The *SuccessNavigator*™ Assessment:
Improving Course Placement Decisions

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Introduction

In recent Research Briefs, we've discussed how psychosocial factors play an important part in student success and, when used as part of a holistic assessment plan, can indicate students' likelihood of doing well in class and persisting toward a college degree. Moreover, we've discussed how a holistic understanding of student characteristics, skills, and abilities can be used to more accurately place students into entry-level math and English courses (Markle & Robbins, 2013b). In general, shortening the path to success by placing students in higher-level courses when appropriate is an important component of a student success agenda (Markle & Robbins, 2013a).

In this Research Brief, we will discuss how to use ETS's *SuccessNavigator*™ assessment as part of a holistic course placement solution, tying the findings of our research to institutional practice. We will discuss how the *SuccessNavigator* assessment indicates when a student should be accelerated to a higher-level course, and how this information can be integrated into the placement decision process.
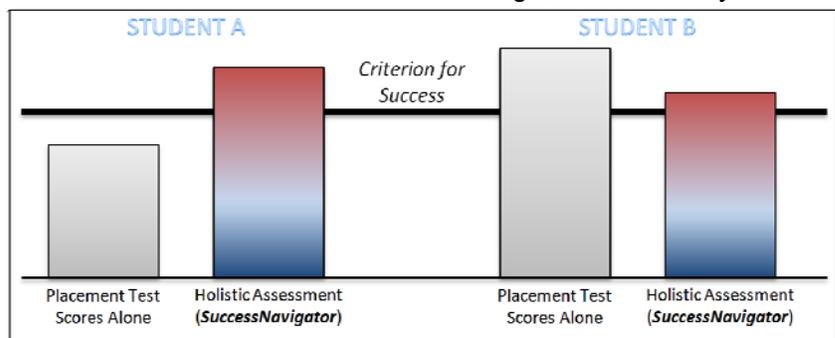
Holistic Assessment in Action

Students' cognitive ability, as measured by traditional placement (e.g., COMPASS, Accuplacer) or admissions (e.g., SAT®, ACT®) tests is just one part of their success. Considering high school GPA adds additional information, but here we still miss a great deal of information about students' likelihood for success (Markle & Robbins, 2013b). As we've discussed, a growing body of research, both at ETS and elsewhere, has shown the importance of students' psychosocial skills. Here, we further illustrate the point through hypothetical student examples.

Consider the two students portrayed in the figure to the right — Student A and Student B. Student A takes a placement test at her institution and falls just below the cut score to enter college-level courses. However, what the placement test didn't assess was Student A's tendency to organize her work effectively and to show up to class every day, her drive and commitment to succeed in college, and her ability to access resources when needed. Had we used a holistic approach to assessing Student A, we would have known that, had she been placed in a college-level course, she likely would have succeeded, even when her placement test score might not have suggested as much.

Similarly, Student B's path might not be what we expect when using only traditional placement tests. Student B scores quite high on the placement test, but this doesn't reveal what an assessment of psychosocial skills would — namely that Student B seldom participates in class, he gets very stressed when his assignments pile up, and he hasn't made any connections on campus that might promote more adaptive

strategies. Thus, while Student B is still likely to succeed in his college-level course, with the proper support he could receive an A rather than a B or C, and would be in better position to do well in his future classes.

Many have criticized current methods of placement that focus on one test of cognitive ability, not because existing tests are inappropriate, but because they simply represent only one of the many factors that influence student success (e.g., Boylan, 2009; Burdman, 2012; Conley, 2007; Levine-Brown, Bonham, Saxon, & Boylan, 2008). The *SuccessNavigator* assessment helps advisors, faculty, and staff to understand more of the factors that influence student success.

Students A and B are exemplars of "under-placement" and "over-placement," respectively. Using data from our national field trial, which assessed more than 5,000 students from 9 colleges and universities from across the country, we replicated a recent study conducted by the Community College Research Council (Scott-Clayton, 2012). We used an expanded set of predictors — test scores, high school GPA, and the *SuccessNavigator* scores — to more accurately estimate students' likelihood of succeeding in college-level courses (see Markle et al., 2013 for a further discussion of this study). We first used this holistic approach to model success based on students placed into college-level courses. We then looked at students placed into developmental courses, and applied the college-level model of success to estimate their likely grade in that college course.

Table 1: *Over and under-placement using a holistic model of success, including the SuccessNavigator assessment.*

Actual course grade		Predicted Grade in College-Course				
		Math			**English**	
		Pass	Fail		Pass	Fail
College-Level	Pass	769	32		1169	12
	Fail	252	37		223	5
Developmental	Pass	377	51		608	8
	Fail	146	32		149	2

Passing refers to a grade of C or better, while failing refers to a grade of D or worse. In institutions where multiple developmental courses were offered, only the highest remedial course was considered.

Students who were placed into the developmental course but were likely to have succeeded in the college-level course (predicted grade of C or higher) are considered "under-placed." These are students for whom course acceleration seems a promising path. Conversely, those students who were placed into the college-level course, were predicted to fail (i.e., grade of D or lower), and did so are considered "over-placed." Had these students been identified beforehand, additional supports could have been provided to them to perhaps mediate their risk.

As Table 1 shows, relatively few students — 3.4% (37 out of 1090) in math and 0.4% (5 out of 1409) in English — were over-placed. However, a high percentage of students — 62% (377 out of 606) in math and 79% (608 out of 767) of students in English — were under-placed. These data suggest that, when we consider a wide range of data, including test scores, high school GPA, and psychosocial skills, course acceleration holds promise in shortening the path to a degree for many students in a way that promotes their success.

The Course Acceleration Index
The *SuccessNavigator* assessment provides two *Course Acceleration Indices* — one in math and one in English — that are designed to work with existing tests to make decisions at all levels of placement. Appearing on the Advisor Score Report, the Course Acceleration indices signify whether a student is likely to succeed if accelerated into the next level ("Yes") or if a student might require additional support services in order to be accelerated ("Caution"). Note that no student is *not* recommended, given the research suggesting the effectiveness of course acceleration in improving student success.

By pairing the *SuccessNavigator* assessment's course acceleration recommendations with existing placement tests, decisions can be improved across the course placement spectrum. As an example, consider the hypothetical placement model shown in Table 2 below. Here, an institution has three levels of coursework, and uses a placement test with scores ranging from 0 to 100 to make placement decisions. In their traditional placement model, a score of 80 is required to place into the College-Level course, while students with scores between 41–80 place into the first level of developmental education (the "High Developmental course"), and students with scores at or below 40 are placed into the lower level of remediation (the "Low Developmental course").

Table 2: *Example Course Placement Decision Guide.*

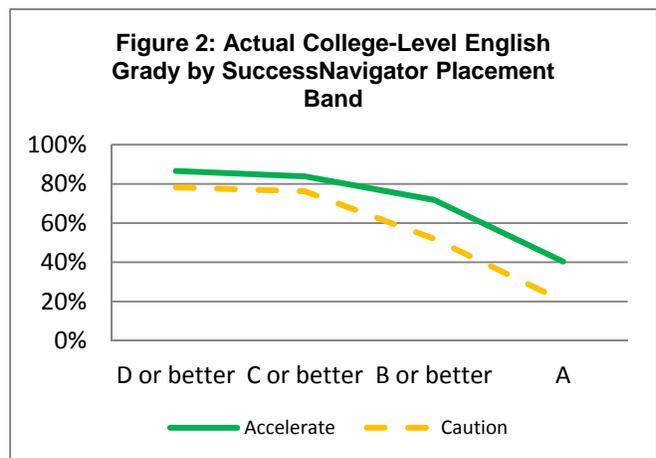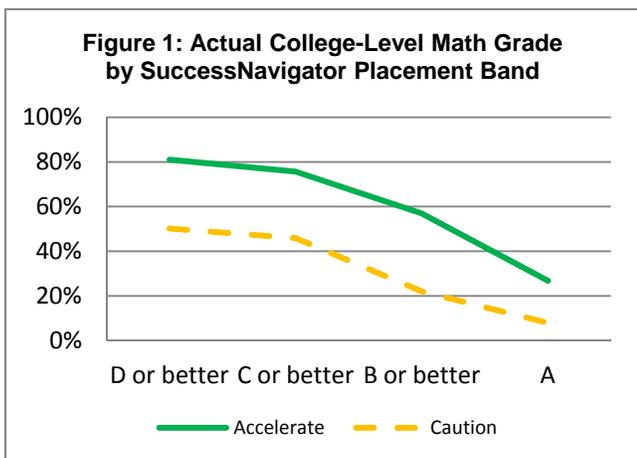| Placement Test Score	*SuccessNavigator* Course Acceleration Indicator	
	Yellow – Caution	*Green - Accelerate*
0 - 30	Low Developmental Course	Low Developmental Course
31–40	*Low Developmental Course**	**High Developmental Course**
41-70	High Developmental Course	High Developmental Course
71-80	*High Developmental Course**	*College-Level Course*
Above 80	College-Level Course	College-Level Course

In using the *SuccessNavigator* assessment to improve course placement, this institution has created a "decision zone" around each cut score. Only students within this band are eligible for acceleration. Determining the range for this decision zone can be done in several ways, such as taking a top portion of students in a score band (e.g., the top 20% of students) or by considering the measurement properties of the placement test (e.g., within one standard error of the cut score).

In Table 2, the institution has created a decision zone of 10 points below each cut score. Consider a student who scores a 76 on the placement exam. An advisor making a placement decision about this student would first identify that the student has fallen within the decision zone between the High-Developmental course and the College-Level course. Next, the advisor would consult the *SuccessNavigator* Course Acceleration indicator.

If the *SuccessNavigator* Advisor Report indicates "Yes" for acceleration in that subject (i.e., math or English), this signifies that the student has a balance of high school GPA and psychosocial skills that would suggest likely success, and should thus be accelerated to the College-Level course. If the Advisor Report contains a "Caution" indicator, then the student can still be accelerated, but the student may require additional resources to succeed, such as tutoring, additional advising, or supplemental instruction.

Effectiveness of the Course Acceleration Index

The Math and English Course Acceleration Indices were developed using data from the *SuccessNavigator* national field trial, conducted at 2- and 4-year institutions across the United States. This study administered the *SuccessNavigator* assessment to students as they began college and then tracked their success in first-semester courses. In building the Course Acceleration Indices, we began by understanding the cognitive ability and psychosocial factors needed to succeed in college-level math and English. As with Academic and Retention Success, we were able to develop an index that significantly predicts students'

Figure 1: Actual College-Level Math Grade by SuccessNavigator Placement Band

Figure 2: Actual College-Level English Grady by SuccessNavigator Placement Band

course grades (cf. Markle, et al., 2013). Figures 1 and 2 below show that students in college-level courses in the green, or "Accelerate," score band are likely to do well, with a 57% chance of receiving a B or better in math and an 72% chance of doing so in English. Conversely, students in the yellow, or "Caution," score band have only a 22% and 52% probability, respectively, of getting a B or better in math and English.

It is important to emphasize that these indices do not take into account students' placement test scores. Again, this is because the Course Acceleration Indices are designed to be used in concert with existing placement tests across multiple levels of a subject. If placement tests were used as part of this index, then students with lower test scores would inherently be less likely to be accelerated. Moreover, considering that these indices are composed only of high school GPA and *SuccessNavigator* scores — that is, they do not include any cognitive test scores, such as placement tests — the predictive accuracy of these scores becomes even more impressive.

Acceleration with Support

Although the Course Placement Indices reported with the *SuccessNavigator* assessment are generally designed to promote course acceleration, a practice which previous research has shown to be beneficial to student success (see Markle & Robbins, 2013a, for elaboration), it is important to consider the proper supports for any student, regardless of where he or she is placed in the spectrum of the curriculum. Even though a student's high school GPA and psychosocial skills suggest that he is likely to succeed in a higher-level course, his placement test scores might indicate that there may be some academic areas in which he will struggle. Thus, institutions must be ready to provide the proper curricular and co-curricular supports to promote success whenever possible.

Conversely, when a student's *SuccessNavigator* index does not recommend acceleration, this indicates a need for that student to develop certain psychosocial skills in order to succeed. Given the wealth of evidence in support of acceleration, this student may even do well if placed into a course higher than his placement test scores would suggest. However, as the yellow "Caution" recommendation indicates, this student will likely require support regardless of the placement decision.

Fortunately, for students with both high and low probabilities of success, the *SuccessNavigator* assessment provides several tools for connecting students with activities and resources that can supplement strengths or develop areas that need remediation. In a subsequent Research Brief, we will discuss the psychosocial scores that *SuccessNavigator* provides and how they can inform the interactions that take place with a student. Additionally, we will review the *Resource Library,* which provides support materials for both the student and the advisor. These materials are aligned to *SuccessNavigator* scores and can be tailored to an individual student's profile of skills and abilities. Where the *SuccessNavigator* score reports provide the "what" and the "so what" regarding students' psychosocial skills, the Resource Library provides the "now what" for students as well as those working with them.

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