

A Review of Strategies for Enhancing College Freshmen Success and Retention: Lessons in Grit, Mindset, and Resilience

Susan Polirstok

Online First Publication, March 11, 2019.

CITATION

Polirstok, S. (2019). A review of strategies for enhancing college freshmen success and retention: Lessons in grit, mindset and resilience. *Future Review: International Journal of Transition, College and Career Success*, 1(3), 29-36.

A Review of Strategies for Enhancing College Freshmen Success and Retention: Lessons in Grit, Mindset, and Resilience

Susan Polirstok, Ed.D.
Kean University

This article examines the factors that contribute to retention of first year freshmen at colleges and universities, given that 40% of freshmen do not persist beyond the first year (National Student Resource Clearing House, 2015). Using the lens of grit, mindset, and resilience, the article presents strategies to improve retention by helping students increase task perseverance (grit), build confidence in themselves as learners (mindset), overcome adversity (resilience), foster a sense of belonging, and develop action plans for the future. It takes more than a village to increase freshmen retention rates; it takes an entire campus community- successful students, faculty, staff and support personnel.

Keywords: Grit, Fixed Mindset, Growth Mindset, Resilience, Freshmen Year Initiatives

Introduction

Being admitted as first time freshmen to college is one of the significant milestones of life, a time when students celebrate their achievement and success and dream about where their futures will take them. Along with this elation, there are often underlying feelings of anxiety that reflect concerns about one's ability to do well in college and measure up academically, especially for first generation college students from disadvantaged backgrounds (Campbell, Bierman, & Molennar, 2016; Zajacova, Lynch, & Espenshade, 2005). For many of these incoming freshmen, this anxiety is not frivolous, but well-founded and well-documented (National Assessment of Educational Performance [NAEP], 2015). According to NAEP (2015), only 37% of 12th grade students were proficient in reading and only 25% were proficient in math, with minority students performing well below their white counterparts. More recent data on national ACT performance of high school students in the US showed that "underserved learners (low-income, minority, and/or first-generation college students) continue to struggle in terms of their achievement levels and readiness for college. Less than a fourth of graduates who qualify as underserved met or surpassed three or four of the ACT College Readiness Benchmarks" (National ACT, 2017, p.2). The achievement gap, despite considerable efforts to address performance disparities in urban districts across the country, still looms large.

According to the National Center for Educational Statistics (2016), given the low level of academic proficiency in essential skills needed for college success, it is no wonder that incoming college freshmen must often take non-credit bearing developmental courses in reading and math, before they can advance to the required general education / liberal arts curriculum

(Chen, 2016). As a result of this, the message that unwittingly gets sent is that these students are not capable enough to succeed in college. Regrettably, it is the direct opposite of the message colleges and universities want to send. The message colleges want to send is that if you believe in yourself, believe you belong in college, and take advantage of the opportunities available on campus, you will be able to succeed (Adams Auten, 2018). Recognizing this, Cyrus, Langan, and Ribbe (2016) report that programming for transition into college has become increasingly important as evidence demonstrates that college success hinges on student experiences during the first year. According to the National Student Resource Clearinghouse Center (2015), the rate of retention of first year freshmen across the country is 60.6%. In light of this report, it is important to ask what factors differentiate the 60.6% of freshmen being retained from the 39.4% of those leaving college? For those students who drop out of college after the first year, their withdrawal leaves them with loans for the first year that will be daunting for them to pay without the opportunity for a higher paying job that would have been possible after earning a college degree.

When one considers the amount of resources and professional time that colleges and universities devote to student recruitment, the loss of 39.4% of the freshmen class in a given year is not compatible with an institution's financial health. What strategies can colleges and universities adopt that will facilitate improved rates of freshmen retention? How can theories of grit, mindset, and resilience guide freshmen support programs to enhance retention? What instructional changes can faculty make that would lead to enhanced student achievement and positively impact how students perceive themselves as learners?

Review of Grit, Mindset, and Resilience

Grit. Grit is a quality that refers to a student's persistence in completing tasks and staying the course in the face of adversity (Stolz, 2015). Adversity here can include a constellation of factors like the difficulty level of the academic task, the embarrassment a student may feel when needing to ask for help from a professor or other academic support resources on campus, the sense of ego distress that includes feelings of inadequacy and not belonging, and/or the defensive posture students sometimes adopt to prevent others from knowing just how poorly they are performing. Duckworth, Peterson, Matthews, and Kelly (2007) call persistence of effort in the face of challenge "grit." Bowman, Hill, Denson, and Bronkema (2015) conceptualized grit as a combination of perseverance of effort and sustained interest over time and set out to examine these variables separately and in combination. Their research found that persistence contributed significantly to academic success, and forming strong interpersonal relationships with faculty and fellow students. Hence persistence of effort emerged in this research as a critical variable for success.

In light of this finding, how can college and university faculty foster the development of grit? Students who are able to sustain their effort and ultimately reach their targeted goals, in the face of adversity and increasing difficulty levels, are gritty (Duckworth et al., 2007). Helping students become gritty involves creating opportunities for them to experience themselves as successful, to build confidence in themselves, to become familiar with resources that are available to help them, to interact with faculty on a person-to-person basis, and to build relationships with other students to combat feelings of isolation and low self-expectations (Polirstok, 2017). In a recent meta-analysis of the grit literature, Crede, Tynan, and Harms (2017) found that while grit was somewhat correlated with performance and retention, it had the strongest relationship with conscientiousness. Similar findings were noted by Wolters and Hussain (2015), who found that "one aspect of grit, perseverance of effort, was a consistent and adaptive predictor for all indicators of self-regulated learning (SRL) including value, self-efficacy, cognitive, metacognitive, motivational, time and study environment management strategies, and procrastination" (p. 293). Persistence and sustained effort over time are critical variables for academic success.

Mindset and resilience. Carol Dweck (2007) sees student success and retention as a function of mindset. Students who are willing to take on new challenges academically have a "growth mindset," while students who view their own ability as limited have a "fixed mindset." In the face of academic challenges, Dweck (1996) believes that those who persevere embody an implicit theory about themselves as learners that will eventually enable them to master the new material. This sense of self-efficacy enables students to keep working toward success, even if it means they need to seek out help from a professor, a tutor, or a study group. Students' implicit theories about themselves fuel their beliefs that they will be able to learn what is necessary to be successful as long as they remain engaged and can identify necessary resources. Having a "growth mindset" is a direct outgrowth of one's prior positive experiences as a learner; and,

while cognitive ability and schema have a role to play, how one feels about oneself as a learner drives the process of engagement.

In contrast, students with "fixed mindsets" often operate from a defensive posture, working hard to conceal what they don't know for fear of having others judge them and their abilities. The fixed mindset is best viewed as an implicit theory about oneself that is defensive, not wanting anyone to see into one's real academic abilities or lack thereof, and a belief that one is already as smart as one needs to be (Polirstok, 2017). Often "fixed mindsets" have been developed as early on as middle school, a vestige of adolescent development where students simply want to blend in with others and preserve and protect their egos (and their reputations) from criticism. These students often learn parts of skills or concepts and fall short of full understanding because they believe what they have learned is "good enough." Mawer (2014) notes that students with fixed mindsets may try to avoid academic tasks "because if they don't try to do something they feel is beyond them, they can kid themselves that they have not failed" (p. 50).

Yeager and Dweck (2012) maintain that mindsets can be changed, and, in doing so, pave the way for students to become more resilient. How a student perceives the adversity he or she encounters, as opposed to the actual adversity needed to be overcome, may be a significant factor that contributes to the limited academic performance many adolescents and young adults demonstrate. The key intervention here is to have students with fixed mindsets explore their 'perception of adversity' versus the 'actual adversity' and identify the actions they can take to be successful. Student perceptions of the adversity they face may be over exaggerated and inaccurate, making any attempt at addressing the adversity a failure. In turn, this reinforces an already existing negative sense of self. If in fact students can be successful in challenging their perceptions of adversity and overcoming them, not only does that build resilience – it helps to challenge the implicit "fixed" theory of themselves as learners.

Research conducted by Han, Farruggia, and Moss (2017) examined the effects of academic mindsets on college students' achievement and retention. College success was defined by GPA, number of credits earned, and retention from first year to second year. The population was assessed and grouped via cluster analyses, yielding four groups: all high (demonstrating high self-efficacy, high sense of belonging, and high academic motivation), belonging-oriented, all low (demonstrating low self-efficacy, low sense of belonging, and low academic motivation), and self-efficacy-oriented. In the all high grouping and the self-efficacy grouping, students were able to perform better and earn more credits than did their comparison peers in the other groups. What this finding suggests is that academic performance in the first year of college may be directly related to students' beliefs or mindsets concerning the likelihood of their academic success. Given this finding, a directed follow-up action would be to identify all students falling in the "all low" group and providing them with a structured intervention (Luzzo, Hasper, Albert, Bidy, & Martinelli, 1999). Addressing the needs of the "all low group" with a structured intervention would help to support academic achievement and retention. Advisors can play a critical role here in a less formal way if they understand how to talk with students who have low self-efficacy.

Han et al. (2017) went beyond examining student mindsets about academic success; they also examined retention from the first year to the second. Not surprisingly the 'all high group' had the best retention rates of the four groups studied. However, the next best rate was demonstrated by the 'belonging-oriented-group.' This is an interesting finding in that other research has also demonstrated the link between feelings of belonging and college success, though these findings have been inconsistent (Kember, Lee, & Li, 2001; Kim & Lundberg, 2016; Thomas & Galambos, 2004; Walton & Cohen, 2007). What this finding about belonging suggests is that freshmen programming, including summer and bridge programming, needs to help newly entering students forge connections with student organizations and clubs on campus to strengthen their sense of belonging. This sense of belonging may also be strengthened by racial/ethnic and gender identity affiliations. One of the limitations of the Han study is that the clustering of students into the four categories may well produce different findings if race, ethnicity, and gender identity were factored into their analyses.

Strategies for Enhancing Grit, Mindset, and Resilience

Examining newly admitted freshmen from the perspectives of grit, mindset, and resilience can offer clues to developing meaningful programming approaches on college campuses. Among the approaches that will be highlighted are: Direct Instruction in Grit and Mindset, Digital Learning Stories, Community Building, Mastery Learning and Repeated Measures, and Personal Action Plans.

Direct instruction in grit and mindset. Dr. Lee Ann Nutt serves as the President of Lone Star College, a Community College in Tomball, Texas that serves 9,000 students each semester. President Nutt (2018) makes a strong argument for grit to be viewed not from a quantitative perspective, noting how much grit a student might have, but rather from a qualitative perspective that goes beyond a "deficit narrative" (p. 1). "Whereas grit is about quantity, GRIT is about quality: (1) good vs. bad; (2) effective vs. ineffective; and (3) strong vs. weak." (p. 4). Lone Star College has embraced a more holistic vision of GRIT, developed by Dr. Paul G. Stolz (2015) in his book "GRIT-The New Science of What It Takes to Persevere, Flourish and Succeed", and has engaged with Dr. Stolz in studying the impact of GRIT on its students. Dr. Stoltz defines GRIT in the following way: G is for Growth Mindset (an openness to consider new ideas and insights), R is for Resilience (an ability to respond to adversity), I is for Instinct (an ability to identify and take steps toward meeting identified goals) and T is for Tenacity (an ability to exert extra effort over time). In his earlier work in 1997, Dr. Stoltz coined a term called the "Adversity Quotient." This term refers to the ability of individuals to persist and succeed in the face of adversity and suggests that factors for success involved not only IQ (intelligence quotient) and EQ (emotional quotient), but also AQ (adversity quotient).

At Lone Star College, students in the experimental group watched a video by Dr. Stolz that explained GRIT (referred to by Dr. Stoltz as the GROCK phase), asked students to use a GRIT assessment at the beginning and end of the term (referred to by Dr. Stoltz as the GRIT GAUGE), and provided direct instruction in GRIT (referred to by Dr. Stoltz as the GROW phase where GRIT tools were applied for permanent change). Beyond the video viewing, each professor

in the GRIT group modified one assignment during the semester that reflected the GRIT training the students received for reinforcement. A control group of students and faculty received no video and no direct instruction in GRIT, but was asked to do the pre and post-GRIT assessment as a basis for comparison.

Lone Star College partnered with Pearson to answer key research questions including the impact of GRIT scores on course completion and GPA (Pearson Case Study, 2015). The results showed that GRIT training had a positive impact on overall performance and course and credit completion. According to President Nutt, "Our research also shows that GRIT can be grown during a standard academic semester and that classes taught 'With GRIT' have a higher completion rate" (p. 4). Persistence from Fall 2015 to Spring 2016 showed a 4.2 percent improvement over a similar comparison for the previous Fall 2014 to Spring 2015 academic year (Pearson, n.d). Students who participated in a GRIT course had a 3% higher success rate than the students who took courses that did not include GRIT instruction. Finally, GRIT scores were significantly associated with student cumulative credits earned.

The ongoing work in GRIT at Lone Star College in collaboration with Dr. Stolz can offer colleges and universities a model for how to embed study in GRIT in academic classrooms that can pay dividends in terms of student success and student retention. Given the intense focus on the four and six year graduation rates of institutions across the country, embedding GRIT in key courses correlated with college success may be a process worth pursuing and can be packaged with digital learning stories as a powerful treatment.

Another direct instruction approach to grit and mindset is offered by Marianne Adams Auten, who teaches at Paradise Valley Community College in Phoenix Arizona. Dr. Adams Auten (2018) maintains that students are interested in learning about grit and mindset as concepts that underlie academic success. She chooses to teach these concepts directly, assigning readings for students on these topics, discussing them globally in class, asking students to assess their own levels of grit and mindset, and then having them explore how they can strengthen these factors for themselves as learners. This affords a great opportunity to identify resources on the campus that can help students to increase their grit and strengthen their embrace of a growth mindset. It also reinforces the notion that one's ability to learn is not static and can change based on attitude, self-perception, and opportunity.

Digital learning stories. Digital Learning Stories have been successfully used with incoming freshmen about to enroll in rigorous science courses at the University of Texas at Austin (Sunday New York Times Magazine, "Who Gets to Graduate?" May 18, 2014, by P. Tough). The new freshmen were asked to listen to stories of academic success recorded by junior and senior minority students who came to college and to science courses unsure of how they would do academically and had little confidence in their ability to succeed. Like the entering freshmen, a good percentage of them came from low income households and were the first in their families to go to college. Looking back at having been successful and now moving toward a degree, these upper classmen were asked to record short videos about the strategies that they used to succeed in the rigorous science curriculum. "The stories that were most effective either had a "belonging" message or a "mindset" message. In the "belonging" message, students talked about their fears at first

first of not fitting in, of not being smart enough to succeed, and of the things that made them feel like they belonged. In the stories that focused on “mindset,” students read an article that focused on how the brain was changeable and through practice could foster increased connections, challenging the conscious or unconscious belief that intelligence is static (Polirstok, 2017, p. 3).

The findings at UT Austin showed that these short videos worked. Disadvantaged freshmen who viewed the digital learning stories dropped out less frequently than did students in the comparison group. The digital learning stories helped to strengthen target freshmen’s core beliefs about themselves as learners, helped to shift mindsets from fixed to growth, and reinforced students’ sense of belonging.

Community building. Most colleges and universities recognize the importance of building community among entering freshmen each year. Typically, the Office of Student Life plans a freshman orientation program that helps new students meet each other, provides some assistance with planning courses, helps with developing schedules and registration, and introduces students to various clubs and activities on campus. However, transitioning from high school to college is a major shift for freshmen psychologically, as they leave home to live at school and will be expected to meet all academic demands independently without having a parent or a teacher reminding them of what has to get accomplished. For some entering freshmen, this will be the first time that they have lived away from their families. For other freshmen who continue to live at home and commute to a campus, the transition may be a bit more confusing; while they are expected to function independently at college, living at home may challenge their emerging independence if there are expectations around curfew, daily living needs, room cleanliness, and study times. For these students, balancing their independent performance on campus with their home expectations is an ongoing challenge.

In looking at all of these changes, it becomes clear that a limited freshman orientation will not be sufficient to prepare students for success, either academically or socially. Given that the stakes for persistence and retention are so critical, colleges and universities need to invest resources in programs that will build community during the freshman year. These programs are often called Freshmen or First Year Initiatives (FYI). One such award winning Freshmen Year Initiative Project has served students at Lehman College, CUNY over the past 25 years. Its chief goal is to improve the retention of first-time freshmen. Recognizing that creating a sense of belonging is an important component of retention, academic support needs to be made available in a variety of ways connected through social programs and activities on campus.

At the core of the FYI program is the creation of Learning Communities, where clusters of courses are taken by the same group of students. The common clustering of courses enables faculty to develop a rich curriculum that integrates and reinforces key concepts and skills, with each block choosing a unique thematic approach that students can select based on their area of interest and possible future major. Among the blocks are Nursing, Pre-Med/Health, STEM, Business Administration, Accounting, and Education.

Within each learning community is a 3-credit course entitled “Freshman Seminar.” This course helps ease the transition from high school to college. Students learn about the structure of the curriculum (required courses vs. elective courses and the value of a liberal arts curriculum); strengthen critical thinking, problem solving, and research skills; enhance necessary academic skills including reading, note-taking, test taking, and time management; and identify college resources and opportunities for community engagement. The FYI program also offers students support services that may be needed including: tutoring, advisement, and counseling.

Beyond creating software that would allow the college to better track student progress and advisement, participating faculty received training in how to support students academically, how to link elements of their coursework to the campus community, and how to create action research projects that could enhance their teaching and impact student achievement. The message of the FYI program is clear; increasing student retention involves the whole college: student life personnel, academic faculty, counselors, tutorial support services, and upper-class students and alumni who could tell their stories of success.

Another *First Year Experience Program (FYE)* was implemented more recently at the University of Bridgeport (Connolly, Flynn, Jemmott, & Oestreicher, 2017). This program added a credit bearing course for all new freshmen who were considered “at-risk.” Bridgeport’s definition of at-risk included students with a high school GPA of 2.8 or less on a 4-point scale and a combined SAT score of 800 or lower. The FYE class addressed issues of transitioning from high school, developing relationships with other students and their professors, assigned peer advisors, and emphasized learning strategies and time management. Further, the program required students to participate in a minimum of three campus events along with peers from their FYE class. Clearly at its core, this program understands the importance of social engagement to counter feelings of isolation and loneliness and in doing so, fosters a sense of community and belonging.

Research reported by Johnson, Flynn, and Monroe (2016) on a First Year Plan (FYP) for at-risk students at a large metropolitan college in urban New York City, focused on students living in a residence hall. The residence hall staff members as well as other staff members at the college were charged with providing support for students in loco parentis (as though they were parents) to foster a sense of emotional safety in the residence hall. Each member of the staff team had specific responsibilities: academic advisement, identification of specific student needs and planning for supports, and assigning peer tutors as needed. The approach here is an integrated one, which recognizes that students need an array of supports that address their emotional, academic, and social needs. The preliminary results of this study indicate that participating freshmen experienced an increase in GPA as a result of the supports provided, which contributed to increased retention.

Most colleges and universities have programs that address a

wide range of at-risk freshman needs, nevertheless the fact that some students succeed while others do not, causes us to continually question the effectiveness of such programming. Two additional factors may be tied to this continual questioning and both certainly speak to the unique qualities of individual students, faculty, and staff. One factor is the role of the “significant other.” Are students actually able to bond with a faculty member, a staff member, or an upper-class advisor or tutor? Forming a relationship with a significant other helps the student to feel safe, valued, and often provides a role model for a student to emulate. These kinds of relationships often develop incidentally, without a structure or a plan. What this suggests is that when planning an array of experiences for new freshmen, there needs to be more systematic efforts to encourage such relationships. Faculty and staff need to become more aware of the factors that contribute to the formation of such relationships and how situations can be structured to increase opportunities for bonding. More experienced and senior students also need to understand what they can do to establish relationships with freshmen that would be impactful. So the strategy here would be to move from incidental engagement to more deliberate, purposeful, and planned interactions with at-risk freshmen.

Beyond this focus on the “significant other,” another activity that can be a contributing factor to student success and retention involves helping students develop action plans for their futures. Engaging students in understanding the steps and possible challenges or adversities that they will need to address along the way to graduation can help eliminate the surprises that might overwhelm and lead to withdrawal from college.

Mastery learning and repeated measures. While we have already discussed first year student support programs to enhance retention and strategies to build grit, mindset, and resilience, we have not discussed the direct impact of faculty instruction on student success. Regardless of the number of support programs and support services, student success is closely aligned with the instructional program and what faculty do day-in and day-out in the classroom to foster it (Tinto, 2006). Nothing works like success; when students feel successful, they are more willing to take on challenges. There are many strategies from mastery learning (Meichenbaum & Biemiller, 1998) that can help faculty create classrooms where students feel successful and in charge of their own learning. One such strategy involves providing students with multiple opportunities to retake quizzes or resubmit assignments in order to regain lost points. By engaging in such activities, students become more responsible for their performance and feel more engaged when they can improve their scores. Improving their scores in turn can enhance mindset and can help students become more “gritty.”

Typically, when students do poorly on tests and assignments, they experience the resulting failure as punishing, and may immediately disengage from the class because they recognize early on that they will not be able to achieve an acceptable grade for the semester. Often disengaged students stop attending and, as a consequence, wind up with a failing grade for the semester, which negatively impacts their GPA. By providing multiple opportunities to improve performance, students learn about “fix up” strategies and this empowers them to do better. The

focus then becomes learning whatever it is they were not able to demonstrate on the initial test or assignment. For example, one procedure to facilitate learning on a topic that was previously missed on a test or an assignment is to identify the item missed and to find the correct information in the assigned text, another text, or on the Internet. The student must write the corrected information and show where he or she found it. Then the student is asked to consider why he or she missed this item – Did he or she not understand it when it was initially taught in class? Did he or she not study? Did the student confuse this with something else? Was the student out sick when the topic was taught? Asking the student to think metacognitively about why he or she missed an item on a test or an assignment serves to increase the student’s ownership of whatever the problem was. Finally, the student needs to write an original question on this item or assignment that could be used in the future as another assessment, pretending that he or she is the instructor. To gain back lost points, a student would have to do these three tasks for each question missed on an assignment.

When students realize that they can earn back lost points, their attitudes and emotions about evaluation begin to change for the better. Somewhere along the line, students may realize that this process is time consuming and it would be preferable to perform at a higher level from the beginning, encouraging them to study more effectively and work harder to achieve higher scores the first time the evaluation is administered.

Providing multiple opportunities for students to be successful on various assessments and quizzes links research on grit and mindset to classroom practice. According to Coley and French (2014), “these performance accomplishments help to minimize individuals’ anxieties around learning and the self-efficacy that they help develop will transfer to other scenarios and enable the individual to counter anxiety from past failures (Bandura, 1977)” (p. 1026). By engaging repeatedly in opportunities to improve their performance, students demonstrate grit, perseverance, and tenacity. Once performance reaches the criterion, students’ beliefs in their own self-efficacy are strengthened and a shift in mindset from fixed to growth can take root over time. While ownership of learning and improvement cannot address whatever gaps may exist in content knowledge, self-efficacy and persistence can provide the impetus for improvement (Coley & French, 2014).

Another instructional strategy that faculty can employ for student success involves frequent and spaced review of material already taught. Material that has already been taught needs to appear every so often as a review at the beginning of a class, as a question on a homework assignment, and/or as a bonus question on a test. Using spaced review is a strategy that helps the brain code information for long term memory, and this will be helpful to students at the final exam time.

While both of these strategies, spaced review and multiple opportunities for success, can be very effective in fostering grit, all too often college professors do not see either of these techniques as part of their instructional responsibilities. The assumption is that students should have learned long ago to study more effectively, to read assigned material with a focus on detail, and to submit papers that are thoughtful and well written. In working with students as they transition from high school, faculty need to recognize that they have a responsibility to help students to bridge the “skills

divide” and to learn how to be successful in a college classroom. Seat time alone will not improve performance; good instruction is necessary and providing multiple opportunities for students to be successful is every professor’s responsibility. Morales (2014) provides suggestions for faculty to facilitate the resilience and retention of students, and highlights how essential these strategies are given that most faculty have never received formal training in teaching effectiveness. Among Morales’ instructional recommendations are “constantly build students’ self-efficacy; help students realistically appraise their own strengths and weaknesses; encourage help-seeking tendencies; and provide clear linkages between academic success and future economic security” (p. 95).

Once students can meet individual course expectations and retention criteria, the next challenge is for them to recognize what they will need to do to graduate at some point in the future. The task needs to shift to the student developing a personal action plan that will support persistence beyond the first year of college and help the student envision a path to graduation.

Personal action plans. For each student, developing a personal action plan begins with the question: “What do you want to do when you graduate?” According to Adams Auten (2018), “this is as simple as asking students what is important to them and what kind of future they want to create, then offering our expertise to help them craft a realistic, step-by-step plan to get there” (p. 3). The creation of such a plan helps to build a bridge for students from where they are to where they want to be. This notion of pathways and how to overcome obstacles is discussed in Marilee Adam’s (2013) “Choice Map,” one of many mindset tools that she suggests can help students to succeed. By engaging in this process to identify paths and barriers, both verbally and graphically, it helps to make the future real, accessible, and connected to the immediate moment. It promotes a discussion of what challenges lay ahead and how specific individuals, programs, or resources at the college or university can help students when these given challenges arise. Personal Action Plans can be empowering to students and can “go a long way to increase the grit, tenacity, and perseverance required to succeed” (Adams Auten, 2018, p. 3). Such plans can be addressed when meeting with an advisor, to not only identify courses needed for graduation, but more importantly to discuss the skills students will need to demonstrate to advance to the degree.

Discussion

The U.S. Department of Education Office of Educational Technology reminds us “there is still much that needs to be done if grit, tenacity and perseverance are to become a pervasive priority in education. There are no quick fixes” (Alliance for Community College Excellence in Practice, 2018, p. 1). This article has provided a broad review of key concepts and strategies related to increasing retention of freshmen students beginning their college careers. Existing data show that freshmen from low socioeconomic backgrounds, whose academic achievement in math and reading fall in the bottom 30% of their high school class, and who are obligated to take remedial courses as freshmen, are at significant risk for dropping out of college. From an institutional point of view, the experiences provided to these at-risk students by colleges

and universities need to address the following factors: grit, mindset, resilience, belonging, and academic competence.

Any program that is designed to support at-risk freshmen should target each of these factors, not in an isolated or single fashion, but rather collectively and holistically in a multi-pronged approach. For example, academic tutoring is only one factor and relying on this one factor alone will not be sufficient to keep at-risk freshmen from dropping out. Developing grit, growth mindsets, resilience, and feelings of belonging have to be in place for tutoring and remedial coursework to be impactful. Similarly, summer bridge programs for freshmen and freshmen year programming will have limited effectiveness if not part of a broader, more integrated approach. Providing strategies that address grit, mindset, resilience, belonging, and academic competence as discrete and separate efforts can produce minimally positive effects. However, if these strategies are designed holistically as an integrated, multi-pronged, broad-based intervention, then the outcomes can be far more effective, with these elements having a multiplicative impact as opposed to an additive one.

Research efforts to design integrated intervention programs for at-risk freshmen and to assess their overall effectiveness need to receive significant support from college and university administrations. These efforts should not rely overwhelmingly on implementation by admissions, recruitment, and student life personnel. Rather faculty need to be engaged directly in this effort and given the support necessary to conduct research that can be published and considered for faculty tenure and promotion. The research reported on in this review from Lonestar College shows the value of implementing GRIT research systematically on the campus. Having faculty committed to research efforts addressing retention of at-risk students helps faculty to be more engaged in the literature of grit, mindset, and resilience, to identify classroom instructional practices that are in keeping with this literature, and encourages a sense of teamwork across the campus. Faculty need to investigate the strategies institutions across the country are using to address retention of at-risk freshmen and consider the extent to which these strategies might be employed at their institution. This can foster cross-campus collaboration, an excellent tool to increase faculty engagement and dialogue on a broader scale (both state and nationally), while at the same time encouraging faculty on their home campuses to talk with each other across disciplines.

References

- Adams Auten, M. (2018). Fostering grit, growth and goal achievement in community colleges. *Perspectives: Community College Leadership for the 21st Century*, 3.
- Adams, M. (2013). *Teaching that changes lives: 12 mindset tools for igniting love of learning*. San Francisco, CA: Berrett-Koehler.
- Alliance for Community College Excellence in Practice. (2018). *Perspectives: Community College Leadership for the 21st Century*. Big Rapids, MI: Ferris State University.

- Bowman, N., Hill, P., Denson, N., & Brokema, R. (2015). Keep on truckin' or stay the course? Exploring grit dimensions of educational achievement, satisfaction, and intentions. *Journal of Social Psychological and Personality Science*, 6(6), 639-654.
- Campbell, C., Bierman, K., & Molenaar, P. (2016). Individual day to day process of social anxiety in vulnerable college students. *Applied Developmental Science*, 20(1), 1-15.
- Chen, X. (2016). Remedial coursetaking at U.S. Public 2and 4 year institutions: Scope, experiences and outcomes. Statistical Analysis Report – NCES 2016-405. Jessup, MD: Natonal Center for Educational Statistics.
- Coley, D., & French, E. (2014). Student ownership of learning as a key component of college readiness. *American Behavioral Scientist*, 58(8), 1018-1034.
- Connolly, S., Flynn, E.E., Jemmott, J., & Oestreicher, E. (2017). First First year e perience for at-risk college students. *College Student Journal*, 51(1), 1-6.
- Crede, M., Tynan, M., & Harms, P. (2017). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*, 113(3), 492-511.
- Cyrus, R., Langan, E., & Ribbe, R. (2016). Exploring the impact of an outdoor orientation program on adaptation to college. *Journal of Experiential Education*, 39(4), 355-369.
- Duckworth, A.L., Peterson, C., Matthews, M.D., & Kelly, D.R. (2007). Grit: perseverance and passion for long term goals. *Journal of Personality and Social Psychology*, 92, 1087-1101.
- Dweck, C.S. (1996). Implicit theories as organizers of goals and and behavior. In P.M. Gollwitzer & H.A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to action* (pp. 69-90). New York, NY: Guildford Press.
- Dweck, C.S. (2007). *Mindset: The new psychology of success*: New York, NY: Random House.
- Han, C., Farruggia, S., & Moss, T. (2017). Effects of academic mindsets on college students' achievement and retention. *Journal of College Student Development*, 58(8), 119-134.
- Johnson, M., Flynn, E., & Monroe, M. (2016). A residence life plan for success for at-risk college students: Reviving in loco parents. *College Student Journal*, 50(2), 268-274.
- Johnson, A., & Kreuzer, P. (2001). Improving retention through a comprehensive student development model. Retrieved from <https://eric.ed.gov/?id=ED452783>.
- Kember, D., Lee, K., & Li, N. (2001). Cultivating a sense of belonging in part-time students. *International Journal of Lifelong Education*, 20(4), 326-341.
- Kim, Y., & Lundberg, C. (2016). A structural model of the relationship between student-faculty interaction and cognitive skills development among college students. *Research in Higher Education*, 57(3), 288-309.
- Luzzo, D., Hasper, P., Albert, K., Bibby, M., & Martinelli, E. (1999). Effects of self-efficacy-enhancing interventions on the math/ science self-efficacy and career interests, goals and actions of career undecided college students. *Journal of Counseling Psychology*, 46(2), 233-243.
- Mawer, J. (2014). A simple use of Dweck's mindset theory. *Australian Education Leader*, 36, 50-52.
- Meichenbaum, D., & Biemiller, A. (1998). Nurturing independent independent learners: Helping students take charge of their learning. Educational Research Information Center. Retrieved from ERIC database (ED420736).
- Morales, E. (2014). Learning from success: How original research on academic resilience informs what college faculty can do to increase the retention of low socioeconomic status students. *International Journal of Higher Education*, 3(3), 92-102.
- National ACT. (2017). *The condition of college and career readiness 2017*. Retrieved from https://www.act.org/content/dam/act/unsecured/documents/cccr2017/CCCR_National_2017.pdf.
- National Center for Educational Statistics. (2015). *National Assessment Progress Report on 2013 Reading and Math Assessments*. Educational Research Information Center. Retrieved from ERIC database (ED557749).
- National Student Clearinghouse Research Center. (2016). *Persistence and Retention*. Washington, D.C.: Author.
- Nutt, L. (2018). Grit vs GRIT: It's a matter of Quality. *Perspectives: and Retention*. Washington, D.C.: Author.
- Pearson Case Study. (2015). Lone Star College infuses grit to strengthen mindset capabilities and to increase persistence and career readiness. Retrieved from <https://www.pearsoned.com/results/lone-star-college-tomball-infuses-grit-strength-mindset-capabilities-increase-persistence-career-readiness>.
- Polirstok, S.R. (2017). Strategies to improve academic achievement in secondary school students: Perspectives on grit and mindset. *Sage Open*, October-December, 1-9.
- Stoltz, P. (2015). *GRIT-The new science of what it takes to persevere, flourish and succeed*. New York, NY: Climb Strong Press/ Amazon Books.
- Stoltz, P. (1997). *Adversity quotient: Turning obstacles into opportunities*. New York, NY: Wiley and Sons.
- Thomas, E., & Galambos, N. (2004). What satisfies students? Mining student opinion data with regression and decision tree analysis. *Research in Higher Education*, 45(3), 251-269.
- Tinto, V. (2006). Research and practice of student retention: What's next? *Journal of College Student Retention*, 8(1), 1-19.
- Tough, P. (2014, May 18). *Who gets to graduate? The New York Times*. Retrieved from https://www.fsud.org/cms/lib03/CA01001943/Centricity/Domain/169/Who%20Gets%20to%20Graduate_%20-%20NYTimes.pdf.
- U.S. Department of Education, Office of Educational Technology. (n.d.). *Promoting grit, tenacity, and perseverance: Critical factors for success in the 21st century*.
- Walton, G., & Cohen, G. (2007). A question of belonging: race, social fit, and achievement. *Journal of Personality and Social Psychology*, 92(1), 82-96.
- Wolters, C., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning*, 10(3), 292-311.

- Yeager, D., & Dweck, C. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314.
- Zajacova, A., Lynch, S., & Espenshade, T. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, 46(6), 677-706.