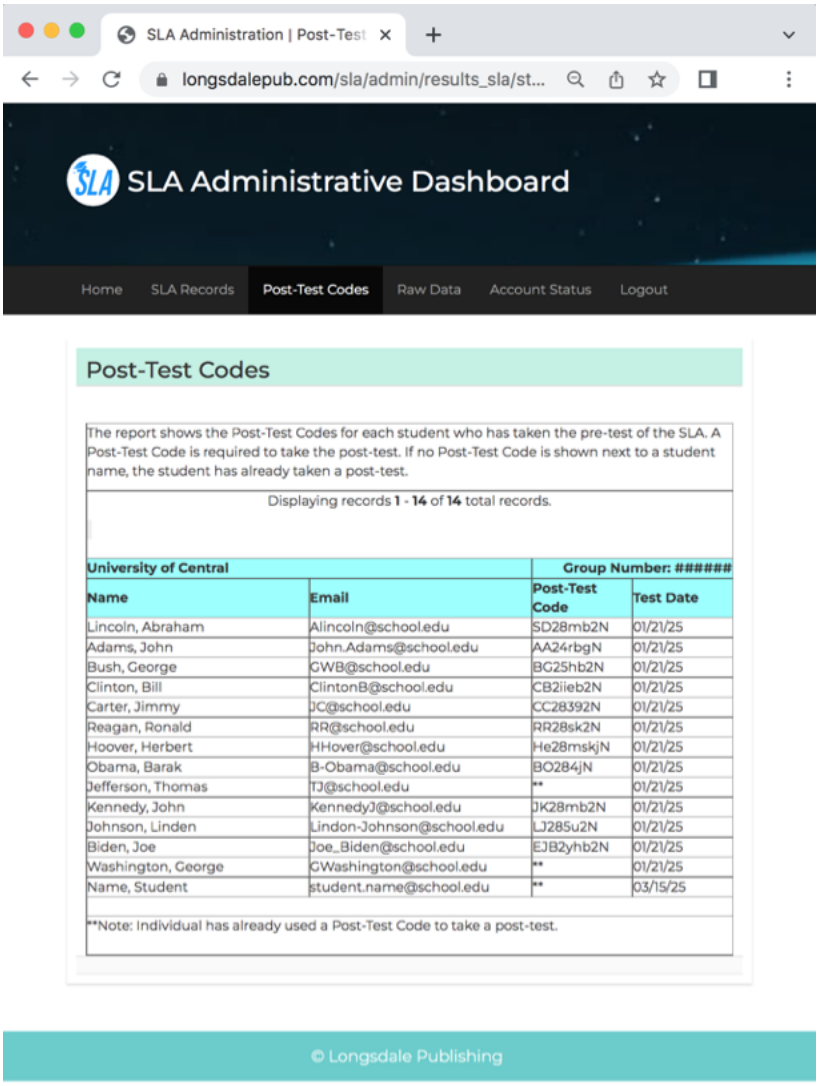
INSTRUCTOR/ADVISOR REPORT

An “Instructor/Advisor Report” is shown in Figure 13. This report displays 11 percentiles, 11 raw scales scores, and the percentage change in raw score from pre- to post-test. Individual item responses for both pre- and post-test are also shown.

POST-TEST CODES

Figure 14

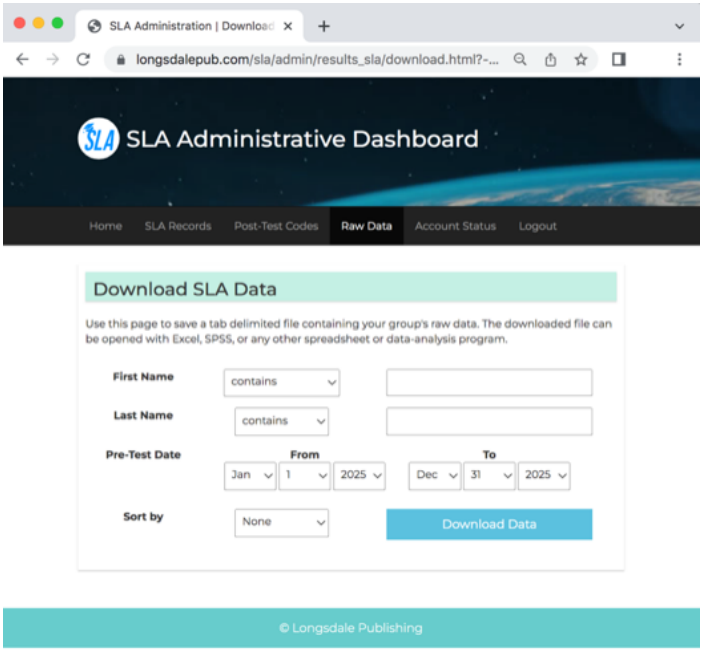
The page to the right (Figure 14) appears after selecting the “Post-Test Codes” tab. Post-Test Codes are unique and generated upon completion of a pre-test. Students will use a Post-Test Code along with a Group Number to take a post-test. (See Post-Test login in Figure 4). While Post-Test Codes are included on each student’s Profile Report (Figure 7), you may find it helpful to have a list available for students who do not have their code immediately available.



RAW DATA

Figure 15

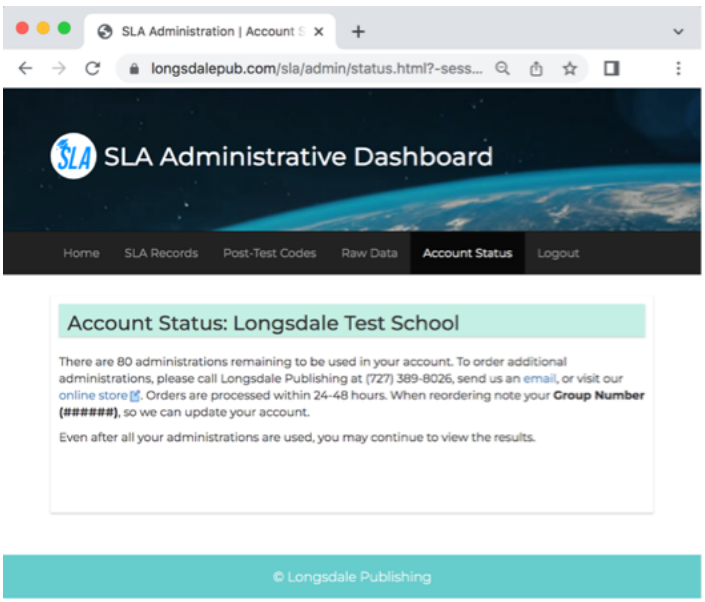
The Raw Data tab allows you to download a file of your school's raw data (Figure 15). The file includes each student's name, email, post-test codes, test date/time, 11 percentile scores, 11 raw scores, and all item scores. The file can be opened with Excel, SPSS, or any other spreadsheet or data-analysis program.



ACCOUNT STATUS

Figure 16

The page to the right (Figure 16) appears after selecting the "Account Status" tab. The account status relates the number of administrations remaining in your account. Unused administrations do not expire. When reordering, note your Group Number so a customer service representative can add new administrations to your existing account.



APPENDIX A: FIELD TEST DEMOGRAPHICS (TABLES 1-7)

Table 1: Sample Size by Type of Institution

	Number of Institutions				Number of Students			
	Public	Private	Total	%	Public	Private	Total	%
Community College or Junior College	5	0	5	21%	143	0	143	21%
4-Year University	10	8	18	75%	306	92	398	60%
Career Training College	0	1	1	4%	0	126	126	19%
Total	15	9	24		449	218	667	

Table 2: Sample Size by Geographic Location

	Number of Institutions	%
Midwest, U.S.	5	21%
Northeast, U.S.	7	29%
South, U.S.	5	21%
Southeast, U.S.	2	8%
West, U.S.	2	8%
British Columbia, Canada	1	4%
Caribbean	1	4%
Pacific Rim, U.S. territory	1	4%
Total	24	

Table 3: Age by Gender							
Age	Female	Male	Non-binary	Other	Prefer not to answer	Total	%
17 or Younger	27	11	0	0	0	38	6%
18-19	101	93	6	3	3	206	31%
20-21	40	30	0	0	0	70	10%
22-23	51	34	1	1	2	89	13%
24-29	74	41	3	1	3	122	18%
30 or Older	99	38	2	1	2	142	21%
Total	392	247	12	6	10	667	

Table 4: Race/Ethnicity by Gender							
Race/Ethnicity	Female	Male	Non-binary	Other	Prefer not to answer	Total	%
American Indian or Alaska Native	5	0	0	0	0	5	1%
Asian or Pacific Islander	48	51	2	0	2	103	15%
Black or African American	47	33	2	1	1	84	13%
Hispanic or Latino	46	30	1	0	0	77	12%
Native Hawaiian or Other Pacific Islander	9	4	0	0	0	13	2%
White or Caucasian	211	108	7	3	5	334	50%
Other	27	20	0	1	3	51	8%
Total	393	246	12	5	11	667	

Table 5: Race/Ethnicity by Age								
Race/Ethnicity	17 or Younger	18-19	20-21	22-23	24-29	30 or Older	Total	%
American Indian or Alaska Native	0	2	0	1	0	2	5	1%
Asian or Pacific Islander	1	18	15	25	21	23	103	15%
Black or African American	17	27	9	5	16	10	84	13%
Hispanic or Latino	4	42	8	6	10	8	78	12%
Native Hawaiian or Other Pacific Islander	0	5	2	1	3	2	13	2%
White or Caucasian	13	102	30	39	65	84	333	50%
Other	1	13	6	10	7	14	51	8%
Total	36	209	70	87	122	143	667	

Table 6: Current Reason for Enrolling in College Courses		
	n	%
1- or 2-Year Certificate	96	14%
2-Year Associates Degree	68	10%
4-Year Degree	308	46%
Transfer to a 4-Year College or University	72	11%
Other	123	18%
Total	667	100%

Table 7: First Time in College Status		
	n	%
Previously Enrolled in College	361	54%
First Time in College	306	46%
Total	667	100%

APPENDIX B: ITEM STATISTICS (TABLES 8-18)

Table 8: Item Statistics for Communications Scale (COMM) (Coefficient Alpha = 0.79)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
18	3.47	1.264	0.316	0.799
23	3.54	1.256	0.541	0.753
34	2.99	1.399	0.529	0.756
45	3.13	1.352	0.633	0.729
51	3.50	1.195	0.629	0.730
59	3.60	1.071	0.565	0.748

Table 9: Item Statistics for Critical Thinking Scale (CRIT) (Coefficient Alpha = 0.75)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
9	3.47	1.053	0.416	0.732
16	3.47	1.052	0.470	0.717
25	3.83	1.032	0.442	0.724
35	3.80	1.013	0.595	0.683
53	3.56	1.016	0.564	0.691
63	3.66	1.089	0.442	0.725

Table 10: Item Statistics for Effective Learning Scale (ELRN) (Coefficient Alpha = 0.64)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
6	3.46	1.167	0.466	0.563
12	3.57	1.138	0.334	0.614
20	3.84	1.041	0.389	0.595
31	2.63	1.180	0.328	0.617
49	3.36	1.172	0.344	0.611
56	3.46	1.156	0.380	0.597

Table 11: Item Statistics for Focus and Concentration Scale (FOCS) (Coefficient Alpha = 0.80)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
8	2.75	1.191	0.598	0.758
14	3.37	1.103	0.457	0.789
27	2.88	1.267	0.598	0.758
37	3.30	1.168	0.581	0.763
44	3.12	1.390	0.468	0.793
66	2.79	1.169	0.646	0.748

Table 12: Item Statistics for Growth Mindset Scale (GROW) (Coefficient Alpha = 0.77)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
7	3.08	1.218	0.509	0.738
24	3.42	1.133	0.571	0.721
32	2.98	1.181	0.545	0.728
39	3.42	1.138	0.409	0.763
48	3.90	0.991	0.564	0.725
58	4.10	0.961	0.505	0.739

Table 13: Item Statistics for Persistence Scale (PERS) (Coefficient Alpha = 0.82)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
3	3.45	1.090	0.505	0.811
28	3.96	0.999	0.660	0.777
33	3.79	1.065	0.561	0.798
43	3.70	1.099	0.561	0.798
50	4.10	0.935	0.619	0.787
57	4.04	0.969	0.631	0.784

Table 14: Item Statistics for Seeking Help Scale (SEEK) (Coefficient Alpha = 0.83)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
11	3.20	1.214	0.558	0.807
19	3.31	1.238	0.707	0.777
30	3.37	1.248	0.662	0.786
46	3.28	1.343	0.523	0.816
55	3.13	1.312	0.677	0.782
64	2.49	1.259	0.465	0.826

Table 15: Item Statistics for Sense of Belonging Scale (SENS) (Coefficient Alpha = 0.86)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
4	3.45	1.344	0.633	0.846
13	3.47	1.287	0.521	0.865
21	3.28	1.266	0.736	0.827
36	3.60	1.123	0.636	0.846
41	3.37	1.223	0.717	0.831
65	3.09	1.370	0.723	0.829

Table 16: Item Statistics for Stress Management Scale (STRS) (Coefficient Alpha = 0.77)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
5	2.85	1.136	0.496	0.720
17	3.21	1.145	0.526	0.713
26	3.32	1.120	0.525	0.714
40	2.88	1.537	0.417	0.749
54	3.05	1.377	0.449	0.734
62	2.70	1.230	0.609	0.689

Table 17: Item Statistics for Test Preparation Scale (TEST) (Coefficient Alpha = 0.74)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
1	3.28	1.265	0.524	0.691
10	3.72	1.286	0.425	0.721
22	3.14	1.153	0.499	0.699
42	3.20	1.176	0.313	0.749
47	3.48	1.132	0.608	0.669
61	3.44	1.085	0.524	0.694

Table 18: Item Statistics for Time Management Scale (TIME) (Coefficient Alpha = 0.76)				
Item Number	Item Mean	Standard Deviation	Item-Total r Excluding This Item	Cronbach's Alpha if Item Deleted
2	3.23	1.150	0.538	0.706
15	3.13	1.250	0.590	0.690
29	3.22	1.334	0.597	0.686
38	3.33	1.190	0.558	0.700
52	3.61	1.374	0.389	0.748
60	2.71	1.218	0.307	0.764

APPENDIX C: OVERALL SCALE STATISTICS

Table 19: Scale Statistics for the Final Version of Each Scale			
Scale Name	Scale Mean	Standard Deviation	Coefficient Alpha
Communications Scale (COMM)	20.23	5.261	0.79
Critical Thinking Scale (CRIT)	21.79	4.163	0.75
Effective Learning Scale (ELRN)	20.32	4.110	0.64
Focus and Concentration Scale (FOCS)	18.20	5.163	0.80
Growth Mindset Scale (GROW)	20.89	4.529	0.77
Persistence Scale (PERS)	23.04	4.476	0.82
Seeking Help Scale (SEEK)	18.76	5.581	0.83
Sense of Belonging Scale (SENS)	20.60	5.887	0.86
Stress Management Scale (STRS)	17.99	5.096	0.77
Test Preparation Scale (TEST)	20.67	4.695	0.74
Time Management Scale (TIME)	20.23	5.261	0.76

Example: Interpreting the Persistence Scale Statistics

Scale Mean (23.04): The scale mean is the average score students obtained on the Persistence scale. Since we are using a 5-point Likert scale for each item, and the scale has 6 items, the theoretical range of possible scores is 6 (1 x 6) to 30 (5 x 6). A mean of 23.04 suggests that, on average, students are responding somewhere in the middle of the scale, leaning towards agreement with the statements that indicate strong persistence skills.

Standard Deviation (4.476): The standard deviation statistic tells you how much variability there is in the scores. A higher standard deviation means that the scores are more spread out, while a lower standard deviation indicates that the scores are more clustered around the mean. In this case, a standard deviation of 4.476 suggests a moderate amount of variability in persistence skills among the students in the pilot sample.

Coefficient Alpha (0.82): The coefficient alpha is a measure of the internal consistency reliability of the scale. It tells you how closely related the 6 items are as a group. A coefficient alpha of 0.82 is considered very good, indicating that the items are measuring the same underlying construct (persistence skills) in a consistent way. Generally, a Cronbach's alpha of 0.7 or higher is considered acceptable for research purposes.

Table 20: Scale Intercorrelations											
	Communications	Critical Thinking	Effective Learning Strategies	Focus and Concentration	Growth Mindset	Persistence	Seeking Help	Sense of Belonging	Stress Management	Test Preparation	Time Management
	COMM	CRIT	ELRN	FOCS	GROW	PERS	SEEK	SENS	STRS	TEST	TIME
Communications (COMM)	1										
Critical Thinking (CRIT)	0.48	1									
Effective Learning Strategies (ELRN)	0.49	0.57	1								
Focus and Concentration (FOCS)	0.38	0.36	0.53	1							
Growth Mindset (GROW)	0.50	0.57	0.51	0.52	1						
Persistence (PERS)	0.43	0.64	0.54	0.51	0.69	1					
Seeking Help (SEEK)	0.45	0.43	0.40	0.42	0.46	0.46	1				
Sense of Belonging (SENS)	0.48	0.27	0.30	0.27	0.41	0.38	0.37	1			
Stress Management (STRS)	0.47	0.38	0.48	0.59	0.63	0.43	0.37	0.31	1		
Test Preparation (TEST)	0.40	0.53	0.56	0.57	0.50	0.64	0.48	0.38	0.43	1	
Time Management (TIME)	0.42	0.45	0.51	0.68	0.51	0.60	0.50	0.34	0.52	0.75	1

Example 1 - Test Preparation and Time Management:

The result of the Pearson correlation shows that there was a very high, positive correlation between TEST and TIME. The correlation between TEST and TIME was statistically significant, r(665) = 0.75, p = <.001. The correlation coefficient indicates the strength and direction of the linear relationship between TEST and TIME. The coefficient 0.75 suggests a very high, positive correlation. This means that, generally, as TEST increases, TIME also tends to increase and vice versa.

Example 2 - Critical Thinking and Sense of Belonging:

The result of the Pearson correlation shows that there was a low, positive correlation between CRIT and SENS. The correlation between CRIT and SENS was statistically significant, r(665) = 0.27, p = <.001. The correlation coefficient indicates the strength and direction of the linear relationship between CRIT and SENS. The coefficient 0.27 suggests a low, positive correlation. This means that, generally, as CRIT increases, SENS also tends to increase and vice versa.

Note: It's important to note that correlation does not imply causation, meaning that we cannot conclude that one variable influences or causes changes in the other.

Amount of r	Strength of Correlation
0.0 < 0.1	no correlation
0.1 < 0.3	low correlation
0.3 < 0.5	medium correlation
0.5 < 0.7	high correlation
0.7 < 1	very high correlation

APPENDIX E: SLA SCALE NORMS

Table 21: Strategic Learning Assessment Scale Norms												
Percentile Score	Communications COMM	Critical Thinking CRIT	Effective Learning Strategies ELRN	Focus and Concentration FOCS	Growth Mindset GROW	Persistence PERS	Seeking Help SEEK	Sense of Belonging SENS	Stress Management STRS	Test Preparation TEST	Time Management TIME	Percentile Score
99	30	30	29	29	30	30	30	30	29	29	29	**99**
95	29	29	27	26	28		29	29	26	28	27	**95**
90	27	27	26	25	27	29	26	28	25	27	26	**90**
85	26	26	25	24	26	28	25	27	24	26	25	**85**
80	25		24	23	25	27	24	26	23	25	24	**80**
75	24	25	23	22	24	26	23	25	22	24	23	**75**
70	23	24		21	23		22	24	21	23	22	**70**
65	22		22	20		25	21	23	20	22	21	**65**
60		23	21	19	22		20	22	19	21	20	**60**
55	21	22				24	19	21				**55**
50	20		20	18	21	23			18	20	19	**50**
45	19	21			20		18	20	17			**45**
40			19	17		22	17	19		19	18	**40**
35	18	20		16	19			18	16		17	**35**
30			18		18	21	16	17	15	18		**30**
25	17	19		15		20	15	16	14	17	16	**25**
20	16	18	17	14	17	19	14	15	13		15	**20**
15	15	17	16	13	16	18	13	14	12	16	14	**15**
10	13	16		11	15	17	11	12	11	14	12	**10**
5	11	15	13	9	13	15	10	10	10	12	11	**5**
1	8	11	10	7	10	12	6	7	7	9	9	**1**

Strategic Learning Assessment

User's Manual

by

Michael Ealy, M.B.A.

Sharon Field Hoffman, Ed.D.,
Wayne State University

Katherine R. Brendli Brown, Ph.D.,
Cornell University

Ordering Information:

Longsdale Publishing
1043 Maravista Drive
Trinity, FL 34655

Phone: (727) 389-8026
Email: service@longsdalepub.com
Web: www.longsdalepub.com

Volume discounts available.

©2025, Longsdale Publishing

All rights reserved. It is a violation of the law to copy any or all of this publication without written permission of the publisher.