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Student-Athletes Education: A Holistic Framework

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Abstract Student-athletes (SAs) need more from their education than just what their learning styles require. Additionally, they require an education that takes into account their restricted time and energy, as well as the psychological requirements brought on by their obligations to their sporting teams and attendance duties. SAs should develop the leadership and behavioral traits that help them represent themselves, their teams, schools, and nations as representatives of their institutions. Therefore, the cognitive and behavioral education supplied to regular students should not be the only components of the SA educational experience. It should also include future navigation and cross-cutting skills. In this study, a holistic framework for educating SAs is developed to ensure that their education is well-planned. This framework is based on readiness frameworks defined by educational institutions such as UNESCO and ACT. It highlights four constructs that play a major role in ensuring the readiness for SAs' to continue their education and professional development. The four constructs are classified into two groups: Educational Readiness and Career/professional Readiness with a focus on sport-related career paths. The study found that each construct includes a group of learning skills required for SAs based on their learning profile.

Keywords Student-Athletes, Education Framework, Core Academic Skills, Behavioral Skills, Cross-Cutting Capabilities, Career Navigation Skills

1. Introduction

According to international policies of the United Nations, everyone has the right to quality education [1-3]. A quality education is one that satisfies the core learning needs, according to the World Declaration on Education for All (EFA) [3]. The Dakar Framework for Action defines quality education as "improving all aspects of education quality and ensuring excellence of all so that recognized and measured learning outcomes are achieved by all, especially in literacy, numeracy, and essential life skills."[2]. The behavioral, emotional and social components have been added to this definition [4]. Low standards and minimal competency testing in the past led to problems between parents, employers and graduates. Graduation exams were taken as sufficient proof of completion, but they did not produce accurate measures of preparation for advancement to the next level of school, career training, or even entry into employment. In order to address this, K–12 institutions have placed a strong emphasis on high standards of instruction and regional, national, or international accreditation. This ensures that the requirements of each student are met, leading to improved learning outcomes. Learning needs should be distinctly recognized in special circumstances, and appropriate responses should be planned and implemented. Oblinger [5] makes reference to a distinct category of student: A non-traditional student who performs a job in addition to attending school. The education of Student-Athletes (SAs) is the main topic of this essay. When analyzing the SAs' education and determining the level of education they acquire, the following crucial question could come up: Are the necessary knowledge and abilities, and student-athletes preferences different enough to demand changes in curriculum, teaching methods or learning strategies? Are they different enough to successfully meet their needs and make them more engaged? This study crystallizes the skill sets required for

SAs to ensure offering them quality education and facilitating their learning.

2. Readiness (Academic and Professional Readiness)

The primary focus of the definition of professional preparation for K–12 students is on their proficiency in math and English, which is insufficient to guarantee success in the wider range of skills and competencies required for success [6]. According to Mattern [7], success in school and at work depends on completing things on time and at a high standard. The Campbell Job Performance Model lists eight performance factors, including task-specific behaviors, non-task-specific behaviors, personal discipline, effort, teamwork, supervision or leadership, oral communication, and managerial skills [8]. Both academic and professional success is multifaceted. Business stakeholders in many firms have accepted Campbell's approach for job performance. Additionally, organizational citizenship and unproductive work practices have been introduced to this paradigm, underscoring the notion that merely examining

Due to the variety of behaviors that are required for overall success, academic achievement can also take on multiple dimensions [6, 10, 11]. Oswald's concept combined traditional elements like education and general knowledge with non-traditional ones like leadership, lifelong learning, tolerance for cultural diversity, and career orientation [12]. Workplace success is predicted by non-cognitive factors such as work practices and self-belief [13–15]. Similarly to this, cognitive indicators like analytical and critical thinking abilities are accurate predictors of academic performance [16, 17]. Abraham [17] established a connection between non-cognitive variables and academic performance.

Work performance is also influenced by non-cognitive abilities like cooperation and helping others [18, 19]. According to Zimmerman [20], research has determined that non-cognitive skills can expect other significant outcomes including job satisfaction and the intention to quit. According to Robbins et al [21], both cognitive and non-cognitive skills have an impact on college retention in educational settings.

ACT&SAT have conducted research to better understand and predict how well students will do in school and in their careers [22]. The assessment method is student-centered and covers a wide range of topics, such as core academic skills (like numeracy), behavioral skills (like self-control), and future navigation assessments (such as career interests). Besides, the assessment considers a number of factors, including values as well as basic academic topics from math and science, and career and educational planning. Mattern et al. [7] discuss how success in college and work is complicated and requires more than just academic knowledge and job skills. They suggest a holistic framework that includes non-cognitive abilities. The framework looks at each of these areas from grade school through college and work.

The framework assumes that being ready for education and work is a lifelong process, not just something that happens when you finish high school or college. It is important to remember that you can always keep learning and developing yourself, even after you finish your formal education. This is convincing considering that the majority of people will work many jobs during their lifetime. Between 1978 and 2010, people aged 18 to 47 held an average of 11.3 jobs, and over a fifth of those polled said they had worked 15 or more jobs [23]. Therefore, it is important to always be prepared for the next step in one's profession.

3. SA Learning Characteristics

In education, student-athletes face unique challenges due to their athletic commitments. Teachers and coaches of student-athletes have a responsibility to help them with their academics and ensure they remain eligible to participate in athletics. To achieve this, student-athlete educators must employ a variety of strategies and resources to assure their academic success [24].

The student- athlete culture must be thoroughly examined to determine if a student-athlete will be successful academically. Brady and Fuertes [25] described athletic culture as the context in which student-athletes live and work when they perform their tasks and obligations. Melendez [26] identified various difficulties that student-athletes face, including money, loneliness, conflicts with others and lack of autonomy. Navarro’s [27] research added other issues, such as time constraints, stereotypes, isolation, identity conflict, academic motivation and team culture. Student-athletes face a lot of pressure in school or college, which can cause them to have academic difficulties. They may experience academic anguish as a result of how they deal with these issues. Poor academic performance among student-athletes has become a real cause for concern as a significant number of student-athletes encounter difficulties with their academics due to various reasons [24].

Student-athletes may struggle academically due to a lack of motivation, as noted by [28]. Unfortunately, some schools and universities have admitted student-athletes with lower academic levels because of their potential to excel in sports [29]. This can make it difficult for student-athletes to keep up with their peers academically. Teachers and academic advisors play an important role in the lives of student-athletes, helping them overcome challenges related to poorer academic performance and lower academic desire [30]. Because academic advisors' role is so important, it is crucial to look into and understand

the methods and resources they utilize to influence the student- athlete's choices and, consequently, their success. It is important to understand the methods and resources that academic advisers use for student-athletes to help their students succeed.

More research is needed to identify successful strategies employed by institutions with effective student-athlete educators, so that other educators can follow their example. Additionally, it is important to investigate the interaction between student-athletes and their educators to better understand how to work effectively with them. Several studies have suggested that developmental theories, such as [31-33] should be used to help student-athletes [34-37]. Learning styles, such as Kolb's Experiential Learning Theory, can also provide valuable insight into how individuals approach learning, even though there is some debate on the topic in the literature.

4. Design of the Study

The main question of this study is: n order for Student Athletes (SAs) to excel in school and participate in sports (academically and professionally), what are the core academic skills, cross-cutting skills, behavioral skills, and future navigation skills do they need?

To answer this question, the researcher reviewed the literature on past studies and uses a structured method to identify and group different skills and abilities that SAs need. The researcher then discussed these groups with education experts to make sure they are correct. Finally, the information collected was analyzed to come up with a framework for SAs' education, which they test to ensure it works. The main research method for this study is a literature review and conceptual modelling.

5. Results and Findings

5.1. Core Academic Skills

The goal of the literature evaluation was to pinpoint the most crucial abilities needed for success in both academics and the workplace. The ACT curriculum-based educational performance test, a tool for evaluating four academic subjects—English, mathematics, reading, and science—was the subject of the review. Typically, high school juniors and seniors take the exam. In 12 states, about 100% of students, while 57% of all American high school graduates took the ACT. The information and abilities that students need in each of the four academic domains have been determined using the test results. They want to provide students with the best chance possible of passing typical first-year university courses with a B or better [38, 39].

The benchmarks for each subject, estimated from a sample of 214 institutions and more than 230,000 participants from around the nation [40], are shown in the table below to indicate the subject-specific standards. These standards help in forecasting the scores of the relevant exam in each of those subjects. For example, the student can have a 50% chance of achieving B grade or above in a normal first-year course in one of these subject areas, if he scores the relevant subject benchmark.

According to research, giving pupils comments in the eighth grade might be too late. By the conclusion of high school, pupils who are not on track to be college-ready are unable to catch up [41]. Only a small percentage of eighth grade dropouts graduate from high school and are prepared for college. In order to deal with this problem, ACT Aspire® was released in 2014. This system of ongoing evaluation keeps tabs on students' academic development and gives diagnostic data, such as on-track and off-track signs. It allows for even earlier tracking of academic strengths and deficits because it evaluates kids' knowledge of science, English language arts (ELA), and mathematics in grades 3 through 10.

Besides, the "National Career Readiness Certificate TM" (NCRC®), is a certificate that proves proficiency and employability skills based on three WorkKeys assessments, namely: the Applied Mathematics exam, the Information Retrieval exam, and the Information Reading exam. The Applied Mathematics exam judges the student's ability to employ proper mathematical reasoning, organized problem solving skills as well as critical thinking strategies to overcome difficulties at work. The Reading for Information test evaluates a person's ability to read and use written materials at work. Figure 1 displays the possibilities for education and employment readiness along the K-Career Continuum.

Table 1. Benchmarks of the College Readiness

College course	Subject-area test	"Explore" Benchmark (Grade 8)	"Explore" Benchmark (Grade 9)	"Plan" Benchmark	ACT Benchmark
English Composition	English	13	14	15	18
College Algebra	Mathematics	17	18	19	22
Social Sciences	Reading	16	17	18	22
Biology	Science	18	19	20	23

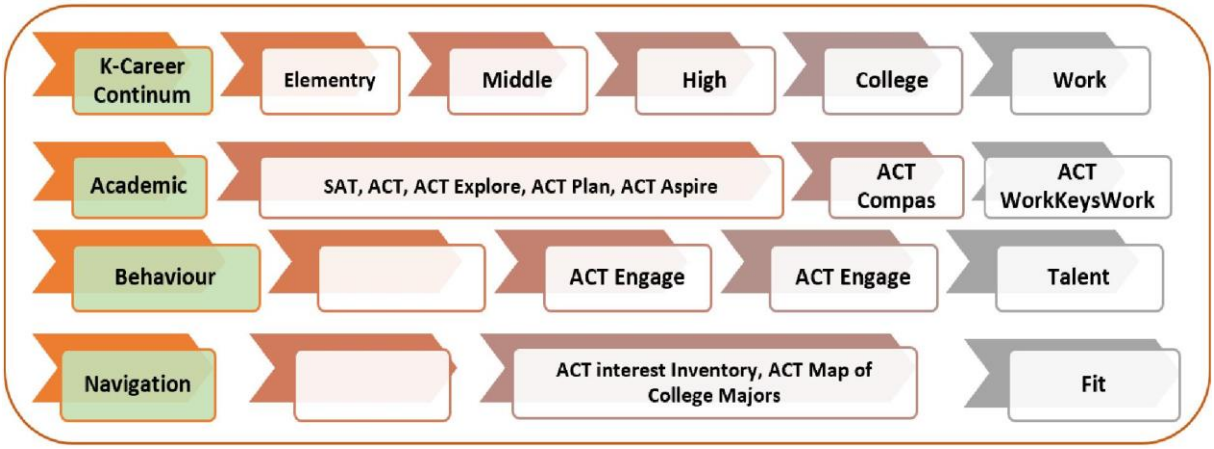

Figure 1. Popular tools for benchmarking the academic and professional readiness across the K–Continuum

5.2. Cross-Cutting Skills

The review of the literature identified the need for SAs to develop cross-cutting skills. Research and workforce surveys indicate that children and adults need to learn a wider variety of cognitive skills to succeed in school and their careers. These skills are called cross-cutting capabilities and include critical thinking, collaboration, social skills and using technology to learn and share knowledge [42]. These skills are higher-order skills [41] that could be assessed by tools like WorkKeys to measure some of these skills and recognize them as distinguished domains of skills and not as core academic skills; So they get the attention they deserve.

5.3. Behavioral Skills

It is also noticed that behaviors such as students' motivation, social skills, and self-regulation can predict academic success along with traditional academic measures like GPA and test scores [21]. The "Engage®" assessment is a widely used tool that evaluates critical behavioral skills and identifies at-risk Student-Athletes (SAs) who may benefit from targeted interventions to support their academic progress. This assessment is available in three different versions for middle school, high school and college students. This assessment helps identify at-risk Student-Athletes (SAs) who may benefit from interventions.

The popular "WorkKeys" Talent exam, which is designed to evaluate similar behaviors and attitudes linked to significant workplace outcomes, is another outstanding example. Twelve scales on the 165-item survey 165 items evaluate vigilance, cooperation, inventiveness, discipline, goodwill, optimism, order, savviness, sociability, consistency, and striving. A six-level Likert scale was employed ("strongly disagree" to "strongly agree") and participants were asked to record their levels of agreement on how well sentences such as "I am punctual" or "I prefer to take the initiative" characterize them. When the validity of the "WorkKeys" Talent evaluation was investigated, it was discovered that a number of the scales, especially those assessing care, cooperation, discipline, and intelligence, were linked to overall job success [22]. Moreover, when additional specific components of job performance, such as organizational citizenship behavior, rose, The "WorkKeys" emerges as an effective tool in measuring the indicators of workplace success. Similarly, it emerges as the right choice for examining particular unproductive work habits, and wellbeing.

5.4. Future Education and Career Navigation Skills

According to the analysis, the assessment of academic and professional readiness (which means ensuring success in school and work) includes measures of education and career navigation skills. The "Interest Inventory" results are intended to assist individuals in making decisions and career exploration by educating them on professions and academic degrees that are a suitable fit for their individual personality traits. The information from the inventory aids students in exploring and learning about a wide range of vocations in the early grades, but as high school draws to a close, it might aid students in focusing on a few particular career choices and, if they decide to enroll in higher education institutions, aiding them in selecting majors.

A multidimensional model of preparation for specific professional trajectories, such as STEM (science, technology, engineering, and mathematics), was also constructed. By evaluating student performance, reported interest, and measured interest, the model takes into account a number of factors [43]. For many years, the assessment matrix included Discover® 3, a computerized career guidance program, which allowed students to explore careers, majors, and colleges as well as learn about their career ambitions, skills, and work values. This program also allowed students to explore how their personal characteristics relate to their career choices using a Career Map. However, when increased career

decidedness, decision-making self-efficacy, and control over the job decision-making process itself emerge among university-level students, Discover was associated with and supported by the relevant research [45]. Discover provides high school students with useful statistics and information about college and career opportunities. Besides, it utilizes the Career Map to illustrate visually the jobs that match their interests, values, and talents based on the students' responses. The extensive data in the Profile can also be used by individuals to learn more about specific degrees and careers, including the training requirements, salary expectations, and related fields. The "College Board" provides the "WorkKeys Fit" assessment as a gauge of navigational abilities that may help human resources and workforce development processes. It determines how well a person's interests and beliefs match up with particular occupations.

6. Education and Workplace Success Models

In this study, essential ideas from each of the four major categories were explained in relation to crucial educational and professional transitions (such as moving from middle school to high school, high school to college, and college to job). The model's inclusion of particular components was motivated by empirical findings and theoretical support. Figures 2 and 3, for instance, demonstrate the knowledge and abilities that student-athletes should have in order to succeed academically and persist through graduation once they transfer from high school to college (note that there are many other ways to operationalize college success; we use these two outcomes as examples only).

The suggested models emphasize the complexity of achieving in college, with particular skills and competencies being more or less significant for various indicators of college success. Taking into account the technique for predicting college GPA, this study emphasizes that the knowledge and abilities in all three core subject areas (namely: ELA, mathematics, and science) as significant predictors of college GPA in the core academic skills domain (Figure 2). Significant evidence that ELA, mathematics, and science exam results predict college grades can be found in readiness tests like the ACT, MAP, and SAT (e.g., Radunzel & Noble [46]). Numerous cross-cutting talents, such as learning and studying [47], cognitive abilities [48], and metacognition [49], have also been connected to college achievement. As highlighted by research, Persistence, reliability, and self-confidence are all behavioral characteristics that have been linked positively with college grades [21, 50].

Socialization, academic self-efficacy, and ambitions are key elements associated with college grades in terms of education and career navigation [25]. Even though there are some minor variations, particularly in the behavioral and navigation domains (Figure 3), many of the same criteria remain, significant predictors of educational achievement when we operationalize it as college graduation. Persistence is still a significant predictor, according to studies in the behavioral sciences, and there is support for the addition of optimism, sociability, and goal-setting in the model [51].

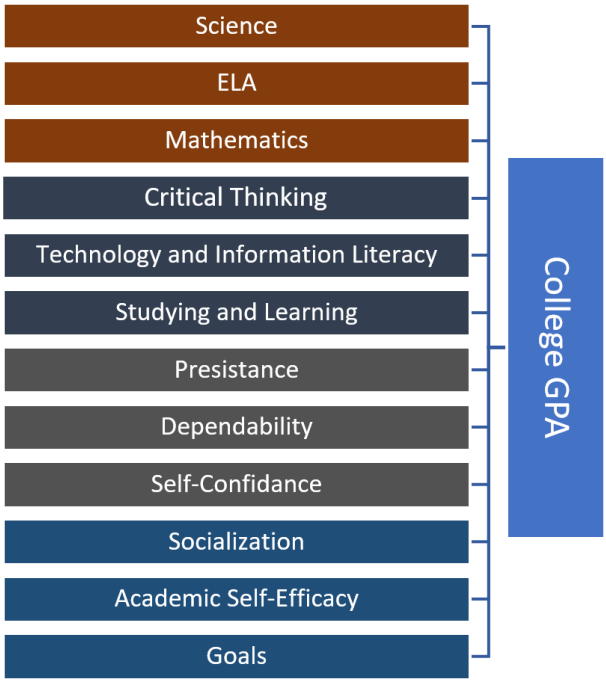

Figure 2. A Holistic Model of Educational Success Based on College GPA

Academic self-efficacy and goals were discovered in the navigation field to be significant predictors of educational performance, particularly college completion [52, 21]. "Fit" and "Support" were also found to be important indicators of graduating from college [21]. The two models' significant overlap illustrates the lack of independence between the two findings. The greatest way to prepare students for success in the future is to develop knowledge and skills in all of the crucial college-readiness areas because these elements are frequently associated with success in college. Students are unlikely to continue their studies if they lack the mental capacity to complete their courses.

However, even if the top students lack the will or zeal to succeed in their studies, it is unlikely that they will graduate. A suggested framework for career success was also developed. Similar to academic success, professional success can be operationalized in different ways. Because it has a stronger empirical foundation on which to develop the model than other work success variables (as illustrated in Figure 4), it is chosen to focus on job performance.

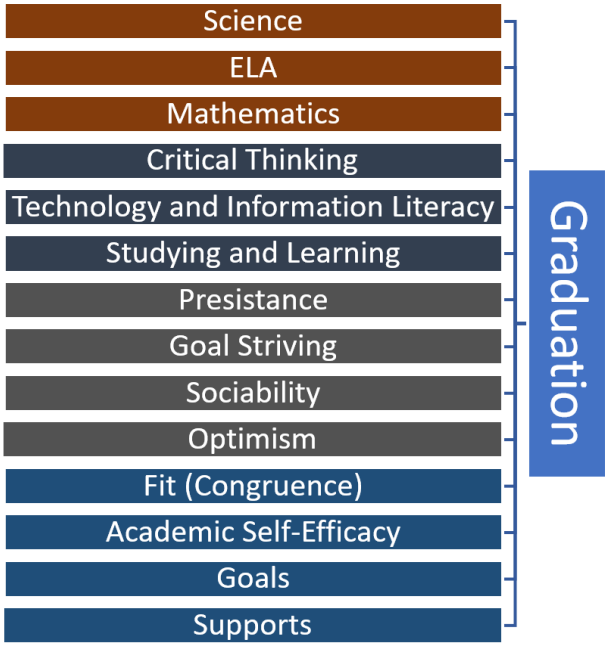

Figure 3. A Holistic Model of Educational Success Graduation of English Language Arts Skills and Job Performance.

Examination results in the English Language Arts (ELA) and literature, particularly those from the "WorkKeys Reading for Information and Listening for Understanding" assessments, are considered a good indicator of future work success [53]. This is consistent with recent empirical research indicating that performance in a range of economic contexts is significantly influenced by strong oral communication skills [54]. The importance of "critical thinking", "technology and information literacy", "decision-making", and "collaborative problem-solving" is highlighted by empirical results (for cross-cutting abilities) for predicting work performance [55, 56]. A model of workplace performance that considers "goal-setting" [59], "perseverance" [59], "teamwork", and "adaptation" [60] is supported by empirical data.

In the navigation domain, fit [61], support [62], and work self-efficacy are all important predictors of employment success. The model of job success shares many of the components identified in the model of educational success, although both models differ in other ways. Examples of conceptions that vary depending on the environment are academic self-efficacy and job self-efficacy. These findings highlight the necessity of building success models that take into account both the transition and the desired outcome.

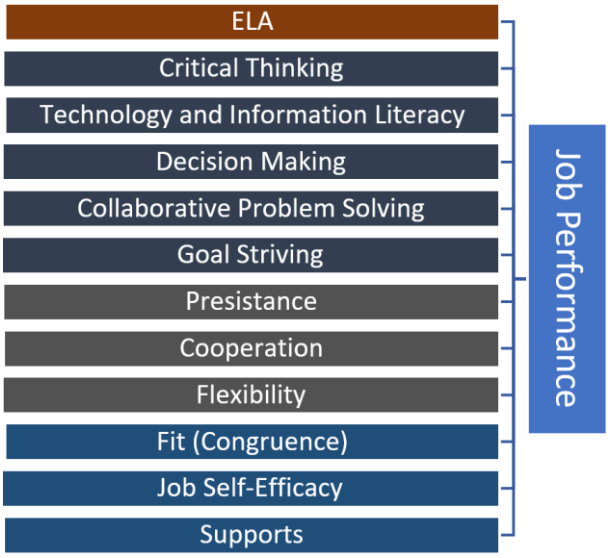

Figure 4. Holistic Work Success Model Job Performance

7. Toward an Integrated Framework of Student-Athlete Education

It is critical to understand not only the characteristics of success within each major area, but also how these variables interact with each other across domains to impact education, job readiness and success. In this section, we will explore how these broad dimensions interact together to determine academic and professional outcomes. A comprehensive model of education and job performance requires an understanding of the theoretical and empirical connections between these major categories.

Even if there is still more to be done, current research and theory have revealed the areas where the constructs in the domains of core academic skills, cross-cutting capabilities, behavioral skills, and career navigation skills link to and can complement one another. In contrast to behaviors and skills, the majority of study and theory has concentrated on human characteristics including cognitive ability, personality, and interests, rather than on behaviors and skills.

Figure 5 illustrates the pillars of student- athlete's educational and professional success grouped together in one holistic framework, based on the identified constructs and skills in a single comprehensive framework.

Figure 5. Holistic Framework for Student-Athletes' education

8. Implementation of the Framework

The framework could be implemented by updating the taught curriculum's in a way that helps academic institutions and teachers/instructors to develop the highlighted skill sets. Starting from planning, the curriculum core subjects should

1. revise the subject curriculum for all subjects to highlight the knowledge and skills to be developed in each subject.
2. classify the offered curriculum (core curriculum, hidden curriculum and extra curriculum) into skill sets based on the highlighted sets in the framework.
3. update the core subjects' curricula to ensure development of core academic skills for the student-athletes.
4. update the core subjects' curricula (content, activities and assessments) to ensure the development of the core academic skills for the student-athletes.
5. update the core subjects' curricula (content, activities and assessments) to ensure development of the cross-cutting skills for the student-athletes.
6. update the core subjects' curricula (content, activities and assessments) to ensure development of behavioral skills for the student-athletes.
7. update the core subjects' curricula (content, activities and assessments) to ensure development of career and university navigation skills for the student-athletes.
8. define a proper methodology for collecting feedback from the involved stakeholders. Figure 6 depicts the framework implementation steps.

Figure 6. Implementation of the framework

9. Conclusions

In conclusion, this study shows that while academic abilities like reading comprehension and math are required for success in college, they are not adequate. The research recommends that knowledge and abilities in four crucial categories be included in a holistic framework for education and job readiness: core academic skills, cross-cutting skills, behavioral skills, and education and career navigation skills. This study shows how interrelated

these four categories are, and how important they are for success in both future education and work. This study explains key ideas about education and employment readiness and demonstrates how these two areas are connected to significant results. It aids in assessing the readiness of student-athletes and provides an insightful critique. The importance of lifelong learning, self-direction, and interdisciplinary cognitive skills in learning, as well as the importance of education and career navigation skills, should be acknowledged by all parties involved in the educational system. This theoretical framework can be applied to enhance student and career success outcomes.

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