

Promoting Success: Self-Accommodating Techniques for Collegiate Student Athletes

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ABSTRACT

Making the transition from high school to the university setting is often difficult for many incoming freshmen including collegiate student athletes. Failure in initial classes may appear to be the result of inadequate mastery of the content presented in the course; however, additional factors may be involved. Many students both with disabilities as well as without documented learning disabilities may fail to master the content of college courses due to a lack of knowledge of their own learning needs or intrinsic processing behaviors. This article examines two student athletes and outlines a process that was used to facilitate the development of knowledge about personal intrinsic processing needs. Self-report information was analyzed and self-accommodating techniques were developed for the student to improve their performance in the university classroom. As a final step, ADA accommodations for the collegiate setting were also developed using the self-report information about intrinsic processing needs delineated by the student with learning disabilities.

Formulating specific methods to facilitate the success of student athletes in academic coursework continues to be a major concern for universities. Whether the student athlete is an incoming freshman, has a documented disability, or is simply experiencing academic dysfunction, academic advisors struggle to determine specific methods to enhance the student athlete's performance. While a lack of information about specific methods for facilitating student athletes' educational needs may hinder some programs, often the difficulties are more basic.

Two issues have hampered the determination of effective, specific accommodations for students at the collegiate level. First, a variety of students with and without disabilities are often unaware of their specific strengths and weaknesses in terms of basic academic functioning. Secondly, accommodations for students with disabilities are most often chosen from a global perspective that matches student needs with typical student performance in past situations. This study examines one method for self-report of basic academic strengths and weaknesses. It then ties that report to the development of specific academic plans for self-accommodating techniques for student athletes with and without disabilities. These plans focus on student-directed changes in academic behavior as opposed to total reliance on professor-initiated accommodations.

LEARNING CHARACTERISTICS AND HIGHER EDUCATION SUCCESS

Success in higher education is often dictated by content knowledge rather than developing an understanding of the complex principles and concepts that underlie the knowledge base (Gardiner & Singh, 1991). This focus on content may recognize student failure as an inability to master the knowledge base of the course. However, students experiencing academic difficulties at the university level may be failing for a number of reasons beyond a lack of mastery of course content. These reasons for academic failure may include poor information processing, lack of efficient strategies for learning both content and the underlying principles, and failure to recognize learning preferences as well as strengths and weaknesses. Often, students who are unaware of their own learning profiles in terms of their strengths and weaknesses must simply guess about the reasons for their academic failure.

In a qualitative study of high school students who were rated by their teachers as successful or unsuccessful learners, Loranger (1994) examined their study strategies for processing information. She found that successful students in this study consistently employed seven strategies for processing information. The seven include: 1) determining the author's purpose, 2) detecting the author's organizational plan, 3) planning for learning, 4) activating prior knowledge, 5) distinguishing between relevant and irrelevant information, 6) summarizing skills, and 7) notetaking skills. Loranger further identified good information processors as

"competent thinkers who know the techniques needed to accomplish goals in learning. They are also able to assess whether these goals are being met and if not, are able to modify strategies to meet these goals. Good information processors know how to set an environment for learning; they are knowledgeable, purposeful, and resourceful. Good information processors know facts and are able to make connections."

Murray-Harvey and Keeves (1994) studied university students' learning processes and their progress in higher education. They indicated that higher education assumes that students have mastered both a "body of knowledge" (content) as well as "how to learn" (process). Furthermore, they state that students often experience problems in university instruction when they are not prepared to meet both sets of academic demands and have limited resources for dealing with their "ineffective strategies and misconceptions".

In their study, Murray-Harvey and Keeves identified the following as keys to higher education academic success: 1) an internal locus of control, 2) high levels of motivation, persistence, and responsibility, 3) adaptability to a variety of physical learning environments, 4) independent study skills, and 5) well developed metacognitive processing skills (i.e. self knowledge about what it takes to learn). Knowledge about personal learning preferences, skills, strategies, and academic strengths and weaknesses all appear to be critical components for success at the university level.

Both of these studies highlight the need for students in higher education to develop an understanding of their own learning processes and individual strengths and weaknesses. The studies point to the importance of self-knowledge and appropriate organizational and study skills as precursors for academic success in

university coursework. Additionally, efficient strategies for learning that capitalize on individual preferences should guide a student's choice about strategies to enhance academic performance.

Some students including many student athletes arrive on campus with these qualities for performance already developed. Others may benefit through assistance from academic advisors who can help to guide them in determining study strategies and course selections by facilitating the student's discovery of their profile of strengths and weaknesses. A few students with documented learning disabilities will require assistance through federally mandated accommodations. All students, however, will benefit academically from self-knowledge about their learning profile characteristics. Perhaps initially the question is: How are academic strengths and weaknesses efficiently determined?

DETERMINING ACADEMIC STRENGTHS AND WEAKNESSES

All student athletes entering the university setting already have on hand multiple sources of information about their academic strengths and weaknesses. These sources include: SAT/ACT scores, scores on state-mandated performance assessments, classroom-based performance in high school coursework, and vocational testing results. Additionally, student athletes with identified learning disabilities will have access to more specific types of formal academic evaluation information. Many students, however, fail to recognize the relevance of these sources with regard to the student's day to day functioning in the classroom.

As documented in the above-mentioned studies, successful learners tend to acknowledge their academic strengths and weaknesses and utilize them to their advantage. Some student athletes entering higher education settings, however, may require more specific advisement about methods for obtaining information from these sources that translate into actual knowledge about potential academic performance. Academic advisors can often explain and translate this information into practical applications that enhance a student athlete's transition to the university level.

Beyond the use of a document collection, academic athletic advisors often administer other types of evaluation tools to ascertain student strengths and weaknesses such as the Strong Interest Inventory, 4th Edition (1985) and the Career Occupational Preference Systems (1989). The advisor may use this information to help direct the student as to their academic needs; however, even this type of evaluation information may fail to identify the specific needs of the student athlete when it comes to academic performance on a daily basis.

IDENTIFYING METACOGNITIVE PROCESSING SKILLS

As indicated in the previous studies of student characteristics of successful learners at the university level, a second area that correlates positively with student success is knowledge of metacognitive processing skills. According to Sattler (1992), metacognition refers to

"thoughts about thoughts or awareness of one's own thought processes and strategies of thought. Metacognition helps to inform and regulate cognitive routines

and strategies. The integration of metacognitive knowledge with strategic behaviors results in more effective problem solving."

Incoming freshman athletes and their academic advisors may benefit from the determination of the student's metacognitive strengths to more successfully plan their semester. Knowledge of inherent processing weaknesses may enable the student athlete and academic advisor to circumvent problems associated with these processing weaknesses in the college classroom. "Metacognition aids in planning, self-monitoring, and inventiveness and may lead to strategy selection, self-criticism, and even the generation of new strategies (Sattler, 1992). As the student becomes aware of their metacognitive strengths and weaknesses, they and their academic advisors may be able to utilize a proven strategy and modify it for learning new information. Addressing processing strengths and weaknesses from an intervention perspective may smooth the transition for many student athletes and enable them to perform more successfully in the university setting.

Some examples of methods to examine metacognitive skill development might include learning style-preference inventories, surveys that identify how a student best learns as well as inventories that identify specific learning strategies successfully used in the past. Additionally, knowledge in the form of self-report concerning the student athlete's use of memorization, problem solving, and relating old and new learning may also be of benefit in the advising process.

IDENTIFYING INTRINSIC PROCESSING STRENGTHS AND WEAKNESSES

Closely linked to metacognition are intrinsic processing skills, which are considered the underpinnings of academic achievement and intellectual growth. According to Hammill and Bryant (1998), intrinsic processing skills are "physiologically-based mental actions or operations that lead to an end". Self-knowledge about one's own intrinsic processing strengths and weakness would appear to be another valuable component in evaluating a student athlete's academic potential.

While metacognitive processing strategies may be assessed in a variety of manners, one method recently introduced to assess intrinsic processing abilities is a standardized assessment inventory that looks at processing behaviors across a variety of academic tasks. The Learning Disabilities Diagnostic Inventory (LDDI) (Hammill & Bryant, 1998) is a survey instrument that uses six independent scales to identify specific intrinsic processing strengths and weaknesses in individuals from grades 3-12. The LDDI was developed for classroom use in pre-university settings. For the purposes of this study, the LDDI was employed as a self-discovery tool to identify intrinsic processing strengths and weaknesses.

The LDDI is an observational instrument typically completed by teachers with specific academic knowledge regarding a student's intrinsic processing behaviors in the classroom. The six independent scales include Listening, Speaking, Reading, Writing, Mathematics, and Reasoning. Each scale includes 15 items that are associated with behaviors indicative of intrinsic processing weaknesses. Raters evaluate the frequency of each of the behaviors on a scale from 1 (most frequently) to 9 (most rarely).

SELF REPORT EXAMPLES

Student athletes both with and without documented disabilities were asked to voluntarily complete a self-report on their intrinsic processing skills as identified by the LDDI. Two students' profiles were chosen representing both learning disabled and non-disabled populations. The profiles were randomly selected. Each profile was reviewed to determine the intrinsic processing weaknesses identified in the self-reported LDDI document. Suggestions for self-accommodating techniques to address the weaknesses were then established for each student athlete. The names of the athletes have been changed.

Example one: Aaron

The student athlete, Aaron, did not have an identified disability. He was an 18 year-old, entering freshman who was competing in a university athletic program. Aaron reported that he was a white/Caucasian male and that his only language was English. Aaron also stated that he had never been identified for special education services and had received all A's in junior high school and A's and B's in high school courses. Aaron self-reported an SAT score of 1110. His verbal score was 480 and his math score was 630. As clearly indicated by these scores, Aaron seems to perform better on mathematically based test items.

In reviewing his LDDI self-report, Aaron indicated that he perceived some weaknesses in his writing and listening abilities (See Figure 1). While his weaknesses were not overwhelming or problematic in terms of his academic progress in high school, knowledge about these deficit areas may prove helpful with the increased demands of university courses. Suggestions for self-accommodating his identified academic weaknesses are presented in Figure 1.

Aaron does not consider himself a good reader although his LDDI self-report does not indicate major intrinsic reading weaknesses. He does, however, consider himself to be a good student. When he studies for a test, Aaron simply rereads and reviews the chapters in his textbook. Aaron indicated that he does not utilize his class notes, which may be a result of his listening and writing weaknesses. By adopting the suggestions for self-accommodating techniques, Aaron may be able to increase his capacity and understanding of class lectures and their relationship to the text, thereby increasing his performance on course examinations.

Example Two: Mark

Mark, an incoming freshman, 18 year-old, male student athlete completed the LDDI. He was a white/Caucasian student and speaks only English. Mark has an identified learning disability and received special education services throughout his public school career. He reported that he received mostly B's and C's in junior high and high school courses. On his SAT scores, Mark indicated that he scored a 420 on the verbal section and a 480 on the math component for a total score of 900. These scores would seem to indicate difficulty in academic achievement in both areas and a definite need for increased attention to academic content and study skill strategies at the university level.

Mark indicated on the LDDI that he experiences academic weaknesses in the areas of listening, speaking, reading, writing, and in reasoning (See Figure 2). He considers himself to be a good reader and a good student although his self-report LDDI scores do not support this conclusion.

Mark's inability to accurately judge his own performance as a learner may be indicative of his intrinsic processing problems. Without specific knowledge of these issues, Mark may have a difficult time succeeding. Using this self-report method, an academic advisor may be extremely helpful in aiding Mark to not only gain knowledge about his intrinsic strengths and weaknesses, but also to identify strategies that Mark can use to improve his academic performance. Figure 2 depicts self-accommodations that Mark may find useful in his transition to university coursework.

Due to his documented learning disability, Mark will also be entitled to Americans with Disabilities Act (ADA) accommodations provided by his professors and university support staff. Through the use of self-report, Mark may understand his academic needs more clearly and use the accommodations more effectively. Furthermore, the Office for Students with Disabilities may be able to identify specific accommodations with realistic impacts more readily. Figure 3 illustrates suggestions for ADA accommodations recognized by the university that relates to Mark's specific intrinsic processing disorders as identified through self-report. It is important for Mark to recognize the need for both self-accommodating techniques and university based accommodations to achieve success in the university setting.

DISCUSSION

As a student athlete enters the university setting, the demand for self-knowledge regarding the way in which learning occurs becomes paramount. As the Murray-Harvey and Keeves study (1994) indicated, students may fail college courses because they do not understand the importance of both the "body of knowledge" (content) as well as the "how to learn" process embedded in the course. Furthermore, these students often experience problems in university instruction because they utilize ineffective learning strategies (i.e. a lack of metacognitive knowledge) to compensate for their intrinsic processing weaknesses. The self-report method described above encourages the student to take responsibility in determining their processing abilities and their relationship to academic function in the university classroom.

STUDENT RESPONSIBILITY IN ACADEMIC DIRECTION

While student responsibility for academic direction at the university level may have a positive affect on academic functioning, it is often difficult for students to ascertain their specific needs. Student athletes with and without documented disabilities may benefit from identifying their specific intrinsic processing strengths and weaknesses to improve their day to day academic performance. Student athletes may benefit from completing a self-report instrument such as described in this study to enhance their knowledge of their own learning behaviors. The student athlete and academic advisor may then utilize this information to help plan strategies as

well as provide instructional support for implementing those strategies.

Student athletes without identified disabilities may benefit from knowledge about their self-accommodating techniques to address their own intrinsic processing weaknesses. They can use this information to problem solve issues such as course selection, study strategies, and self-monitoring of progress through the semester. Student athletes with disabilities will also benefit from knowing their own intrinsic processing needs. Furthermore, this knowledge may enable them to understand necessity for ADA-based accommodations and the continued use of self-accommodating techniques to improve performance.

SUMMARY

Student athletes making the transition from high school to university settings are often puzzled by the demands of the university academic classroom. Many of these students rely on previous study techniques without developing specific knowledge regarding their own intrinsic processing strengths and weaknesses. As course requirements become more rigorous, these student athletes may appear to experience failure due to a lack of content preparation. However, often failure may be the result of a lack of agreement between the student's intrinsic processing needs and their current study techniques. Examination through self-report of student's intrinsic processing performance and the additional guidance of an academic advisor should enhance the student athlete's successful transition to the university.

Figure 1: Student Athlete without Identified Disabilities with Average Abilities

Self-Identified Intrinsic Processing Weaknesses	Suggestions for Successful Self-accommodating Techniques in Classroom
Listening Weaknesses • Has trouble hearing some speech sounds • Misunderstands oral directions • Often asks for directions to be repeated	• Enlist a classmate to record oral directions in written format for future reference. • While listening to class lectures, identify the main ideas and highlight them immediately after class. • Seek permission from the instructor to tape lectures. Modify your written lecture notes as you listen to the tapes adding additional information. • Revise notes soon after class by adding numbers or bullets, circle the important ideas, and comparing the notes to the text. • Pick a lecture partner and compare your notes and main ideas with thier notes.
Speaking Weaknesses • None reported	Self-accommodating techniques unneeded.
Reading Weaknesses • None reported	Self-accommodating techniques unneeded.
Writing Weaknesses • Written products are limited in length • Uses short words in limited sentences • Omits words in written products • Fails to include complex sentences • Uses sentence fragments in paragraphs	• Use a graphic organizer to help generate increased main ideas and supporting details. • Make an outline before writing your report. • Write the entire topic sentence of each paragraph in your topical outline. • When you write the report, state the main idea of the paragraph first. • Rewrite your first draft using spell check and grammar check on your computer. • Combine short sentences with connector words such as and, but, or, and appropriate grammar.
Mathematics Weaknesses • None reported	No self-accommodating techniques required.
Reasoning Weaknesses • None reported	No self-accommodating techniques required.

Figure 2: Student Athlete with Identified Learning Disabilities

Self-Identified Intrinsic Processing Weaknesses	Suggestions for Successful Self-accommodating Techniques in Classroom
Listening Weaknesses - Doesn't comprehend directions - Asks for directions to be repeated	- Enlist a classmate to record oral directions in written format for future reference. - Ask the instructor to provide written directions for all assignments. - Pair the above two with the audio directions from the lecture. - Write down directions given in class using a numbered format. - Reiterate the directions for assignments with a classmate prior to leaving the classroom.
Speaking Weaknesses - Speaks in short phrases - Frequently overuses indefinite words - Has to prepare prior to speaking aloud - Has trouble recalling listings of words	- Prepare written note cards with pictures prior to a presentation. - Tape oral presentation to become conscious of your mistakes. - Work with a partner to enhance your oral presentation.
Reading Weaknesses - Reads slowly - Does not remember words after reading them - Has trouble recalling information read previously	- Used taped textbooks. - Write notes, pictures, or study maps to organize information that you read. - Scan the chapter making a list of unfamiliar words. Look them up in the dictionary and copy the definition. Then go back and read the chapter. - Make an outline of the chapter as you read. - Bullet a summary of each section in the margin of your text. - Highlight your notes from the chapter shortly after you read it. - Identify the main ideas of the text, highlight them, and record them for later use. - Review the chapter prior to reading it and note or highlight headings illustrations, and chapter summaries.
Writing Weaknesses Weakness in ability to generate ideas on a central topic	- Draw a graphic organizer or mind map to help create and increase the number of ideas. - Brainstorm a listing of all possible ideas and connecting topics. - Search the web to obtain a variety of ideas on a particular topic.
Mathematics Weaknesses Doesn't check work after completion	No self-accommodating techniques required.

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Speaking Weaknesses • None reported	Self-accommodating techniques unneeded.
Reading Weaknesses • None reported	Self-accommodating techniques unneeded.
Writing Weaknesses • Written products are limited in length • Uses short words in limited sentences • Omits words in written products • Fails to include complex sentences • Uses sentence fragments in paragraphs	• Use a graphic organizer to help generate increased main ideas and supporting details. • Make an outline before writing your report. • Write the entire topic sentence of each paragraph in your topical outline. • When you write the report, state the main idea of the paragraph first. • Rewrite your first draft using spell check and grammar check on your computer. • Combine short sentences with connector words such as and, but, or, and appropriate grammar.
Mathematics Weaknesses • None reported	No self-accommodating techniques required.
Reasoning Weaknesses • None reported	No self-accommodating techniques required.

Figure 2: Student Athlete with Identified Learning Disabilities

Self-Identified Intrinsic Processing Weaknesses	Suggestions for Successful Self-accommodating Techniques in Classroom
Listening Weaknesses - Doesn't comprehend directions - Asks for directions to be repeated	- Enlist a classmate to record oral directions in written format for future reference. - Ask the instructor to provide written directions for all assignments. - Pair the above two with the audio directions from the lecture. - Write down directions given in class using a numbered format. - Reiterate the directions for assignments with a classmate prior to leaving the classroom.
Speaking Weaknesses - Speaks in short phrases - Frequently overuses indefinite words - Has to prepare prior to speaking aloud - Has trouble recalling listings of words	- Prepare written note cards with pictures prior to a presentation. - Tape oral presentation to become conscious of your mistakes. - Work with a partner to enhance your oral presentation.
Reading Weaknesses - Reads slowly - Does not remember words after reading them - Has trouble recalling information read previously	- Used taped textbooks. - Write notes, pictures, or study maps to organize information that you read. - Scan the chapter making a list of unfamiliar words. Look them up in the dictionary and copy the definition. Then go back and read the chapter. - Make an outline of the chapter as you read. - Bullet a summary of each section in the margin of your text. - Highlight your notes from the chapter shortly after you read it. - Identify the main ideas of the text, highlight them, and record them for later use. - Review the chapter prior to reading it and note or highlight headings illustrations, and chapter summaries.
Writing Weaknesses Weakness in ability to generate ideas on a central topic	- Draw a graphic organizer or mind map to help create and increase the number of ideas. - Brainstorm a listing of all possible ideas and connecting topics. - Search the web to obtain a variety of ideas on a particular topic.
Mathematics Weaknesses Doesn't check work after completion	No self-accommodating techniques required.

Figure 2 continued

Self-Identified Intrinsic Processing Weaknesses	Suggestions for Successful Self-accommodating Techniques in Classroom
Reasoning Weaknesses • Perseverates on minor details instead of regarding the big picture • Has trouble when asked to complete tasks in different ways • Poor short term memory for facts • Has difficulty organizing ideas	• Use a story mapping technique to identify the major issues in a task and map the details. • Make an appointment with the instructor to discuss alternate response formats for class assignments prior to due dates. • Keep a tape recorder to aid in retention. • Use a small notebook to record vital information. • Utilize the tutoring services to aid in the organization of projects and papers. • Use color coded notebooks and book-covers to aid in organization.

Figure 3: ADA Accommodations for a Student Athlete with Identified Learning Disabilities

Intrinsic Processing Weaknesses Documented through Formal Evaluation	Suggestions for Successful ADA-accommodations Classroom
Listening Deficit Auditory comprehension weaknesses	• Provide written directions for all assignments. • Allow the student to tape record all lectures. • Allow student to arrange for out-of-class meetings to clarify course expectations and content.
Speaking Deficit Expressive language difficulty	• Allow student to use graphics and other modes of presentation such as power point, or video to supplement their oral presentations. • Allow the student to participate in a group presentation where his/her part is not oral speaking. • Allow student to arrange for out-of-class meetings to increase confidence in presentation content.
Reading Deficit Weakness in reading speed Reading comprehension difficulties	• Allow student to use taped textbooks. • Allow extra time on tests that require extensive reading. • Allow student to arrange for a reading study partner.
Writing Deficit Weakness in ability to generate ideas on a central topic	• Allow student to arrange for editing tutorials where an editor helps the student make changes to improve the quality of the paper. • Allow extra time on exams where extensive writing is required. • Allow student to arrange for out-of-class meetings to discuss and plan writing projects.
Mathematics (no deficit noted)	No ADA mandated accommodating required.
Reasoning Deficit Weakness in study and organizational skills Short term memory deficits	• Provide access to study skills classes. • Give permission for tape recording class lectures to aid in retention. • Provide access to tutorials to help with organizing ideas. • Provide access to examination reviews.

REFERENCES

- Gardiner, R., & Singh, P. (1991). Learning contexts of university and work: An evaluation of the effectiveness of cooperative education as a skills enhancement process. In R. Murray-Harvey, & J.P. Keeves. (1994, April). Students' learning processes and progress in higher education. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Hammill, D.D., & Bryant, B.R. (1998). The Learning Disabilities Diagnostic Inventory. Austin, TX: PRO-ED Publishing, Inc.
- Loranger, A.L. (1994). The study strategies of successful and unsuccessful high school students. Journal of Reading Behavior, 26 (4), 347-360..
- Knapp-Lee, L., Knapp, L.F., & Knapp, R.R. (1989). Career Occupational Preference Systems. EdITS/Educational and Industrial Testing Service.
- Murray-Harvey, R., & Keeves, J.P. (1994, April). Students' learning processes and progress in higher education. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Sattler, J. M. (1992). Assessment of children: Revised and updated third edition. San Diego, CA: Jerome M. Sattler Publishing Incorporated.
- Strong, E.K., Campbell, D.P., & Hansen, J.C. (1985). Strong Interest Inventory. 4th edition. Consulting Psychologist Press, Inc.

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