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Preparing Students for College Success

For students in the midst of the transition from high school to college, navigating the new and unfamiliar environment of college can be overwhelming, especially when a student's K-12 environment was vastly different. As students transition into college, there is often a disconnect between what's expected of them there versus what was expected in their earlier academic career (Lane, Morgan, & Lopez, 2017). Students might not even realize what skills and knowledge they are lacking until after they arrive on campus and suddenly find that they are ill-prepared to succeed (Lane et al., 2017). For that reason, it's important to orient students early by providing a realistic, well-informed view of college, what it's like, why it's important, and what it requires to get there. In this literature review, we'll explore some strategies for orienting middle school and high school students toward a realistic view of college with the goal of making college more attainable for all students.



THE IMPORTANCE OF A COLLEGE EDUCATION

Attending and graduating from college leads to numerous benefits for students throughout their lifetimes. College graduates with a bachelor's degree:

- Earn approximately \$21,000 more annually than those with a high school diploma.
- Earn on average \$2.3 million over their lifetime, compared to \$1.3 million for those with a high school degree.
- Exhibit lower rates of obesity.
- Are less likely to smoke.
- Have a longer life expectancy.
- Are more likely more to vote.
- Are more satisfied with their jobs and with their marriages. (Le, 2015)

In an analysis of the economics of obtaining a college degree versus a high school degree, Abel and Deitz (2014) conclude that in spite of challenges that college graduates are facing (rising tuition costs, stagnating wages), “investing in a college degree may be more important than ever before because those who fail to do so are falling further and further behind” (p. 8).

COLLEGE READINESS AND COLLEGE KNOWLEDGE

To be adequately prepared to enroll in, thrive in, and subsequently graduate from higher education, students need a combination of both college readiness and college knowledge. College readiness has been defined as “the level of preparation a student needs in order to enroll and succeed, without remediation, in a credit-bearing general education course” (Conley, 2008, p. 4). Its focus is on the student’s academic preparation. College knowledge has been defined as knowledge that is “essential for navigating the norms, cultures, and values of the college system” (Lane et al., 2017, p. 5). Its focus is on the student’s behavioral and social preparation, such as applying for financial aid or building relationships with faculty.

“Early preparation is key to ensure that students are college-ready, as the cumulative effects of under-preparation or mis-preparation have been shown to grow exponentially across the years leading up to college entrance (Henry & Stahl, 2017).”

Some researchers have argued that college preparation should be a priority throughout a student’s K-12 career, and they suggest that waiting until eighth grade to assess a student’s readiness might be too late, as students not on track at that time are unlikely to catch up in high school (Mattern, Allen, & Camara, 2016).

Moreover, the focus must go beyond preparing students to be admitted to college, but it must also address preparing students to persist and successfully complete college (Tierney & Sablan, 2014). Nationally, less than 60 percent of U. S. students who begin a bachelor’s degree at a four-year institution complete a degree at that institution within six years (Tierney & Sablan, 2014). However, when students are adequately prepared for college, they have higher persistence and graduation rates and higher grade point averages (Lane et al., 2017).

Factors that affect a student’s college success can include a combination of things, including the K-12 school’s effectiveness at orienting students toward college, the student’s effectiveness in choosing a college that is a good match, and the rigor of the K-12 school curriculum (Niu & Tienda, 2013). We discuss each of these factors in the sections that follow.



ORIENTATION TO COLLEGE CULTURE

One way of orienting students toward college is by incorporating aspects of the college environment within the K-12 environment. Doing so makes the college environment more “familiar” to students and can lower their learning curve when they first arrive on a college campus. Additionally, establishing a pattern of college-going, not just for high-achieving students, but school-wide, sets a precedent and a pattern for future success. A K-12 school’s college-going culture sets high expectations, encourages academic rigor, and establishes college enrollment as the norm for all students (Roderick, Coca, & Nagaoka, 2011).

Research has found that this type of high school culture can influence students’ college-going behavior. In one study, urban students who attended a high school that had a pattern of four-year college attendance and provided support for financial aid application displayed a greater likelihood to enroll in a four-year college that was a good match for their qualifications (Roderick et al., 2011). The researchers suggest that supports and norms available at a student’s high school can influence the success of programs that are designed to increase college access (Roderick et al., 2011).

Individual teachers and administrators can help orient students toward college by offering “tips” for college success, giving “candid advice” related to skills and behaviors needed in college, and incorporating assignments that resemble college coursework, such as rigorous research and group projects (Lane et al., 2017). Offering advice related to learning and study habits can also be beneficial—such as explaining to students how to take advantage of study aids, tutoring, and a professor’s office hours.



HELPING STUDENTS MAINTAIN AND ACHIEVE THEIR COLLEGE ASPIRATIONS

Based on data from the Department of Education, college aspiration is high among students in U.S. middle schools. The challenge lies in helping students navigate adversity, retain their aspirations over the course of their academic careers, and act on their aspirations. Of 100 U.S. middle schoolers, 88 percent report an aspiration to attend college, but only about 40 percent enroll in college directly out of high school (USDE, 2008). Beyond academic achievement, affective factors play a pivotal role in determining which students continue through higher education and which do not.

Conley’s four keys to college and career readiness outline 42 components in the areas of cognitive strategies, content knowledge, learning skills and techniques, and transition knowledge and skills (Conley & French, 2014). Conley and French cite ownership of learning as one component that is often overlooked in regard to college readiness but that one can compensate for deficiencies in other areas. Ownership encompasses such areas as persistence, intrinsic motivation, and self-efficacy.

Persistence is useful in keeping students’ engagement at a high level throughout middle and high school. One study found that female, non-low-income students persisted at higher rates than their



peers. The authors describe this finding as highlighting how personal skills and family resources can help explain why some students succeed in the context of increased curricular rigor. They also call for “additional supports to encourage greater rates of persistence among students who struggle in that context” (Dougherty, Goodman, Hill, Litke, & Page, 2017). Hope is another construct that has been shown to relate to college persistence. According to Gallagher, Marques, and Lopez (2016), “People with high hope are described as having more positive thoughts than negative thoughts each day.” These researchers found hope and high school GPA to both be significant predictors of persistence toward college graduation.

Intrinsic motivation has strong ties to ownership and individual enjoyment of a task, and, according to Conley and French (2014), in a classroom context “when students are engaged and interested in what they are learning, greater learning gains occur.” In their investigation of a college readiness index for middle school students, Gaertner and McClarty (2015) linked 15.3 percent of variance in college readiness to student motivation. Finn’s (1989) participation-identification model identifies engagement or disengagement as self-reinforcing (Kieffer, Marinell, & Neugebauer, 2014). Engagement can lead to positive academic outcomes, such as strong grades and college attendance, whereas disengagement can lead to negative academic outcomes, such as dropout.

FAMILY AND PEER CONNECTIONS

Social support from peers and family is one factor that can positively influence students’ transition to college. If a student with college aspirations is part of a peer, cultural, or community group that does not value college education, relationships can be strained due to conflicting values. Students in these situations might need additional supports to assist and encourage them and coping strategies to address conflicts that might arise as they pursue a college education (Le, 2015; Thompson, Johnson-Jennings, & Nitzarim, 2013).

“ Students who do not have parents or other family members who’ve attended college, often face an additional challenge in lacking contextual knowledge related to college education. They might not have an accurate view of things such as what college is like, what is required to get in, and how much it will cost. For some students, this lack of understanding can lead to paralysis—not acting at all—or not acting quickly enough to meet timelines and stay on track for college entrance. ”

How can K-12 schools lead such students toward taking concrete steps that result in college enrollment? One approach is to help students build “social capital.” Lack of social capital leaves students with a lack of basic knowledge and puts them at risk for poorer performance and dropout. Building social capital increases students’ chances for success and involves leveraging a network of parents, teachers, peers, and college contacts to gather resources essential for making educated decisions related to enrolling in and completing college (Le, 2015).



ADDRESSING COMMON MISCONCEPTIONS ABOUT COLLEGE

There are several misconceptions about higher education that a K-12 college preparation program should seek to address and clarify. Primary among them are questions of cost and preparation.

How much will it cost?

The net price of college does not necessarily match the sticker price, and some students price themselves out of college simply by not understanding the true costs. For example, in one study families with little information about college enrollment and financial aid overestimated the price of college by 2-3 times the actual cost (Grodsky & Jones, 2007). Families who lack an accurate understanding of cost might also not be aware of all the potential sources of college financial assistance, including scholarships, loans, and grants (Le, 2015).

Knowing that aid is available and navigating the complexities of the FAFSA have been cited repeatedly as barriers to college enrollment, especially among students from lower-income families who might not be able to afford college without financial assistance (Roderick et al., 2011). Offering help with completing the FAFSA has been shown to have substantial effects, such as in the case of an experiment where families were offered FAFSA assistance at the time of tax preparation. Students whose families received this assistance were significantly more likely to attend college and receive aid, enrolling in college at an 8 percent higher rate (Bettinger, Long, Oreopoulos, & Sanbonmatsu, 2012).

College eligibility versus college readiness

Just because a student is on track to graduate from high school and meets the qualifications to enroll in a college does not mean that the student is prepared for college success. Zerkowski (2010, p. 9) distinguishes between the college eligibility and college success:

College eligible refers to meeting a state's minimum high school graduation requirements and public college admission requirements. College ready, on the other hand, refers to meeting a state's highly recommended course-taking suggestions to improve college-readiness, completing rigorous advanced core subject courses during the senior year of high school, and meeting the minimum college entrance test scores predicting successful completion of entry-level college core courses.

The academic and cognitive preparation sections later in this review discuss in more detail what best-practices students can follow to be college ready.

When to prepare

A potential stumbling block for families with little college experience is how far in advance to begin preparing. Early preparation can relate to academic areas, such as enrolling in college prep coursework in middle and high school. It can also relate to logistical factors, such as going on college visits, taking the SAT or ACT, sending in college applications, and completing scholarship and financial aid applications (Le, 2015).

Roderick et al. (2011) emphasize that, "Acceptance is not the issue when students do not actually apply to college." They cite statistics that 86 percent of students who applied to a four-year college were accepted and conclude that application, not acceptance, predominately explains college enrollment patterns (Roderick et al., 2011). Le (2015) cites findings that more than 20 percent of highly qualified students whose parents had not attended college did not take a college entrance exam and apply to a four-year college—compared to 4 percent of similar students whose parents had a bachelor's degree.



To be adequately prepared, students in middle school and the beginning years of high school and their families can begin to educate themselves by consulting college websites, publications, and search guides and familiarizing themselves with important deadlines (Roderick et al., 2011).

College Match and Fit

On-time enrollment and college choice are two significant milestones on the path toward degree completion—Both can affect a student’s likelihood of obtaining a degree. Roderick et al. (2011, p. 180-181) describe the relationship as follows:

For students to enroll in a suitable four-year college, they must effectively negotiate two sets of tasks. First, they must take the basic steps to enroll: They must submit applications on time, apply for financial aid, gain acceptance, and enroll. Second, students must engage in the potentially overwhelming task of college choice. These two sets of tasks are intertwined but it is important to distinguish between these two ideas: taking the steps to enroll in a four-year college and engaging in the process of choosing among four-year colleges.

Selecting a college that is a good match has been shown to be an issue for students of all qualification levels, and it can be especially problematic for students from lower socioeconomic classes. “Undermatching,” or choosing a college with academic standards below the student’s abilities, was shown to affect nearly half of lower-income students and approximately one-third of higher income students (Le, 2015). Approximately 25 percent of lower-income students enrolled in a two-year college, and even those students graduating in the top 10 percent of their high school class did not necessarily choose a college that was a strong match (Niu & Tienda, 2013). Roderick et al. (2011) cite that students with lower socioeconomic status often focus their college search on a few colleges that are familiar to them or their family and friend network and do not consider the full range of college options that might be a good fit for them.

The importance of college match lies in its relationship to persistence. Persistence toward a degree has been shown to be stronger when students choose an overmatch, rather than an undermatch.

“For example, one study found that students who chose a college that was an undermatch, where the student’s SAT scores were at or above the college’s 75th percentile, were significantly less likely to remain at that college and graduate in four years (Niu & Tienda, 2013).”

Roderick et al. (2011) emphasize the importance of students conducting a broad college search and not limiting their considerations to only one or two schools most familiar to them. Whereas Dillon and Smith (2017) explain that to make an informed college choice, students need to gather information about available colleges and analyze how their own abilities compare with those of other students at that college. Le (2015) cites college preparation programs that provide individualized counseling related to college application and selection as being effective in reducing undermatching and resulting in students enrolling in a four-year college (rather than a two-year college) at significantly higher rates than would be expected had they not completed the program.



While college match is important, it is also necessary to consider that a college that on paper looks like a good match academically might not necessarily exhibit the social and cultural factors that a particular student deems important. For example, Mattern et al. (2016) cite that other factors including interest-major fit can also promote college success. Encouraging students to explore their own values and priorities should not be overlooked in the college selection process.

Academic Preparation

A college readiness gap exists when students are eligible to attend college but are not prepared for college-level coursework (Henry & Stahl, 2017). The need for remediation has been a significant issue surrounding students' college readiness. When preparing students for higher education, educators should strive toward a goal of reducing the number of students requiring developmental coursework and remediation when they arrive at college (Henry & Stahl, 2017). One way to address this challenge is to increase the academic rigor of coursework in middle and high school. Le (2015) cites "a rigorous high school course-taking program" as the factor most significant in predicting college success.

AP coursework, advanced mathematics courses beyond algebra II, and science courses including biology, chemistry, and physics have been recognized as being positively related to college persistence and success (Le, 2015). Additional findings reaffirm the link between advanced math and college preparation—demonstrating how a middle school math acceleration program improved college readiness scores and college aspirations and increased the number of students who expressed an intention to enroll in a four-year college by 20 percent (Dougherty et al., 2017). Zerkowski (2011) discusses the idea of a mathematics intensity level (MIL) that prepares students to complete a bachelor's degree. His analysis finds that a K-12 school's approach to mathematics can significantly affect students' future success. Students who were enrolled in math classes in all four years of high school and students who had a significant amount of out-of-class math homework were found to be more likely to earn a college degree than their counterparts with less rigorous mathematics preparation (Zerkowski, 2011). Zerkowski concludes that "academic rigor is much more important than offering advanced courses" (p. 46).

Other academic areas shown to have a link to college success include reading comprehension and writing. According to Matsumura, Wang, and Correnti (2016, p. 351):

Cognitively demanding tasks are only part of a literacy curriculum that builds students' reading comprehension and analytic writing skills....Students' mastery of these skills also depends on other instructional practices such as modeling the processes good readers and writers use to comprehend and compose texts; engaging writers in cycles of drafting, editing, and revising their work; and holding rich classroom discussions. Nevertheless, cognitively demanding writing tasks are an important piece of the puzzle for putting students on the path to college readiness.

In any academic subject, the way in which the course is taught is also important. In their study of a STEM college readiness intervention program, Lane et al. (2017) identify courses that use a mastery learning approach and employ formative assessment and individualized feedback as enabling students to identify and address their own knowledge gaps.

Cognitive Preparation

Once at college, there is an expectation that students will possess higher-order thinking skills, such as the ability to think critically and reflect on what they've learned (Henry & Stahl, 2017). In STEM coursework, as well as other fields, creation, problem-solving, and evaluation skills are also



necessary (Lane et al., 2017). Project-based learning has been suggested as one possible way to help students build their higher-order thinking skills in preparation for college attendance (Lane et al., 2017).

Students who got by doing little or no homework in a K-12 context are likely to discover that approach not to be sustainable in college. A study of high school students found that nearly half of the seniors surveyed reported spending three or fewer hours studying per week. In contrast, half of first-year students at four-year colleges reported studying more than 10 hours per week (McCarthy & Kuh, 2006).

One argument for expecting K-12 students to complete homework is that it helps them build the self-management, time-management, and study skills that they will need in college and that students often have little experience with prior to starting higher education (Lane et al., 2017). Tools such as scheduling grids and time charts and general advice related to time management can help scaffold K-12 students as they learn to more independently plan and organize their work (Lane et al., 2017).

Often there is a stigma involved in asking for help and students see it as a weakness or a sign of their low academic abilities. K-12 educators who create a classroom environment that erases this stigma and encourages students to ask questions can help promote their students' continued success. One student reported, "When I started to open up and talk to more people, I felt like I got more help with the things that I needed. For chemistry, for example, I failed it the first time. It's not because I wasn't smart enough or I didn't know how to do the work. I just never asked for help with things I needed help with... opening up and talking to different people and getting help when you needed help was super important" (Lane et al., 2017).



CONCLUSION

Evidence has shown that a majority of U.S. students aspire to attend college. Of those students, however, the number who follow through to college graduation is astoundingly low. In spite of the significant challenges that lie along the way, there are steps that K-12 educators can take that will help to level their students' path toward reaching the goal of college graduation. Beginning early is essential for optimal results. Schools and teachers will do well to make college preparation a part of the everyday culture of the classroom and set the expectation that college is accessible to all students, not just those in the top tier of academic achievement. Introducing students to concepts and strategies that they will need for college success and, when appropriate, building classroom structures that resemble what students will encounter in higher education can help to make the college transition more seamless. K-12 educators can also contribute to their students' future success in higher education by helping to ensure that students have the necessary supports in place to meet college entrance and financial aid milestones, select a college that is a good fit, and are prepared to persist in the face of adversity.



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