Supporting Statewide Academic Success through Best Practices

The Washington Student Achievement Council contracted with the authors to write this research brief on college- and career-readiness strategies for students scoring below standard on the Smarter Balanced tests.

Authors

Teena P. McDonald, Ed.D.
Shannon M. Calderone, Ph.D.
Nikolas Bergman, M.Ed.
John L. Boyd, M.Ed.
Washington State University

Acknowledgements

Table of Contents

Introduction

This research report focuses upon four critical questions currently facing the state of Washington:

- Who are Washington's lowest achieving students[1]?
- How can we most effectively ensure they are able to graduate "college and career ready"?
- Third, what does current research tell us about what key stakeholders, from the statehouse to the classroom, can do to establish college ready learning environments that will support postsecondary pathways for those scoring below college and career readiness state standards on the recently adopted Smarter Better Assessment?
- And finally, what are the best practices that are known to improve college and career readiness for students at various points along the educational pipeline, and particularly for low achievers?

To answer these questions, we turn to existing research on the topic of college and career readiness, synthesizing current state-of-the-art knowledge that examines: (1) policy-based initiatives intended to support greater alignment between the state's K-12 and postsecondary institutions; (2) district level coordination that seeks to improve readiness and achievement outcomes for students; and (3) school based practices that are intended to build the critical skills and habits of both mind and heart necessary for a multitude of postsecondary pathways for the state's high school graduates. We also call upon the work of Perna & Thomas (2006) as a guiding framework for understanding the nested and interlocking sources of influence that ultimately shape college and career readiness, and by extension, student success. By analyzing the college and career readiness problem along dimensions of policy, school, and family contexts, this framework offers a far more concise way in which to isolate the potential challenges as well as identify the potential solutions to addressing college and career readiness for low-achieving students within the state.

We begin our report by first examining how college readiness and student success have been conceptualized within the research literature. We then look at Washington's adoption of the Common Core State Standards and recent rollout of the state's Smarter Balanced Assessment (SBA) as a core feature of the state's college readiness plan. From there, we present a composite of low-achievers both nationally and within the state of Washington in order to offer a more targeted understanding of current best practices in supporting these populations.

Washington Student Achievement Council

WSAC provides strategic planning, administrative oversight and advocacy to support increased student success and higher levels of educational attainment in Washington.

---

[1] For purposes of this report, low-achievers are understood as students who have scored a Level 1 or 2 on Washington State's Smarter Balanced Assessment.

The nine-member Council includes five citizen members, one of whom is a current student, and one representative from each of Washington's four major educational sectors. The Council proposes improvements and innovations to meet the evolving needs of students, employers and the educational community. In recognition of the economic, social and civic benefits of public education, the council advocates for increased financial support and civic commitment to ensure a thriving Washington. This report is in keeping with the state's dual commitments to college readiness and to encouraging greater success for students within the state's P-20 system.

Conceptualizing College Readiness & Student Success

College readiness remains one of the most pressing educational policy concerns of the past decade. With national dropout rates holding at roughly 7% (NCES, 2015) and seemingly intractable achievement gap disparities across categories of race and ethnicity (NAEP, 2014), it's no wonder that addressing the issues related to academic preparation and P-20 systems alignment has made college readiness a national imperative.

This is also evidenced by college remediation rates reported at more than 50% for incoming community college students and 20% for four-year enrollees (Complete College America, 2012), and a college retention rate of roughly 59% (NCES, 2015).

What is college readiness? According to Conley (2012) readiness represents a complex mix of individual-level motivation, interest, aspiration, and skills development. The degree to which someone is college ready is largely dependent upon their response to what Conley refers to as "The Four Keys to College Readiness". These include:

- Key Cognitive Strategies: This dimension speaks to the habits of mind that are necessary for college success. These include such things as critical thinking, problem solving, the formulation of hypotheses, and the ability to not only be concise in the execution of work projects, but to do so in a logical manner. Another dimension that perhaps could be added here, though outside Conley's former framework, is the relevance of digital literacies to the range of cognitive strategies required to support content and other forms of formal (and informal) learning (Relles & Tierney, 2013).
- Key Content Knowledge: The capacity for and mastery of content knowledge is what many tend to think of when they think of college readiness. While it certainly is a critical feature of college readiness, it represents but one dimension of Conley's readiness framework. Accordingly, content knowledge is understood to be the "big ideas" or the fundamental building blocks that serve as the foundation for further continued learning, whether it be higher order thinking or practical/vocational learning.
- Key Learning Skills & Techniques: Time management, goal setting, self-efficacy all serve as the scaffolding of college readiness; the habits of the heart that serve to inspire and motivate. Readiness also requires technical skills like time management, memorization, and more recently, technological proficiencies to support and sustain the cognitive features of learning.
- Key Transition Knowledge and Skills: These represent what's best described as the affective features of college readiness; the cultural, normative elements of learning that

guides *what* we should learn and *how* we should learn it. This form of knowledge and skills is not necessarily classroom taught; it can be knowledge that is transmitted in formal or informal ways.
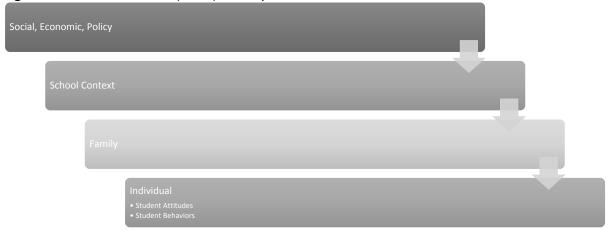
Importantly, the key skills outlined in Conley's framework are not skills and assets of relevance only to those who are college-bound. Rather, these dimensions of skills, knowledge, and affective traits are fundamental to any postsecondary pathway – academic or vocational. Indeed, an ongoing thread within the college readiness literature has highlighted the need for similar levels of rigor for those on either the college or vocational trajectory. Rosenbaum (2002), Rosenbaum, Stephan and Rosenbaum (2010), and Colyar (2010) have offered compelling arguments against the "college for all" mandates, suggesting that in doing so; we overlook the countless many who pursue a vocational pathway instead. Likewise, vocational pathways have often been viewed as an option for those students who fall off of the college track rather than an equally rigorous academic option for students. Academic and vocational knowledge, they argue, have a great many overlapping features with our traditional understanding of what is required of those who have as their end goal, a college degree. Indeed Rose (2005), echoes this sentiment in his analysis of the forms of intelligences required of blue-collar work. He argues that the range of skills, habits of thought and mind required of blue-collar work operate in direct contradiction to what he refers to as longstanding historical biases against the intellectual labor involved in vocational learning (pg. XX). Based upon these arguments, our subsequent discussions on college and career readiness should be best understood as one that extends to career readiness as well. This is not only consistent with what the extant research literature tells us, but serves as recognition of the diverse interests of Washington high school graduates and the state's ongoing commitment to ensuring academic success for all students regardless of their chosen postsecondary pathways.

While college and career readiness speaks to a confluence of cognitive and affective traits en route to a chosen postsecondary pathway, it represents just one among many lifelong pursuits. Student success is a concept often confounded with achievement and college readiness, and in many ways, rightly so. Perna & Thomas (2006) speak of student success as a progressive series of steps that are ultimately linked to our understanding of what a successful student should look like. College readiness is therefore one moment in an individual history of a student. Perna & Thomas go on to identify what they refer to as four critical "transition points" fundamental to such success and to the underlying "tasks" that make up these key points in the student success trajectory. They include the following:

1. College Readiness: Educational aspirations, academic preparation.
2. College Enrollment: College access, college choice.
3. College Achievement: Academic performance, transfer, persistence.
4. Post-college Attainment: Post-BA enrollment, income, educational attainment.

Student success should therefore be understood as a fundamentally longitudinal process that is ultimately shaped by multiple, interlocking layers of context, which serve to influence an individual's success pathway.

Figure A: Perna & Thomas (2006) Conceptual Model of Student Success

Each layer or dimension within the Perna & Thomas model builds off of one another, yet also intersects in non-linear fashion such that policy, for example, could have an influential effect over family and family context and similarly, school context could have a direct impact upon individual students. What it suggests is that school success is largely a product of multiple influences shaping individual decision-making, which in turn mediates the degree to which student success is achieved. Likewise, we can certainly see how the quality of school contexts may also fundamentally shape students' chances for success. In looking at the problem of college and career readiness for low-achievers, we utilize Perna & Thomas' model as a framework in charting the challenges and potential solutions to rigorous preparation for the state's lowest-achievers.

Current College and Career Readiness Efforts in Washington State

Washington State's adoption of the Common Core standards in 2009 assured that it, along with the dozens of other participating states, four US territories, the Department of Defense Education Activity (DoDEA) and the District of Columbia would be required to examine their college and career readiness practices as never before. In the case of Washington, this included a statewide effort to reconcile the preexisting state standards with the new standards mandated through CCSS, build capacity by way of improved coordination between the Office of Superintendent of Public Instruction (OSPI) and existing leadership within Washington's nine Educational Service Districts (ESD) as well as improved alignment between K-12 performance standards in ELA and Mathematics to college entry requirements.

To this end, the Smarter Balanced Assessment (SBA), a complementary assessment program to the state's CCSS efforts, was introduced statewide to measure student achievement against key performance benchmarks as well as to serve as an indicator for individual student academic deficiencies to avoid unanticipated remediation roadblocks once enrolled at a college or university. SBA results were also adopted by forty-nine postsecondary institutions within the state of Washington as an indicator of college readiness that would allow incoming students to avoid remediation and enroll directly into credit bearing college level English or math courses. All six public baccalaureate universities, the state's community and technical colleges, as well as

nine private, independent institutions have thus committed to greater seamlessness between the state's K-12 and postsecondary sectors[2] (OSPI, 2015).

Two of the most recent of these initiatives is WSAC's Improving Student Learning at Scale (ISLS) Collaborative. Established with funding from the National Governor's Association, ISLS has played a key role in coordinating implementation of the state's new learning standards and the Smarter Balanced Assessment (SBA). ISLS also facilitated communication and planning statewide between state agencies, K-12 educational partners, government officials, and postsecondary institutions. Likewise, there is the Core to College project, which represents a collaboration between all major Washington education agencies: State Board for Community and Technical Colleges (SBCTC), the Washington Student Achievement Council (WSAC), the Council of Presidents, and Office of Superintendent of Public Instruction (OSPI). Through these combined efforts, the Core to College project has sought to calibrate student readiness for college level coursework according to the Common Core State Standards (CCSS)[3].

By calibrating student SBA performance levels with college and career readiness benchmarks starting in grade 8, school professionals, and most importantly students and their families, have a far clearer picture as to whether they are at college ready level as well as the necessary steps to meeting state readiness benchmarks through Grade 11. In collaboration with the Washington State Board of Education, SBA results have also been calibrated with the High School and Beyond Plan (HSBP), a postsecondary plan of action currently offered to all Washington State high school students as a helpful measure of the degree to which they are college and career ready. These close linkages between the SBA and High School and Beyond Plan provide opportunities for students and their families to have: (1) ongoing and reliable measures of their college readiness in core

---

Smarter Balanced Assessment College Ready

- **Scoring Level 3 or 4:** Students are prepared and on track for college. Students should be encouraged to enroll in dual credit or the next most rigorous advanced course offered by their high school.
- **Level 2:** Students are not quite on track for college. Students should be encouraged to enroll in a Bridge to College course; or another senior year course in math or English Language Arts designed to give students an intense, year-long learning experience that leads to college readiness.
- **Level 1:** Students are not yet on track for college. They will need additional, personalized support in high school do develop their postsecondary pathway. Students may need to take pre-college (remedial) courses when they enter college.

WASC website: http://www.wsac.wa.gov/college-readiness

---

[2] For a complete listing of Washington state postsecondary institutions accepting Smarter Balanced Assessment scores, visit: http://www.smarterbalanced.org/higher-education/

[3] For more information on the Core to College Project, please visit: https://c2cwa.wordpress.com/about/

content areas; (2) customizing of their High School and Beyond Plan in accordance with their SBA-identified preparatory level, and (3) greater overall knowledge about important next steps students will face in moving towards their chosen postsecondary or career pathway.

For those students who have underperformed on the SBA, SBA/HSBP alignment serves a number of functions. First, it presents a set of consistent and reliable measures such that those who test at Level 1 are able to identify and address their content deficiencies. Second, the customizable nature of the HSBP offers a progressive set of options by which students and their families can proactively determine what is "possible" in terms of postsecondary options. Finally, by making known what is possible, the SBA/HSBP alignment effort encourages the formation of aspirations among low achievers through proactive planning, enhanced accessibility to key postsecondary information, and provides school practitioners with meaningful student performance data leading to more timely interventions.

Who is Underperforming on the Smarter Balanced Assessment?

The challenge of college readiness is an admittedly challenging one. Educational systems are highly contested, complex social spaces that can be resistant to the most well-conceived reform efforts. Current statistics on student academic readiness on both a national scale as well as within the state certainly bears this out. In their annual report, *The Condition of College Readiness*, ACT (2013) indicates that 87% of all high school students expressed a desire to attend some form of postsecondary education, while 71% of students actually enrolled immediately following graduation. By comparison, an even larger proportion of low-income students (95%) expressed college-going aspirations, yet only 59 percent of those students went on to matriculate immediately after high school (ACT, 2013). This disconnect between aspiration and reality for low-income students may be largely explained by underperformance on key college readiness benchmarks. As Table 1 indicates, there are substantial differences in low-income performance across core subject matter when compared to the universe of ACT test-takers. Measures indicate double-digit differences between SES across all four subject domains, resulting in an overall deficit of -15% for low-income test-takers.

Table 1: Percentage of 2013 HS Graduates Meeting Key College Readiness Benchmarks by Socioeconomic Status (2013)

ACT Test Taking Populations	English	Reading	Mathematics	Science	All Four Subjects
Low-Income Students	45%	27%	24%	18%	11%
All Students	64%	44%	44%	36%	26%
Net Diff +/-	-19%	-17%	-20%	-18%	-15%

(ACT, 2013)

When examining the percentages of low-income students meeting subject benchmarks over the extended period of 2009-2013, we see marginal growth in some content areas along with corresponding depreciation in others. Table 2 offers a summary of low-income college

Table 2: Percentage of Low-SES HS Graduates Meeting Key College Readiness Benchmarks (2009-2013)

ACT Test Taking Populations	English	Reading	Mathematics	Science	All Four Subjects

2009	48%	34%	22%	13%	9%
2013	45%	27%	24%	18%	11%
Net Diff +/-	-3%	-7%	+2%	+5%	+2%

(ACT, 2013)

readiness measures over the three year period. Based upon these numbers, we see notable improvement in both math and sciences, along with some evidence of a depreciation in English (-3%) and reading (-7%) over this period. Examination of these same college readiness results by race and ethnicity indicate disparities in rates of readiness for African American students (5% passage rate), American Indian (10%), and Latin@ (14%).

Table 3: Percentage of HS Graduates Meeting Key ACT College Readiness Benchmarks By Race and Ethnicity (2013)

Race/Ethnicity	English	Reading	Math	Science	All Four Subjects
African American	34%	16%	14%	10%	5%
American Indian	41%	26%	22%	18%	10%
Asian	74%	55%	71%	53%	43%
Latin@	48%	29%	30%	21%	14%
Pacific Islander	55%	33%	37%	27%	19%
White	75%	54%	53%	45%	33%

(ACT, 2013)

In particular, we see that African American students show the lowest rates of college readiness across all four core subjects, with only 5% of test-takers demonstrating qualifying levels of readiness. American Indian (10%), Latin@ (14%), and Pacific Islander (19%) students also lag behind reported rates well below those of Asian (43%) and White students (33%). In the case of African-American students, this readiness gap is consistent with well-documented disparities in achievement at earlier points in the educational pipeline, and especially in grades 3, 4, and 8 mathematics and reading scores (NAEP, 2009).

What these national college and career readiness numbers tell us is that the achievement deficits experienced early on in the pipeline appear to also be reflected in later performance deficits in the context of college and career readiness. By extension, it appears that the effects of coordinated college and career readiness efforts across the participating Common Core states has yet to make up for prior achievement disparities among key populations of historically disadvantaged students.

Washington State College and career readiness Profile: Preliminary Results of 2015 Smarter Balanced Assessment

As Washington grapples with the implementation of the Common Core State Standards (CCSS) and with the introduction of the Smarter Balanced Assessment system, problems of underperforming student groups have become even more pronounced, as seen by data generated from Washington State's first administration of the SBA in 2015. The SBA represents a progressive, computer adapted assessment for grades 3-8 and 11 that aligns with the

common core standards adopted by the state in 2009. SBA performance throughout much of the K-12 pipeline is calibrated according to a student's degree of college-level and career-ready preparation.

SBA 2015 assessment data seem to reflect similar patterns to the ACT 2013 national data with some slight variations. Table 4 offers a summary of Level 1 versus 4 scorers for both the English/Language Arts and Mathematics exams aggregated across Grades 6-8; what the research literature has determined to be the critical point in the pathway towards college (Grades 6-8) (see Kao & Tienda, 1998; Hossler, Schmit, & Vesper, 1999; McCarron & Inkelas, 2006 among others)[4]. As illustrated in Table 4, we see near inverse relationships in Level 1 versus Level 4 ELA exam performance for men versus women, low versus non low-income students, and Asian & Asian/Pacific Islander versus Black African American, American Indian/Alaskan Native, and Hispanic/Latino populations. These inverse relationships between Level 1 and 4 performance seem to also hold in the case of Grade 6-8 SBA Mathematics exam performance.

Table 4: Comparison of Grade 6-8 SBA Level 1 & 4 Scorers

Grades 6-8	ELA SBA 1	ELA SBA 4	Net -/+	Math SBA 1	Math SBA 4	Net +/-
Men	23.1%	15.2%	-8.0%	26.5%	24.1%	-2.4%
Women	13.5%	23.5%	+10.0%	22.2%	24.6%	+2.4%
Socioeconomic Status						
Low-Income	29.3%	8.4%	-20.9%	37.2%	11.5%	-25.7%
Non Low-Income	9.4%	28.2%	+18.7%	13.8%	34.9%	+21.2%
Race & Ethnicity						
American Indian / Alaskan Native	39.1%	6.2%	-32.9%	44.9%	7.7%	-37.2%
Asian	8.0%	37.0%	+29.0%	10.0%	50.0%	+40.0%
Asian/Pacific Islander	11.0%	33.0%	+22.0%	14.0%	45.0%	+31.0%
Black/African American	32.2%	7.9%	-24.3%	41.7%	9.3%	-32.4%
Native Hawaiian/ Pacific Islander	32.0%	7.0%	-25.0%	42.0%	9.0%	-33.0%
Hispanic/Latino	30.3%	7.9%	-22.4%	39.3%	10.6%	-28.8%
White	13.6%	22.4%	+8.7%	18.7%	27.8%	+9.1%
Two or More Races	16.6%	20.8%	+4.2%	22.3%	25.7%	+3.4%
Other						
Migrant	41.6%	3.0%	-38.6%	50.1%	5.8%	-44.2%
Limited English	59.0%	0.5%	-58.5%	65.6%	3.0%	-62.5%
Special Education	59.0%	2.1%	-56.9%	68.1%	3.4%	-64.7%

---

[4] It should be noted that the 2015 administration of the Grade 11 SBA was not required for high school graduation. For an expanded summary of Grade 6-8 and Grade 11 SBA performance for 2014-15, please see Appendix A & B.

Non-Special Education	12.5%	21.6%	+9.0%	18.7%	27.8%	+9.0%

From our analysis of ELA and Mathematics Grade 11 SBA results for 2015, a similar profile emerges. There remain clear and distinct delineations between Level 1 and Level 4 test-takers based upon income status, race/ethnicity, immigrant, language status, and special education status. For example, low-income test-takers are largely overrepresented among Level 1 scorers for both English Language Arts (18.5%) as well as Math (31.6%). Similarly, we see that higher percentages of American Indian (22.1% and 38.1%) and African-American (20.2% and 29.5%) 11th graders scored at a Level 1 in their ELA/Math exams, compared to their Asian counterparts (8.0% and 11.0%). See Appendix B for a complete breakdown of Grade 11 SBA results for the 2014-15 school year.

Taken together, what 2015 SBA scoring results tell us is that, within the state of Washington socioeconomics, race/ethnicity, ELL, first generation, and special education status are all demarcations of the degree to which a child is likely to be college ready. These data reaffirm earlier discrepancies identified through previous Washington state assessments and makes closing the achievement gap for these subgroups an even more pressing concern for practitioners and policymakers alike.

While the SBA 2015 results seem to provide a fairly specific profile of Washington state low achievers, as defined by performance on the Smarter Balanced assessment, it also speaks to the need for the state to be very intentional in its efforts to address the needs of low-income, first-generation, ELL, special needs, and students of color. When we consider, for example, that one in three US residents is expected to identify as Latin@ by the year 2020 and that people of color will exceed white majority numbers by 2060, it is critical that Washington statewide educational policy attend to these currently underachieving populations (Census, 2014). How we address the low-achievement/college and career readiness challenge has tremendous implications for the state's ability to meet the laudable educational goals it hopes to achieve by ensuring all adults ages 25-44 in Washington will have a high school diploma or equivalent and at least 70% of adults ages 25-44 in Washington will have a postsecondary credential (WSAC, 2015).

Supporting Students: Identified Best Practices

The second half of this report offers a distillation of current research on college and career readiness as well as identification of best practices that are targeted to support students who are achieving below state standards. In accordance with the guiding framework provided by Perna and Thomas (2006), we address these suggested best practices from the perspective of policy, districts, schools, as well as targeted interventions for specific populations of students.

Statewide Policy Efforts Targeting College Readiness for Students Who are Achieving Below State Standards

A 2010 brief by the National Center for Public Policy and Higher Education identified key challenges that states face in addressing college-readiness lapses among their student

populations. The first of these is school to college alignment. Without the ability to coordinate more effectively across sectors, K-12 and postsecondary institutions are essentially limited in finding effective strategies to support all students, much less the lowest achievers. Furthermore, the college preparatory curriculum is not always effective in encouraging the necessary skills and talents required of college-goers. Therefore, K-12 schools with college preparatory tracks fail to recognize the shortcomings of their graduates in this regard. The National Center for Public Policy and Higher Education (NCPPHE) (2010) reported that, system wide, there are limited incentives that recognize and reward districts and schools that are successful in their attempts to provide students with the skills needed to be successful as they transition to postsecondary pathways. Other challenges reported by NCPPHE include:

Alignment of Coursework and Accompanying Assessments

The state-driven adoption of the Common Core Standards represents one of the most significant national policy responses to college readiness nationwide. While the statistical data collected thus far speak to a tempered effect on college readiness, there are promising examples within the state of efforts to increase alignment across the two sectors.

State Finance

Research seems to suggest that current state financial systems reinforce greater segmentation across the K-12 and postsecondary sectors (Callan, et.al. 2006). Recommendations suggest that we reconsider how state financial incentives are built to ensure greater alignment between the K-12 and postsecondary systems. These incentives could include legislative financial packages for continuing outreach with colleges and high schools to align the Common Core curriculum, a greater voice at the policy table regarding funding for collaboration between K-12 and higher education groups, and ways to build in opportunities for flexibility in resource allocation and how they can be deployed by schools and districts.

Statewide data systems

Statewide data systems intended to track students longitudinally is desperately needed if we are to determine how to best support students. Greater management of data systems is a critical feature in (1) measuring state success in preparing students; and (2) assessing the postsecondary pathways of students statewide. Washington State is a leader in this effort. The Revised Code of Washington 43.41.400, which became effective in 2012, spells out a comprehensive plan for building and maintaining a statewide data system. On September 2015, the Washington State Education Research and Data Center (ERDC) was one of 16 states awarded a seven million dollar grant for College & Career and Research & Evaluation. This grant allows for developing models of data sharing and use and training for educators, policy makers, and researchers.

Accountability

In a similar vein, statewide reporting on college readiness must also be established to match the longitudinal tracking that is required. Districts and schools must also be held accountable for ensuring that their students are adequately prepared to meet their postsecondary goals.

District Level Strategies for Strengthening Support for Low-Achievers

From our examination of the research literature, we have identified a number of best practices that are targeted to historically underserved populations. It has long been the practice among K-12 educational systems to think schools have completed their work when students graduate from their high schools (Conley, 2014). Barnhart (2015) did a study of Central Valley High School graduates, in Washington State, to understand students' post-secondary experiences. The district has a history of high graduation rates and higher than state average test scores. However, when looking at their five-year longitudinal data after high school, less than 30% of all students had successfully completed college or some type of postsecondary degree program. Research indicates that close collaboration between high schools and colleges can close the gap and increase retention at colleges and universities. (Ascher & Schwartz, 1989; Kisker, 2006).

Professional development for superintendents and school boards

As a former school superintendent, one of the authors recognizes the need for professional development for superintendents and school boards on the importance of developing partnerships with colleges. It is also imperative to implement some type of mandatory collaboration by high school faculty representatives and professors at local colleges who teach introductory college courses. (McDonald, 2015)

Mandatory Collaboration between Higher Education and High School on Syllabi and Rubrics.

Once overlooked documents, the high school and college syllabi should be one of the first places to look at coordinating achievement efforts (Conley, 2014). Having rudimentary course syllabi is common practice in many high schools in Washington (M. Dunn, personal communication, January 13, 2016). However, Conley (2014) recommends high school teachers should align their syllabi to Common Core standards, spending more time clearly addressing the key concepts and ideas and use a pacing guide similar to what standard college syllabi contain. Conley (2014) suggests that "detailed course syllabi with all requirements and due dates clearly spelled out" (p.79) will help students understand college pacing as well as help them organize their time. In New York City teachers and CUNY faculty members work together to design and teach courses for high school sophomores and juniors, developing academically rigorous, high-interest courses that provide not only high school credit, but also introducing students to college rigor and pacing (Meade & Hofmann, 2007).

The State Board for Community and Technical Colleges was at one time focused on this type of alignment with the Transition Mathematics Project (TMP)[5], but this alignment was not sustained over time. TMP, developed in 2004, was focused on aligning mathematics standards so students entering college would be skilled to enter college-level math courses. At the time, after the two-year project was evaluated by Washington State University's Social and Economic Sciences Research Center, they gave the following synopsis in their final report:

> *The most consistent, compelling and notable finding of this evaluation was that*
> *respondents were very positive in their remarks about the project. In particular, they*

---

[5] See: http://www.transitionmathproject.org/

appreciated the open communication across educational sectors that allowed them to find common ground. Respondents were uniform in their appreciation for project leaders providing space and time for face-to-face communication, to which they attached great value, both personally and professionally. They lauded the quality of the standards, which they view as well-conceived and relevant, and they have high expectations for their usefulness.

The Higher Education Coordinating Board for Washington State also led efforts in 2005-2007 with the College Readiness Project[6] based on work done with TMP. They developed definitions of college readiness for English and Science. As shown by these extensive projects, the Washington State Legislature has historically shown interest in full scale alignment processes by earmarking funds in their budget. It is now time to refocus efforts, in light of new standards, to again partner systematically across the State with teachers and professors to align programs, and develop a continuous cycle of alignment so that districts and higher education institutions continue to have face-to-face communication.

Understanding How to Access Academic Support Systems

Students who are most in need of help are the least likely to pursue it on their own (Conley, 2014). As colleges work to assist students, most now have academic support programs, advisors, study groups, and tutors available. However, because accessing these services requires assertive action by students, the only way Conley posits students will initiate those supports is by developing habits early. He indicates that many learners do not know when they are in over their heads and that students from

"low-income families, members of certain ethnic minority groups, and those who are first in family to pursue postsecondary educations tend to struggle in college because they do not know how to get help or they believe that accepting help indicates they aren't really college material in the first place" (p. 77).

These skills can be taught to students and should be introduced when students are studying other learning techniques like time management, study skills, test-taking, and note-taking.

School-Level Best Practices Targeting Low Achievers

As Washington grapples with the implementation of the Common Core State Standards (CCSS) and with the introduction of the Smarter Balanced Assessment system, the college aligned standards and assessments reveal performance issues early, as seen by recent test results. Conley (2014) explained that the CCSS and Smarter Balanced assessments are built on the assumption that there is a learning progression through the standards, with tests given once a year from third grade to eighth grade and then once in high school at grade 11, with the 11th grade test designed to assess the cumulative learning from the first three years of high school (p. 200). What the Washington state-level data tells us is that Native American students, African American students, Hispanic students, students in poverty, special education students, and English language learners score at greater frequency 1s or 2s on the Smarter Balanced

---

[6] See: http://www.wsac.wa.gov/sites/default/files/Tab7-combinedreportandppt.pdf

assessments. These data reaffirm earlier discrepancies identified through previous Washington state assessments and makes closing the achievement gap for students in these subgroups an even more pressing concern for practitioners and policymakers alike.

When looking at how to address low performance on the Smarter Balanced Assessment and ultimately college readiness for students who score below the statewide standard, the research is diverse and complex. The purpose of this section is to present research that has analyzed school-level practices associated with student achievement. These include work that examine the impact of teacher quality and professional development and best practices for improving student outcomes for low-achieving students.

Teacher Quality and Professional Development

Studies indicate that teacher quality is the number one factor to help close the achievement gap (Jenkins 2013; Phillips and Wong 2012; Fowler, Test, Cease-Cook, Toms, Bartholomew, & Scroggins 2014; Haager and Vaughn 2013; Boscardin 2005; Burton, Whitman, Yepes-Baraya, Cline, & Kim 2002, and Bausmith 2011). Yet often times students with the most needs have the least prepared teachers (Darden & Cavendish 2011, Duncan & Munane 2014) Further, we find that with the CCSS even experienced teachers are finding they are not equipped with the necessary knowledge and skills to teach the content required by the new standards. For example, Porter, McMaken, Hwang, and Rui Yang (2011) state that in mathematics the CCSS increase the emphasis on basic algebra and basic geometry in Grades 3 through 8, yet many teachers at these grade levels do not have the skills to teach these math concepts. Researchers (Jenkins, 2013; Phillips & Wong, 2102; Fowler et.al. 2014; Haager & Vaughn, 2013; Boscardin, 2005; Burton et.al.,2002; and Bausmith, 2011) call for policy and practice around providing quality, core knowledge, professional development for teachers to be effective with the new CCSS. Jenkins (2013) summarized quality professional development with six main features:

- Content focused- what teachers learn that can improve instructional practice.
- Active learning – engagement in interactive activities that apply to instructional practice;
- Duration – enough time needs to be spent on the activity.
- Collective participation – participation as teams; and coherence – connection and continuity between existing or previous knowledge and new knowledge or teacher learning (p.73).
- The Stanford Center for Opportunity Policy in Education (2009) found that effective professional development programs were characterized by an average of 49 hours of training.

Researchers Garet, Porter, Desimone, Birman, and SukYoon cite Hiebert's (1999) definition of effective professional development:

> *Research on teacher learning shows that fruitful opportunities to learn new teaching methods share several core features: (a) ongoing (measured in years) collaboration of teachers for purposes of planning with (b) the explicit goal of improving students' achievement of clear learning goals, (c) anchored by attention to students' thinking, the curriculum, and pedagogy, with (d) access to alternative ideas and methods and*

>   *opportunities to observe these in action and to reflect on the reasons for their effectiveness... (1999, p.15)*

Hours of training is defined as the total number of contact hours spent in the professional development activity in a 1-year period. Time span and contact hours have a substantial positive influence on opportunities for active learning. If it is sustained over time and has a substantial amount of hours it is likely to be of higher quality (Garet, et.al, 2001).

The Stanford Center for Opportunity Policy in Education (2009) found that effective professional development programs were characterized by an average of 49 hours of training.

Findings on Best Practices for Targeted Populations of Low-Achievers

Research themes on best practices that emerged include strategies for implementing the Common Core State Standards, helping specific sub-populations of students gain more success and college readiness, ways to build college and career readiness into schools, and specific interventions for 11th grade Level 1 students.

Table 5. Strategies to Assist Struggling Learners to Become College and Career Ready and Grade Implementation Schedule.

Theme & Strategy	Implementation Schedule			
Theme 1: CCSS	K-2nd Grades	3rd to 5th Grades	6th to 8th Grades	9th to 12 Grades
1. High quality explicit instruction in foundational skills as well as a. Reading intervention beyond the point at which skills occur in the CCSS. (Haager & Vaughn, 2013)	X	X		
2. Provide algebra and geometry core knowledge training to teachers (Conley, 2014)		X	X	
3. Provide adequate supports for beginning algebra students (McKibbon, 2008)			X	
4. More specific writing instruction, e.g. handwriting, spelling, vocabulary (Haager & Vaughn, 2013)		X	X	
5. Develop a plan for integrating writing instruction into all content areas (Conley, 2014)	X	X	X	X
6. Develop "deeper learning classrooms" (Conley, 2014, p.120)	X	X	X	X
Theme 2: Working with Specific Sub-Populations				

Theme & Strategy	Implementation Schedule			
7. Exposure to specialized academic vocabulary from an early age (Conley, 2014, p. 190)	X	X	X	X
8. Consider "Mastery Based" math instruction (Ward, Jepson, Jones, & Littlebear, 2014)			X	X
9. 9th grade "Block classes" with core instructors (Conley, 2014)			X	
10. Provide additional support in Mathematics at middle school (Conley, 2014)			X	
11. Provide lower class sizes in math and ELA with specific intervention strategies (Conley, 2014)				X
12. Expand tiered interventions to high school (Fowler, 2014)				X
Theme 3: Building College and Career Readiness (Radcliff & Bos, 2013)				

13. Create three digital stories:
  a. my positive school experience"
  b. "my future career and how to prepare for it"
  c. "how to be successful in middle school"
			X	

14. Visit university and community college campuses			X	X
15. Use a writing-marathon approach during college visits			X	X
16. Participate in academic tutoring/peer mentor study teams			X	X
17. Attend presentations by college students about attraction of college				X
18. College representatives meet with students at the school about admittance				X
19. Plan school-related goals that help prepare with college readiness				X
Theme 4: Interventions for 11th grade Level 1 students				
20. Create mandatory senior seminar class instead of test prep (Conley, 2014)				X
21. Allow competency approach to "test out" of classes to reduce class size and accelerate time to graduation (Conley, 2014, p. 242)				X

Theme & Strategy	Implementation Schedule			
22. Develop Summer Bridge Program (Suzuki,) Immersion courses (Brock, 2010)				X
23. Develop 2nd chance programs for dropouts (Tyler and Lofstrom, 2009)				X

a. Develop partnership for "High School in the College" program (Vargas, 2007).Make material meaningful and relevant to students by connecting it to their lives in some fashion and to their interests and aspirations.
    b. Lead a discussion and question students in ways that cause students to reflect on their own thinking about the subject or topic.
    c. Select or develop appropriately challenging assignments, tasks, or projects and then support students as they complete them.
    d. Help students reflect on the learning strategies and methods they are using currently and then improve their use of those strategies in the future.
    e. Organize, structure, and manage social learning situations and help students develop the ability to mediate their learning socially (p. 124-125).
				X

Theme one: Common core state standards.

Foundational Skill Building

As districts implement the Common Core State Standards there are several suggestions given by researchers to "augment" the work being done by teachers. First, Haager and Vaughn (2013) argue that the push to "cover" the standards may result in teachers glossing over foundational skill building in reading at the lower grades. They recommend high quality, explicit instruction in foundational skills as well as early reading interventions beyond the point at which skills occur in the standards. Wharton-McDonald, Pressley, and Hampston's (1998) research shared in Langer's (2001) article, explained how in classrooms where students have made unusual progress in reading and writing achievement there "was a high level of engagement in challenging literacy activities, a web of interconnections among tasks (so that writing, for example, was often related to what was being read), and skills were taught explicitly but in connection with real reading and writing activities" (p. 122)

Professional Development Specific to Common Core State Standards

Secondly, Conley (2014) presented evidence that 3rd through 8th grade teachers are not adequately equipped with core mathematical knowledge to teach the more advanced math skills that are now in the Common Core standards at the lower grade levels. He strongly recommends that districts and schools provide algebra and geometry core knowledge training to all teachers who will be teaching the Common Core math standards at those lower levels. Without doing that, mathematics instruction that needs to focus to a much greater degree on concepts and content prioritized in the standards, (Conley, 2014) will be as challenging to teachers as it is to students. Postsecondary success depends on thorough mastery of the mathematics taught in lower grades and middle school (Conley, 2014 p. 152) Bausmith and Barry (2011) urge districts to scale up professional development "in which pedagogical content knowledge is a primary focus through online videos of lessons taught by expert teachers that are indexed to the Common Core State Standards" (p. 176). One recommendation would be for the State to have a statewide subscription to the clearinghouse of National Board videos so that a large bank of videos could be available to all teachers.

Support for Algebra

Also, McKibben (2008) quotes Judith Richardson, former National Association of Secondary School Principals (NASSP) director of diversity, equity, and urban initiatives, saying "Even though the push for universal algebra seems to be based on an argument for equity, mandating all children to be enrolled in mathematics courses without adequate preparation may in fact be counterproductive"(p. 63). She explains that instead of expanding the opportunities for minority and low-income students, it may set them on a trajectory to dropping out. McKibben's (2008) frustration is that requiring students to take something they are not prepared for is setting them up for failure. In preparing students for 8th grade algebra, the admonition stated previously to train teachers in Algebra at lower levels is reiterated by McKibben. She goes on to advocate for hiring a mathematics resource teacher/coach to assist teachers and students. Although the research shows that students who take and master algebra in the 8th grade are more likely to go to college, there is no benefit if unprepared students fail. It is recommended that districts look at their failure rates in 8th grade algebra and take steps to provide adequate supports for students. One of the best predictors of who will earn a college degree are students who take a high school curriculum with math beyond basic algebra (Brock, 2010). This important milestone must be a success in middle school for students to move forward. Should districts determine to have algebra in 9th grade, there is still plenty of time to meet the college admission requirements.

Focused Writing Instruction at Middle Grades

Another important strategy highlighted through existing research is to provide more specific writing instruction in grades four through six (Haager & Vaughn, 2013). Oftentimes, teachers at these levels gloss over the fundamental skills of handwriting, spelling and vocabulary as they try to hit more content. Cutler and Graham, 2008; Gilbert and Graham, 2010; and Kiuhara, Graham, and Hawken (2009) revealed that students received little instruction in writing after

3rd grade, further explaining in grades 4-6 teachers reported teaching writing only 15 minutes per day. In order to meet the demands of the CCSS, teachers will need to help students master handwriting, spelling, keyboarding, and good vocabulary choice, which will require more time during the day spent specifically on these types of writing skills.

Integration of Skills in all Content Areas

Writing, reading, and speaking instruction need to be integrated into all types of classes, specifically science and social studies classes (Conley, 2014). He recommends that schools develop plans for integrating those key skills into as many auxiliary classes as possible, "agreeing on a series of research papers at each grade level that develop and apply the literacy skills of the Common Core outside of English language arts courses" (p. 192). By building in time for a cross section of teachers to grade and talk about student writing, those discussions around good writing can assist non content level teachers with rigorous expectations. Finally, Conley recommends students create videos as a way to demonstrate speaking skills. With the abundant technology that is now available, students can practice their speaking skills in a variety of ways.

Deeper Learning Classrooms

In addition, Conley (2014) advocates that all classrooms be transformed into "deeper learning classrooms." He posits that the first and foremost challenge for deeper learning classrooms is "having teachers who understand their subject areas well enough to engage students at deeper levels." (p. 123) By having a thorough understanding of the subject matter, teachers are able to move "off script", organizing instruction around big ideas, without having to adhere closely to a textbook teaching only facts and procedures. Conley (2014) presses for a candid examination of the depth of teacher knowledge in the subject area, and providing professional development opportunities to more deeply learn and understand the content. He recommends eight instructional techniques to facilitate deeper learning:

- Organize lessons and focus them clearly on key ideas and concepts rather than just plow through content one topic after another.
- Point out to students what is important and why.
- Make connections between what has been learned previously and what is yet to come and how what is being studied currently fits in.
- Make material meaningful and relevant to students by connecting it to their lives in some fashion and to their interests and aspirations.
- Lead a discussion and question students in ways that cause students to reflect on their own thinking about the subject or topic.
- Select or develop appropriately challenging assignments, tasks, or projects and then support students as they complete them.
- Help students reflect on the learning strategies and methods they are using currently and then improve their use of those strategies in the future.
- Organize, structure, and manage social learning situations and help students develop the ability to mediate their learning socially (p. 124-125)

Theme two: Working with students from specific sub-populations – research based interventions.

Intentional Academic Vocabulary Instruction

There is a well-documented gap in vocabulary acquisition between low and high-income students (Conley, 2014). One of the key practices recommended to close the achievement gap is to close the language gap by developing intentional sustained exposure and teaching of specialized academic vocabulary throughout students' school career. Conley suggests consulting appendix A of the Common Core State Standards for guidance on developing student vocabulary and also recommends teachers use the resource *Bringing Words to Life: Robust Vocabulary Instruction* (2013) written by Isabel Beck, Margaret McKeown, and Linda Kucan. The natural tendency of educators, knowing that much of the content in the standards is similar to what they are now teaching, is to make assumptions about how much their curriculum vocabulary will not change, when just the opposite is true. The essential verbs and nouns used in the Common Core State Standards should be taught and developed in all classes, with grade level teachers picking specific vocabulary that will be mastered by the end of the school year. Staff members should examine how courses such as art and music can contribute to vocabulary mastery as well.

Self-pacing, Individual Assistance

The Northern Cheyenne Reservation math curriculum reform efforts may shed light on a possible solution for increasing math achievement (Ward, Jepson, Jones, & Littlebear, 2014). The researchers share several challenges that American Indian students face when attempting to master math skills including instructors discouraging higher math classes, cultural resistance to math, and high levels of math anxiety. The tribal schools utilized an alternative approach known as mastery learning, which researchers defined as "structured instruction that allows students opportunities to acquire basic skills through modeling, as well as both guided and independent practice" (p. 114). The tribe received a grant that allowed funds to purchase a computer-guided instructional system that was combined with instructors providing individual assistance to students to go at their own pace through math classes. Recognizing patterns of attendance among tribal students, the district determined that self-pacing was one way that students could remain on track. Using a traditional approach of math instruction resulted in increasing disadvantages since the students had to master the content they missed along with learning new content, something that students with weaker math skills had difficulty accomplishing. Students used self-paced, computer guided approach with video tutorials, computer hints, and worked examples. This allowed them to continue to progress without continuing to be behind as in a traditional classroom. Math classes were capped at twelve students and students were given access to a learning center with tutors available. With this program, positive attitudes about math learning increased, developmental math course completion rates increased substantially, and students seemed to display greater confidence in their ability to look at problems analytically (Ward, et.al, 2014). When schools are faced with

attendance and math achievement issues, mastery learning may enable them to help students have increased ability to achieve in math.

The National Center for Academic Transformation[7] has a similar model called The Emporium Model for use at the college level. In their redesign efforts for introductory mathematics courses, students have both face to face attendance and lab hours, where they work at their own pace and instructional level in mathematics. NCAT has information and advice on how to structure effective emporium models.

Small schools, Teacher Collaboration

Palestine High School in Texas was recognized for reducing achievement gaps between student subgroups (Statewide News Service, 2010). They hired additional staff to create smaller math and science classes at the 9th grade level. They were able to have growth in consecutive 10th grade AYP tests and had 50% less discipline referrals due to smaller class sizes. They also had an extended year instruction and free summer school for any 9th grader who failed a core subject. In addition, they developed a Ninth Grade Academy at the school, a school within a school program, which resulted in continued performance gains for ninth graders, with failure rates decreasing for three consecutive years. Central Valley High School in the Spokane Valley has a similar program where a cadre of instructors teach a small block of 9th grade students in the core content areas. Those teachers meet together to plan major projects, allow discussion on struggling students, and plan instruction across the content areas (Barnhart, 2015). These promising practices are also recommended by Conley (2014). Tyler and Lofstrom (2009) go even further by recommending students enroll in a school-within-a-school: more specifically career academies where students stay with the same teachers over three to four years of high school. This model started in the 1970's and has evolved to have over 1,500 career academies nationwide. One study of career academies showed that among high-risk youth, the drop-out rates were reduced by 11 percent and 40 percent of students had enough credits to graduate in comparison to 26 percent in the control group (Tyler & Lofstrom, 2009). When figuring costs, the academy approach was only $600 more per pupil than non-academy student programs. Although this alternative may not work for all districts in the State, those who have current alternative programs may want to consider the research of Tyler and Lofstrom.

Progress Monitoring and RTI

Finally, Fowler, Test, Cease-Cook, Toms, Bartholomew, and Scroggins (2014) and State News Service (2010) advocate for multi-tiered systems of academic and behavioral supports based on the principles of response-to-intervention (RTI). Many districts have robust RTI programs at elementary and middle school levels, but have not carried those systems over to the high school level. Fowler, et.al. (2014) shares the work of the High School Tiered Interventions Initiative, which summarized case studies of tiered interventions used in eight high schools across the country. All eight schools engaged in progress monitoring using a myriad of data sources. They implemented tiered interventions focused on English/language arts and math.

---

[7] See: http://www.thencat.org/howtodoit.htm

These programs show gains in achievement for youth with disabilities as well as helping prepare all students to be college and career ready.

Theme three: Building college and career readiness

As stated earlier, college and career readiness requires students to become increasingly capable of managing their own learning and their own lives. Conley (2014) considers one of the main blocks to being ready is that students are not taking responsibility for their own learning and future goals. Washington students are required to complete a high school and beyond plan as part of their graduation requirements[8]. The plan requires students to identify a career goal, develop a plan of high school classes, and postsecondary plans. This plan is a set of written documents that does help students set goals for the future. High schools have individual jurisdiction on what the plan may contain. OSPI and the State Board of Education have given recommendations for what can be required in the plan, including:

- The student's interests and abilities, and the relationship to his/her current career goals.
- A four-year plan for courses taken during high school that is aligned to fulfill high school graduation requirements.
- Identification of exams student needs to graduate from high school and for post-secondary goals (State assessments, ACT, SAT, etc.).
- Research on postsecondary programs related to the student's goals.
- A completed resume or activity log.
- A budget for life after high school.
- Demonstration of preparedness through presentation of HSBP. (from OSPI website).

Digital Stories

Radcliff and Bos (2013) operationalized Conley's keys framework by developing a set of strategies that include college knowledge, academic behaviors, and content knowledge. Their first recommendation begins with middle school students being coached by pre-service teachers or tutors to create digital stories. These two to three minute multimedia movies combine photographs, sound, music, text, and a narrative voice (p. 137) and cover the topics of "my positive school experience," "my future career and how to prepare for it," and "how to be successful in middle school." By engaging in these digital stories, students foster an understanding that college may be important to future success, that preparation is necessary, and there is a need to set short and long term goals for success. This recommendation could be blended into any middle school class, and could be embedded into a student's high school and beyond plan.

Early Campus Visitations and Writing Marathon Approach.

Next, Radcliffe and Bos (2013), Donnell (2010) and Conley (2014) recommend that schools create a "college culture" by exposing and encouraging students to consider college by introducing information and scheduling site visits during early adolescence. This allows middle

---

[8] See: http://www.k12.wa.us/graduationrequirements/Requirement-HighSchoolBeyond.aspx

schoolers to realize and respond to the importance of being prepared and focusing on college preparation in high school. The researchers indicate that 7th grade is the optimal time to schedule campus visits and give a detailed day-long recommended schedule (p.138). During these tours, Radcliffe and Bos (2013) recommend using Louth's (2002) writing marathon approach. Students in small groups walk and explore, stopping to write about what they are experiencing. Once done, they share their writing and follow this cycle a number of times during the day.

Academic Tutoring

Another skill that lower achieving students need to have is the ability to know when and how to ask for assistance if they are struggling (Conley, 2014). It is recommended that tutoring programs for adolescents be present at least twice a week, starting in middle school. During that time, tutors help students learn how and when to ask for help and agree on a tutoring plan. By learning these basic skills early, students become more willing to ask for assistance.

College Student Presentations Starting in 9th Grade

To develop students' attraction to attend college, Radcliff and Bos (2013) recommend that all students, starting in 9th grade, attend presentations by college students where the college students tell their own stories about deciding to go to college, how to prepare for admission and gaining financial aid. As the college students complete these presentations at the students' high school every year, adolescents have opportunities to ask questions and build both their interest and understanding.

Eleven schools in Northwest Washington are partnering with Western Washington University, Whatcom Community College, and Skagit Valley College to provide mentoring opportunities to students in grades 5 through 12[9]. Their model is to have Compass 2 Campus mentors follow students through grade levels, helping to support achievement towards graduation. This 2009 pilot program was supported by Washington State House Bill 1986 and was designed to increase access to higher education by providing an opportunity for underrepresented students in Whatcom and Skagit counties. 2016 marks their 5th year of having a mentoring symposium and providing opportunities for students.

Bringing Campus to the High School

Research supports college representatives coming to high schools to help them understand application procedures and financial aid (Radcliff & Bos, 2013; Conley, 2014). At Central Valley High School (Barnhart, 2015) college representatives set up times during the school day to assist students with their applications, filling out the FAFSA, and understand the complexities of transitioning to the college level. It is recommended that these type of transition activities take place both on the school campus and during subsequent campus tours.

---

[9] See: https://wce.wwu.edu/c2c/compass-2-campus

Mentorship Programs with Built-in Goal Setting

Finally, Radcliff and Bos (2013) encourage schools to set up a mentorship program (eg. Advisory, counselors, volunteer mentors) where students set and work toward goals that prepare them for college. In their study, when students set goals between seventh and tenth grades, the students' perceptions about college became more positive after being involved in the strategies and goal setting.

In 2016, Washington State has 73 school districts involved with the national grant Gaining Early Awareness and Readiness for Undergraduate Programs (Gear-Up) program[10], focusing on underserved schools to provide mentoring programs with cohorts of students. This program provides assistance to a cohort group of students for several years, providing incentives for achievement, access to colleges through visitations and counseling, and hundreds of resources to support educators. Unfortunately, that leaves 222 school districts without that access to these opportunities. Likewise, Washington State Mathematics, Engineering, Science Achievement (MESA) is also an effective academic development program MESA[11] provides initiatives to assist traditionally underrepresented groups in STEM fields. As of 2016, they served 3,066 students and 10 school districts. MESA also has a community college program.

Theme four: Interventions for 11th grade Level 1 Students

Most of the previous toolbox strategies focus on long term activities that build on college and career readiness from the lowest grades to high school. However there is a big question – what do schools do for those 11th grade students who scored below the college and career level ready level on last year's Smarter Balanced Assessment? It is understood that the data for 11th grade is unreliable because of the number of students who refused to take the test, however the patterns are alarming and do need to be addressed.

Mandatory Senior Seminar and Competency Testing

One idea high schools might do is to create a mandatory senior seminar class for students who scored below the college and career-ready level. This seminar class should never use test preparation "as an occasion to reteach the entire curriculum or to drill students repeatedly on basic skills, a method that has been shown to produce rapidly diminishing returns or even to worsen scores when done to excess" (p. 129, Conley, 2014). Instead, the seminar should be used to focus more on learning time management, study skills, test taking strategies, note taking, memorization, strategic reading, collaborative learning, and technology proficiency (p.78-86). High schools could also look to the models that have been developed over time for special education students across the State. Spokane School District[12] offers a comprehensive transition program for special education students ages 19-21 with the following goals:

---

[10] See: http://www.gearup.wa.gov/about

[11] See: http://washingtonmesa.org/

[12] See: http://www.spokaneschools.org/Domain/438

1. Teach young adults to advocate for themselves by completing a transition portfolio based on their vocational, academic and community experiences and personal goals.
2. Empower students (and their families) with knowledge to accomplish linkages with employment and community services available to adults with disabilities.
3. Prepare students vocationally so they may seek and obtain employment opportunities and/or continue with post-secondary education/training upon graduating from the public school system.

By using pre-existing models that work for underperforming students in the special education realm, high schools might find important resources to help all underperforming students. If districts were to implement transition models in addition to competency testing (Conley, 2014), it might allow individual teachers to encourage those students demonstrating proficiency to complete earlier, which would reduce class size and accelerate time to graduation. Laws in Washington have changed to allow competency testing, but it is still in nascent stages of use by districts. This would be a dramatic shift from current practice, but when competency becomes the preferred way of determining knowledge and skills, students would be able to move at their own pace.

Washington State has developed bridge to college transition courses for students who are unprepared for college, allowing students who score a 2 on the SBA and successfully complete the course to enter directly into credit-bearing coursework at any public college and several private colleges in the state. This recommendation would be more for those students who have not reached that threshold.

Summer Bridge Program and Immersion Courses

Another strategy recommended by Suzuki (2012) and Brock (2010) is to develop a summer bridge program and or immersion courses. For example in Texas the summer bridge program provides study skills and remedial math and English instruction for students who just completed high school, but are not yet ready for college. In Arizona the Pathways Summer Bridge program was developed for first-year students who were predominantly from first-generation and at risk populations.

Second Chance Programs for Drop-Outs

Tyler and Loftstrom (2009) discussed the need for second chance programs for dropouts. An alternative school option in New York was the Young Adult Borough Centers' (YABC) evening academic programs, offered to students who might be considering dropping out because of being behind or having day commitments. When students earn required credits, they are awarded a diploma from their regular high school. Another potential option is the National External Diploma Program (NEPD). This applied performance assessment system assesses the high school level skills that are skills based on the Common Core Standards. This computer based program may be an area of promise for those students who need flexible scheduling. Washington is one of the few states who offers this program through Literacy Source in

Seattle[13]. and Gateway to College at Highline College, Lake Washington Institute of Technology, and Spokane Falls Community College[14].

High School in the College

A promising option that could work in some districts that are located close to college campuses, is a partnership with the college to develop a "high school in the college" (Vargas, 2007, Grobe, 2007). Originally developed in Massachusetts as an alternative, senior-year program for students who did not pass the high stakes test, this model has expanded to other states as well. This initial program, funded by the Bill and Melinda Gates Foundation, was developed to support the most at risk students. Evaluation of the program indicated that 75 percent or better earned "C"s or better in college course work and 80 percent of students enrolled went to college. The competency-based program is housed on a college campus with high school teachers. Students integrate into the life of the college with college ID's, passes to attend athletic events, and use of all college facilities. The teachers used for-credit work using PLATO (on online instruction program) and several small group and individualized test-preparation workshops. Students also had a required senior seminar class. Students presented portfolios, which contained all key documents to apply to college, to a review team in the spring as part of their graduation. This program served those who are considered "underserved" in the high school. Their largest percentage of students at 30 percent were non-native English speakers followed by 24 percent Hispanic students, with African American students following at 18 percent. Almost 30 percent of enrollees qualified for free or reduced-price lunch. Students spoke of how they felt like they were at the end of the road until they enrolled in this program, and then quickly realized that college life was exciting and challenging. Students shared how they felt more responsible and "grown-up" (Grobe, 2007). For districts that have college campuses nearby, this may be an intriguing and potentially valuable program to help those students in a fully blended model of high school in the college. Loren Davis (January 15, 2016, personal communication) principal of Northwest Career and Technical High School at Clover Park Technical College in Washington commented how the college alternative atmosphere is a good fit for several of his students and the program has minimal entry requirements to allow access to underperforming students. Bates Technical College in Tacoma[15] and Lake Washington Technical College[16]) also offer high school in the college models.

Analysis and Conclusion

The goal of this report has been to highlight promising practices at the state, district, school and individual student level that are targeted to improve student success and college readiness for our lowest achieving students. The research has much to say about how and why past reform efforts have failed to adequately support student postsecondary pathways. We've offered an

---

[13] See: http://www.literacysource.org/

[14] See: http://www.gatewaytocollege.org/

[15] See: http://www.bates.ctc.edu/highschool/

[16] See: http://www.lwtech.edu/explore_our_programs/high_school_programs/technical_academy.aspx

alternative view: a more expansive look at proven, tested, evidence-based innovations intended to address the college readiness problem at all levels of the educational process. Key to these strategies are the following:

- College readiness must be understood as the first step along the "student success" pathway; one that begins with college readiness and ends with long-term career success. In keeping with this conceptual frame, statewide efforts must include a re-envisioning of successful educational pathways as a fundamental longitudinal endeavor. Subsequent efforts related to tracking and assessing must be adjusted accordingly.
- K-12 and postsecondary sector alignment is a critical feature of statewide reform efforts intended to improve college readiness for all students regardless of prior achievement levels.
- Two and four-year postsecondary institutions must be full participants in the readiness conversation, especially given that college remediation serves as the most significant roadblock to student persistence to degree.
- Cultural shifts operate at the heart of any reform effort. Districts and schools must be open to identifying new ways in which to engage in college readiness practices and to remain reflective over their current preparatory approaches.
- Incentivizing for students, mirroring practices used in programs like Gear Up and MESA, must be a statewide and district wide strategy built into any college readiness effort.
- Partnering between postsecondary institutions and local schools and supportive agencies must be prioritized to ensure the transition to college is a smooth one for all students, including our lowest achievers.

Washington has done much to improve college readiness for students statewide. This report builds upon these current efforts in order to ensure continued growth and innovation intended to support and sustain the state's most underserved students.

Appendix A: Grades 6-8 SBA ELA & Math Scores (Percent of students scoring levels 1 through 4)

Grades 6-8	ELA Level 1	ELA Level 2	ELA Level 3 Basic	ELA Level 3	ELA Level 4	ELA No Score	Total	Math Level 1	Math Level 2	Math Level 3 Basic	Math Level 3	Math Level 4	Math No Score	Total
All Students	18%	23%	1%	36%	19%	3%	100%	24%	26%	0%	22%	24%	3%	100%
Gender														
Female	13%	21%	1%	38%	23%	3%	100%	22%	27%	0%	23%	25%	3%	100%
Male	23%	24%	1%	34%	15%	3%	100%	26%	25%	0%	21%	24%	3%	100%
SES														
Low Income	29%	29%	1%	30%	8%	2%	100%	37%	30%	0%	18%	12%	2%	100%
Non Low Income	9%	18%	1%	41%	28%	3%	100%	14%	23%	0%	25%	35%	4%	100%
Race & Ethnicity														
American Indian / Alaskan Native	39%	27%	1%	23%	6%	4%	100%	45%	28%	1%	14%	8%	4%	100%
Asian	8%	15%	0%	38%	37%	1%	100%	10%	17%	0%	22%	50%	1%	100%
Asian / Pacific Islander	11%	17%	0%	37%	33%	1%	100%	14%	18%	0%	22%	45%	1%	100%
Black / African American	32%	28%	1%	28%	8%	3%	100%	42%	29%	1%	17%	9%	3%	100%
Hispanic / Latino of any race(s)	30%	30%	1%	29%	8%	2%	100%	39%	31%	0%	17%	11%	2%	100%
Native Hawaiian / Other Pacific Islander	32%	29%	0%	30%	7%	2%	100%	42%	29%	0%	17%	9%	2%	100%
White	14%	21%	1%	39%	22%	3%	100%	19%	25%	0%	24%	28%	4%	100%
Two or More Races	17%	21%	1%	38%	21%	3%	100%	22%	26%	0%	22%	26%	3%	100%
Other														
Limited English	59%	29%	1%	9%	1%	2%	100%	66%	23%	1%	7%	3%	1%	100%
Migrant	42%	31%	1%	22%	3%	1%	100%	50%	30%	0%	13%	6%	1%	100%
Non Special Education	13%	24%	0%	40%	22%	2%	100%	18%	28%	0%	24%	27%	3%	100%
Special Education	59%	18%	6%	10%	2%	5%	100%	68%	14%	3%	6%	3%	6%	100%

Appendix B: Grades 11 SBA ELA & Math Scores (Percent of students scoring levels 1 through 4)

Grades 11	ELA Level 1	ELA Level 2	ELA Level Basic	ELA Level 3	ELA Level 4	ELA No Score	Total	Math Level 1	Math Level 2	Math Level Basic	Math Level 3	Math Level 4	Math No Score	Total
All Students	12%	13%	0%	16%	10%	49%	100%	22%	12%	0%	9%	5%	53%	100%
Gender														
Female	9%	12%	0%	17%	11%	51%	100%	20%	13%	0%	9%	4%	55%	100%
Male	15%	13%	0%	15%	9%	47%	100%	23%	11%	0%	9%	6%	51%	100%
SES														
Low Income	19%	17%	1%	16%	6%	41%	100%	32%	13%	0%	7%	2%	46%	100%
Non Low Income	8%	10%	0%	16%	12%	53%	100%	16%	11%	0%	10%	7%	57%	100%
Race & Ethnicity														
American Indian / Alaskan Native	22%	20%	1%	17%	6%	34%	100%	38%	15%	0%	7%	1%	39%	100%
Asian	8%	9%	0%	14%	12%	57%	100%	11%	9%	0%	10%	10%	61%	100%
Asian / Pacific Islander	10%	10%	0%	14%	11%	55%	100%	13%	9%	0%	10%	9%	59%	100%
Black / African American	20%	14%	0%	13%	4%	48%	100%	30%	10%	0%	5%	1%	55%	100%
Hispanic / Latino of any race(s)	19%	19%	0%	16%	5%	40%	100%	34%	14%	0%	6%	2%	43%	100%
Native Hawaiian / Other Pacific Islander	26%	18%	0%	15%	3%	37%	100%	37%	12%	0%	6%	0%	45%	100%
White	9%	11%	0%	17%	11%	51%	100%	18%	12%	0%	10%	6%	55%	100%
Two or More Races	11%	12%	1%	15%	10%	52%	100%	20%	11%	0%	8%	5%	56%	100%
Other														
Limited English	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Migrant	26%	22%	1%	14%	3%	33%	100%	41%	16%	0%	5%	1%	37%	100%

References

ACT, I. (2013). The Condition of College & Career Readiness, 2013.

Ascher, C., & Schwartz, W. (1989). School-College Alliances: Benefits for Low-Income Minorities. ERIC/CUE Digest No. 53.

Barnhart, R. (2015). Interview by T. McDonald. School Improvement Planning, Ed Psych 510, Fall Semester 2015.

Bausmith, J.M. & Barry, C. (2011). Revisiting professional learning communities to increase college readiness: The importance of pedagogical content knowledge. *Educational Researcher, 40(4),* 175-178.

Beck, I.L., McKeown, M.G., Kucan, L. (2013). *Bringing words to life: Robust vocabulary instruction.* New York: The Guilford Press.

Boscardin, C.K., Aguirre-Munoz, Z., Stoker, G., Kim, J., Kim, M., & Lee, J. (2005). Relationship between opportunity to learn and student performance on english and algebra assessments. *Educational Assessment,* 307-322.

Brock, T. (2010). Young adults and higher education: Barriers and breakthroughs to success. *The Future of Children. 20(1),* 109-132.

Burton, N.W., Whitman, N.B., Yepes-Baraya, M., Cline, F., & Kim, R.M. (2002). *Minority student success: The role of teachers in advanced placement (AP) courses.* New York: College Entrance Examination Board.

Callan, P. M., Finney, J. E., Kirst, M. W., Usdan, M. D., & Venezia, A. (2006). Claiming Common Ground: State Policymaking for Improving College Readiness and Success. National Center Report# 06-1. *National Center for Public Policy and Higher Education*.

Center, E. P. I. (2014). National Assessment of Educational Progress Grade 12 preparedness research college course content analysis study: Final report. *Eugene, Oregon: Author*.

Complete College America (2012). *Remediation: Higher Education's Bridge to Nowhere*. Retrieved from: https://www.insidehighered.com/sites/default/server_files/files/CCA%20Remediation%20ES%20FINAL.pdf.

Conley, D. T. (2012). A Complete Definition of College and Career Readiness. *Educational Policy Improvement Center (NJ1)*.

Conley, D. T. (2014). *Getting ready for college, careers, and the common core.* San Francisco, CA: Jossey-Bass.

Cutler, L. & Graham, S. (2008). Primary grade writing instruction: A national survey. *Journal of Educational Psychology, 100,* 907-919.

Darden, E.C. & Cavendish, E. (2011). Achieving resource equity within a school district: Erasing the opportunity gap by examining school board decisions. *Education and Urban Society,* 61-81.

Donnell, A. (2010). Report: States can improve college readiness. *Diverse Issues in Higher Education. 27(13)*, 10.

Duncan, G.J. & Munane, R.J. (2014, March). Growing income inequality threatens American education. *Phi Delta Kappen,* pp. 8-14.

Fowler, C.H., Test, D.W., Cease-Cook, J., Toms, O., Barholomew, A., & Scroggins, L. (2014). Policy implications of high school reform on college and career readiness of youth with disabilities. *Journal of Disability Policy Studies. 25(1),*19-29.

Gilbert, J., & Graham, S. (2010). Teaching writing to elementary students in grades 4 to 6: A national survey. *Elementary School Journal, 110,* 494-518.

Garet, M.S., Porter, A.C., Desimone, L., Birman, B.F., & SukYoon, K. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

Grobe,T. (2007). Another route to college. In N. Hoffman, J.Vargas, A. Venezia, & M.S. Miller (Eds.), *Minding the gap* (pp.133-138). Cambridge: Harvard Education Press.

Haager, D. & Vaughn, S. (2013). Common core state standards and students with learning disabilities: Introduction to the special issue. *Learning Disabilities Research and Practice, 28(1),* 1-4.

Haager, D. & Vaughn, S. (2013). The common core state standards and reading: Interpretations and implications for elementary students with learning disabilities. *Learning Disabilities Research and Practice. 28(1),* 5-16.

Hiebert, J. (1999). Relationships between research and the NCTM standards. *Journal for Research in Mathematics Education, 30(1),*3-19.

Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. JHU Press.

Jenkins, S., Agamba, J.J. (2013). The missing link in the ccss initiative: Professional development for implementation. *Academy of Educational Leadership Journal. 17(2),* 69-79.

Kao, G., & Tienda, M. (1998). Educational aspirations of minority youth.*American journal of education*, 349-384.

Kisker, C. B. (2006). Integrating High School and the Community College Previous Efforts and Current Possibilities. *Community College Review*, *34*(1), 68-86.

Kiuhara, S., Graham, S., & Hawken, L. (2009). Teaching writing to high school students: A national survey. *Journal of Educational Psychology, 101,* 136-160.

Langer, J. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Educational Research Journal, 38(4),* 837-880.

Loftstrom, M. & Tyler, J.H. (2009). Finishing high school: Alternative pathways and dropout recovery. *The Future of Children. 19(1),* pp. 77-103.

Louth, R. (2002). The New Orleans writing marathon. *The Quarterly, 24(1).* http://www.nwp.org/cs/public/print/resource/315.

McCarron, G. P., & Inkelas, K. K. (2006). The gap between educational aspirations and attainment for first-generation college students and the role of parental involvement. *Journal of College Student Development*, *47*(5), 534-549.

Mead, T. & Hofmann, E. (2007). CUNY college now: Extending the reach of dual enrollment. In N. Hoffman, J.Vargas, A. Venezia, & M.S. Miller (Eds.), *Minding the gap* (pp.143-150). Cambridge: Harvard Education Press.

McKibben, S. (2008). The Great Debate: Should all 8th graders take algebra? *Newsleader,56 (1).* 62-64.

National Center for Education Statistics. (2015). *Fast Facts: Drop-outs.* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=16.

National Center for Education Statistics. (2015a). *Key Findings from the School Composition and the Black-White Achievement Gap Report*. Retrieved from http://nces.ed.gov/nationsreportcard/studies/gaps/2011_gaps_key_findings.aspx.

National Center for Education Statistics. (2015b). *Institutional Retention and Graduation Rates for Undergraduate Students.* Retrieved from http://nces.ed.gov/programs/coe/indicator_cva.asp.

National External Diploma Program. http://www.casas.org/nedp/locations/washington

Perna, L. W., & Thomas, S. L. (2006). A framework for reducing the college success gap and promoting success for all. In *National Symposium on Postsecondary Student Success: Spearheading a Dialog on Student Success*.

Phillips, V. & Wong, C. (2012). Teaching to the common core by design, not accident. *Kappan Magazine. April,* 31-37.

Radcliffe, R.A., & Bos, B. (2013). Strategies to prepare middle school and high school students for college and career readiness. *The clearing house: A journal of educational strategies, issues, and ideas, 86(4),* 136-141, DOI: 10.1080/00098655.2013.782850

Relles, S. R., & Tierney, W. G. (2013). Understanding the writing habits of tomorrow's students: technology and college readiness. *The Journal of Higher Education*, *84*(4), 477-505.

Rose, M. (2005). *The mind at work: Valuing the intelligence of the American worker*. Penguin.

Rosenbaum, J. E. (2002). Beyond Empty Promises: Policies To Improve Transitions into College and Jobs.

Rosenbaum, J. E., Stephan, J. L., & Rosenbaum, J. E. (2010). Beyond One-Size-Fits-All College Dreams: Alternative Pathways to Desirable Careers.*American Educator*, *34*(3), 2.

Shulock, N., Callan, P.M., & SRE Board. (2010). *Beyond the rhetoric: Improving college readiness through coherent state policy*. National Center for Public Policy and Higher Education.

Stanford Center for Opportunity Policy in Education and the National Staff Development Council, "*Status of professional learning,"* 2009-2010.

Torgesen, J., Alexander, A., Wagner, R., Rashotte, C., Voeller, K., & Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities, 34*(1), 33-58,78.

U.S. Census Bureau (2014). *Population Projections.* Retrieved from: http://www.census.gov/population/projections/data/national/2014.html?eml=gd&utm_medium=email&utm_source=govdelivery.

Vargas, J. (2007). State polices that support the integration of 9-14: The case of early college high schools. In N. Hoffman, J.Vargas, A. Venezia, & M.S. Miller (Eds.), *Minding the gap* (pp. 175-182). Cambridge: Harvard Education Press.

Ward, C., Jepson, S.J., Jones, K.W., Littlebear, R.E. (2014). Making math count: Tribal college leadership in education reform on the northern Cheyenne reservation. *American Indian Culture and Research Journal, 38:3,* 107-134.

Wharton-McDonald, R., Pressley, M., & Hampston, J. (1998). Literacy instruction in nine first-grade classrooms: Teacher characteristics and student achievement. *Elementary School Journal, 99,* 102-119.

Washington Student Achievement Council (2014). *College Readiness*. Retrieved from: http://www.wsac.wa.gov/college-readiness.