

## Overview of the Strategic Learning Assessment

The Strategic Learning Assessment (SLA) is being developed as a comprehensive self-assessment tool designed to empower college students to improve their academic performance. The SLA aims to be both diagnostic and prescriptive. As a diagnostic tool, it is intended to help identify students' strengths and opportunities for growth in key learning areas. As a prescriptive tool, it is being designed to provide tailored recommendations and strategies for improvement. The SLA is currently being developed to assess 11 critical psychological and motivational factors 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 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, which 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 is being developed to address 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 focused on empowering students to actively influence factors that may directly impact their learning outcomes.

The Strategic Learning Assessment is currently envisioned as a self-administered questionnaire. The assessment is being designed to cover 11 essential learning strategies and study skills, providing a holistic view of the student's learning profile (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 is intended to focus on topics that students can actively employ to directly influence or cause their own learning, going beyond passive reception of information and involving students taking charge of their learning process. Upon completion of the assessment, students are expected to 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 will be made available to instructors/advisors through an Administrative Dashboard where multiple reports and downloadable data can be accessed.

We concluded the item development and refinement stage on September 30, 2024, with 106 items (approx. 10 per scale) developed for the pilot version. The items underwent rigorous review by a panel of experts in higher education to ensure the validity and effectiveness of the underlying constructs.

We are currently in the pilot testing phase and expect to finish by November 30, 2024. Once pilot testing is complete, all raw data will be anonymized and shared with our psychometrician for analysis. Neither schools nor students will be identifiable, and the data will be used solely for the purpose of developing psychometric data for the assessment. Upon completion of the pilot, we are hoping our psychometrician's analysis supports 5-7 items per scale for the final version. We anticipate this analysis and finalization of the assessment will take approximately two to three months.

The remainder of the document provides a description of the 11 scales.

# Description of the Individual Scales

## 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 written expression, nonverbal communication, and interpersonal skills. Research indicates a significant connection between communication skills and academic achievement. For instance, a study by Cavanagh, Leeds, and Peters (2019) found that students' oral communication skills were positively associated with their academic performance in various disciplines [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, leading 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 and written 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 improvement and growth in students. By pinpointing specific communication challenges, students can develop targeted strategies to enhance their communication skills, ultimately leading to improved academic performance, personal growth, and career prospects.

In conclusion, communication skills are indispensable for academic success in college. Students with strong communication abilities can effectively engage in academic discourse, collaborate with peers, and build relationships with professors, leading to improved academic performance, personal growth, and career prospects. Recognizing the importance of communication, colleges and universities should invest in resources and programs that equip

students with the necessary skills to navigate the academic landscape and achieve their full potential.

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## CRITICAL THINKING SKILLS 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 demands on their critical thinking skills intensify, requiring them to engage with diverse perspectives, evaluate the credibility of information sources, and construct well-reasoned arguments [1].

### 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 struggle to identify biases in sources, accept information at face value, and differentiate between credible and unreliable sources. As the degree to which we obtain information from the internet, 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, hindering 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 often increases students' need for critical thinking in order to be successful in their coursework. In high school, students may have been primarily focused on memorizing facts and reproducing information. However, college coursework demands a deeper level of

engagement, requiring students to analyze complex texts, 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 Role of College and University Professionals

College and university professionals play a crucial role in supporting students' development of critical thinking skills. By providing explicit instruction in critical thinking, creating opportunities for practice, and modeling critical thinking in their own interactions with students, professionals can empower students to become independent thinkers and lifelong learners [5].

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

By identifying areas of strength and opportunities for development, the Critical Thinking Skills scale can inform targeted interventions and support students in developing the critical thinking skills necessary for academic success. The item pool for the Critical Thinking Skills scale encompasses a range of essential skills, including analyzing arguments, evaluating evidence, synthesizing information, identifying biases, and challenging personal assumptions.

## 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. The Strategic Learning Assessment is a valuable tool in this process, providing insights into students' critical thinking abilities and informing targeted interventions.

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## 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 where they need further study, leading to more targeted and efficient study habits. Active listening and reading strategies, such as summarizing key points, taking notes, and asking clarifying questions, 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 strategies 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 about 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 simply reading their notes repeatedly. 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.

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## FOCUS AND CONCENTRATION SCALE

The ability to focus and concentrate is a cornerstone of academic achievement, especially for students transitioning to the demanding environment of college. Research underscores this notion. 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 2018 study in *Educational Psychology Review* 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.

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## 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. This translates to demonstrably better academic outcomes.

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.
- **Value effort** and understand that hard work is essential for success.

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

- **Avoid challenges** to protect a challenge to 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.
- **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 Strategic Learning Assessment'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.

## Key Points for Administering the Assessment

When administering the Strategic Learning Assessment, it is essential to emphasize that there are no right or wrong answers. The goal is to understand the student's perspective and provide appropriate support. Additionally, it is important to create a safe and supportive environment where students feel comfortable sharing their thoughts and beliefs.

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.

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## PERSISTENCE SCALE

Persistence, the ability to maintain effort and motivation towards a goal despite challenges and setbacks, is a crucial quality for academic success in college students [1, 2]. Research suggests that persistence may be a stronger predictor of achievement than even raw cognitive ability [3]. This section will explore the challenges students face that test their persistence and how the development of study strategies and techniques can bolster this quality.

### 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.

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## 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 a 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 Seeking Help 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 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, universities can empower students to view help-seeking as a normal and essential part of the academic experience.

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## 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 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 belonging. By utilizing this information, faculty and staff across campus 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.

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## 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 accurate self-reflection on stress levels and 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.

- **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.

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## TEST PREPARATION STRATEGIES 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, leading 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 strategies. This includes [4]:



- **Exposure to a Variety of Techniques:** Students benefit from learning about different study methods, such as retrieval practice, spaced repetition, interleaving, dual coding, and feedback-driven metacognition, along with guidance on how to select the most appropriate approaches for their learning goals and course material.
- **Metacognition 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.

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## 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 to feeling 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 strategies. 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.

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