

Research Report

No. 08-6

**Washington State Board for Community and
Technical Colleges**

STUDENT ACHIEVEMENT OF WASHINGTON'S COMMUNITY AND TECHNICAL COLLEGE STUDENTS PREPARING FOR WORK

December 2008

The purpose of this report is twofold: first, to identify a subset of Washington's community and technical college system's workforce students and evaluate their overall academic progress in 2007-08; and second, to demonstrate how to compare the progress of these same students based on the different levels of prior college achievement they possessed as they entered the academic year. To assist with that demonstration, the specific data elements and their sources used in each analysis are provided.

This report analyzes 61,200 students preparing for jobs enrolled in professional technical programs or taking pre-requisites for those programs in 2007-08. All of the students in this study have less than an Associate degree and have as their goal the completion of credentials (certificates and degrees) or apprenticeships. Their academic progress is measured by the following critical milestones used in the Student Achievement Initiative: gains in pre-college work; first-year college credits; college math; and degrees, certificates and apprenticeships. As students reach these milestones they more strongly secure themselves along longer pathways to the "tipping point" (defined as completing a degree or certificate backed by at least 45 credits, or an apprenticeship) and beyond.

In general, workforce education students are typically older than traditional age college students. They are more likely to be employed and combining college with work and family responsibilities than younger students attending college with the intent to transfer to a 4-year institution. Increasingly, middle wage jobs for these students require at least a year of college. Colleges in Washington organize their programs to lead to certificates and other units that aggregate to degrees, while accommodating students' stop-in and stop-out patterns.



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Key Findings

- In 2007-2008, Washington’s community and technical college system had 61,198 students with less than an Associate degree who were enrolled in, or took pre-requisites for job preparatory professional technical programs. Half the students (49 percent) increased their achievement when measured for achievement points. Each point a student achieves helps to more firmly secure him/her on a longer pathway that results in a college certificate, degree or apprenticeship completion.
- Over half of the students (55 percent) were new, meaning they began the year with no previous academic achievement. Another third (34 percent) had some prior achievement (they had already completed 15 or 30 college-level credits). Eleven percent began the year fairly well secured on the pathway to the “tipping point”. These students have completed college math and in most cases had at least 30 college credits.
- The academic progress of these students was evaluated based on their prior levels of achievement. The findings show that as students increase their achievement, higher percentages reach the “tipping point” threshold.
- Based on the findings, it is critical to review and help these students secure their further success regardless of where they are along their pathway. Students with little or no prior achievement who are starting new need to be guided to their first 15 college credits. All students with no prior math need to be monitored for their preparation for and completion of college math. Even students with substantial prior achievement need to be reviewed to for what they need to do to complete their pathway.
- The findings show that college math is a critical milestone for all of the students evaluated in the report.

Summary of the Student Achievement Initiative

In 2006-07, SBCTC adopted the Student Achievement Initiative, a performance measurement system to reward colleges for moving more students further and faster toward completing certificates, degrees and apprenticeships. Colleges will receive incentive rewards based on improvements in benchmarks such as improving student preparation for college-level courses; building to a year of college credit; completing college-level math; and completing certificates, degrees, and apprenticeship training. Student Achievement data from 2006-07 was the first baseline data for measuring college achievement. 2007-08, the year analyzed in this report, was designated a “Learning Year”, allowing colleges to begin to analyze, understand and use their data. 2008-09 is the first performance year for which funds will be awarded. Student achievement must continuously improve for colleges to derive incentive rewards. Further information about the Student Achievement Initiative, including earlier reports on transfer students and basic skills students, can be found online at: http://www.sbctc.ctc.edu/college/e_studentachievement.aspx.

Adults with Less Than an Associate Degree

The objective of the Student Achievement Initiative is to move more community and technical college students to higher levels of attainment (that is, ultimately getting them to the “tipping point”). With that objective in mind, only those students with less than an Associate degree were included in this analysis. Students were selected regardless of fund source. In the Student Achievement database Demographics Table, students were identified as having less than an Associate degree if their prior education is below the Associate degree level (Prior_Educ <16). For the purpose of this analysis, students preparing for jobs included students whose intent was F (job preparatory), G (job preparatory program applicant), H (apprentice) and M (multiple goal seeker).

Total Achievement Gained by Students Preparing for Jobs

The first step in this analysis was to examine how the cohort performed overall. During the year, 30,257 students preparing for jobs earned a total of 52,597 points, or 1.7 points per student. Students’ points were calculated by counting the various point data contained in the Student Achievement Database Points Table (BasicSkillsGain_Points, CollegeReadyPreEnglish_Points, CollegeReadyPreMath_Points, etc).

Slightly less than half (49.5 percent) of the students gained points during the academic year. This finding suggests that there is substantial room for further progress if over time the system is to move more workforce students to the “tipping point” and beyond.

Overall, slightly more than 40 percent of the students made college-level gains during 2007-08. Of those, around half (20 percent) also made gains in pre-college courses. Another 7 percent of students made pre-college gains to get ready for college-level work, but had no college-level gains. Less than 9 percent of the students completed college math, critical to longer pathways but not necessarily required for shorter certificate programs.

Achievement Points Gained by All Students Preparing for Jobs in 2007-08

No Gains 30,941 Students	Pre-College Gains 4,480 Students made pre-college gains only			College-Level Gains 25,777 Students (5,079 made pre-college gains also)			
Category	Basic Skills	Pre-College Math	Pre-College English	15 college-level credits	30 College-level credits	Math	Tipping Point
Points Gained	3,131	8,217	4,378	13,561	11,508	5,297	6,505

Where Students Start the Year: Beginning Achievement Status of Students Preparing for Jobs

To understand the Student Achievement data, it is important to first know how much achievement students completed in prior years. In the database, students can be broken out by their prior levels of achievement, illustrating where they stand when they enter the academic year and how much potential for additional achievement they possess. In the Student Achievement database Points Table, the PriorCvlPointsCat indicator provides this information.

Over half (55 percent) of the students who enrolled during the year had little or no prior college achievement. This means they had not met the 15 credit threshold and had not yet completed college math. These students were new students beginning on their pathways with no significant milestones to their credit. It is important that these students realize success at the beginning of their college experience to build their chances for further achievement. Students must also be oriented and advised for the longer pathways and milestones that may extend further than their immediate program goals.

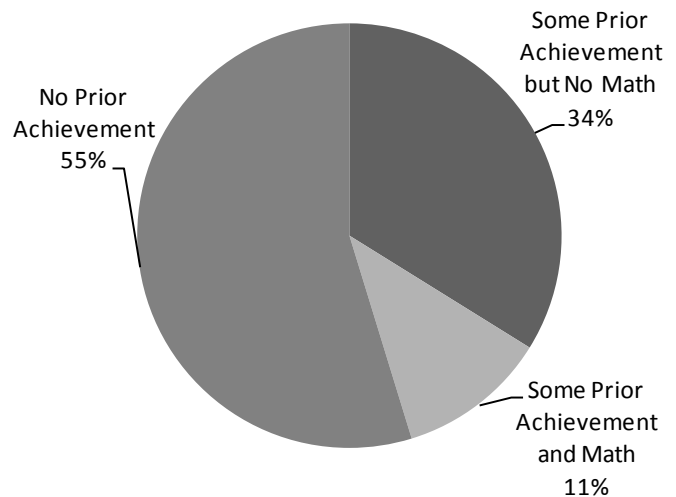
About one third (34 percent) of these students began the year with some prior college achievement. This means they had, at a minimum, already reached the 15 credit threshold and may have already completed 30 or more college credits. To complete their pathway, these students still needed to complete college-level math.

Finally, 11 percent of the students had substantial prior college achievement. They had already completed college math and most (nine in ten of these students) had also earned at least 30 college credits. Having completed their college-level math requirement, they began the year more secure on a longer pathway. Although these students were far along in their pathway, they may still have needed guidance to ensure they reach the “tipping point.”

Analyzing the Achievement Gains of Students by Prior Achievement Levels

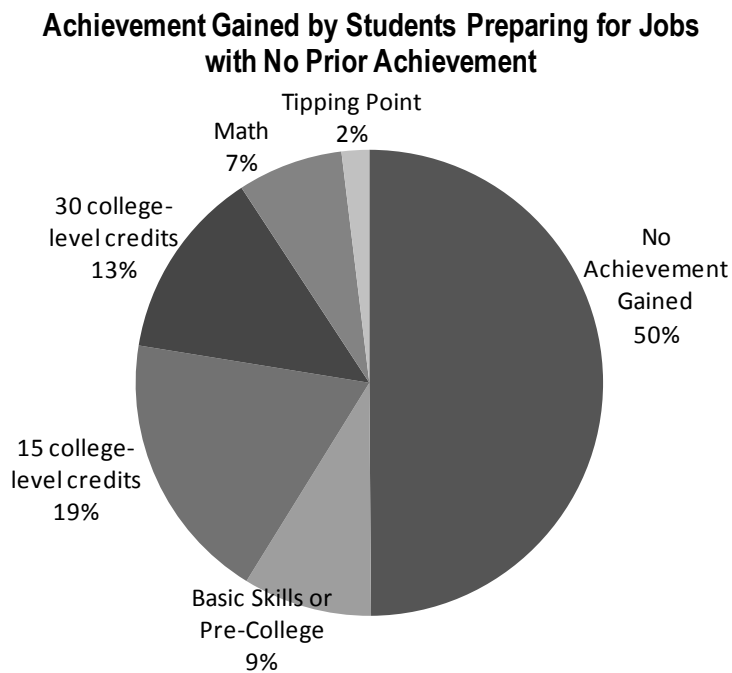
Once the prior achievement of these students is known, each subgroup can be examined independently to assess how much achievement they gain throughout the year. The achievement

**Status at the Beginning of 2007-08
61,198 Students Preparing for Jobs**



of each subgroup can be determined with the MomentumSummaryInd data element in the Student Achievement database Points Table. The summary provides information about the *highest level* of each student’s gain, so that each student appears in only one category.

Achievement Gained by Students Starting the Year with No Prior College Achievement



Exactly half of those students who came in with no prior achievement earned at least one Achievement Point in 2007-08. About one third (32 percent) completed at least 15 college credits. The 15-credit threshold is considered to be the college starting point on the pathway to the “tipping point”. This means that two in three of these students have not yet secured themselves firmly on the starting point. They may be students who enrolled in short (less than 15 credit programs) or other longer programs.

These students all need further attention to ensure they attain the 15 credit threshold. They may need, for example, additional or different orientation programs and/or initial student advising to connect them to pathways.

Another 9 percent gained points in either basic skills or pre-college math or English, but earned no college level thresholds. Other reports have shown that integrating basic skills with college level work increases the percent of students who reach the 15 credit threshold.

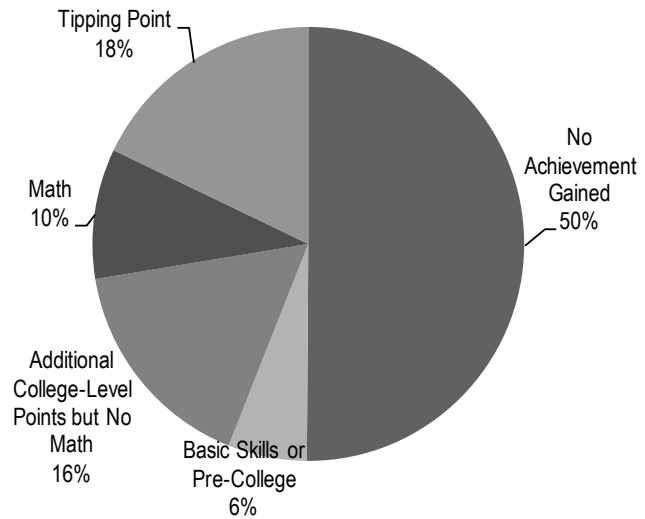
Achievement Gains by Students Starting the Year with Some Prior College Achievement

Like the subset of students with no prior achievement, half of these students made further achievement gains during the year.

Forty-four (44) percent made their gains in college-level achievement: 18 percent reached the tipping point; 10 percent completed their math requirement; and 16 percent moved from 15 to 30 or more college credits. Another 6 percent completed additional pre-college work, many completing pre-college math in preparation for college-level coursework.

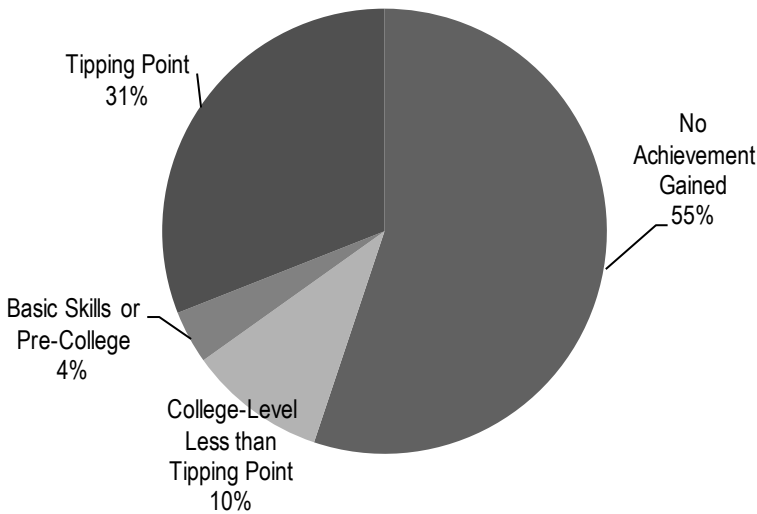
These students are just beginning to gain momentum towards their goals but still are vulnerable. Critical to their success is making sure they know how to secure themselves on a pathway. Regardless of a student's immediate program goal, college math and preparing for college math are important both for these students and those starting with little to no prior college achievement.

Achievement Gained by Students Preparing for Jobs with Some Prior Achievement but No Math



Achievement Gains by Students Starting the Year with Substantial Prior College Achievement and Math

Achievement Gained by Students Preparing for Jobs with Substantial Prior Achievement and Math



Once students have completed substantial momentum and their college-level math requirement, they are well on their way to reaching the “tipping point”. Nearly a third (31 percent) of those students preparing for jobs who entered the year with some prior achievement and their math requirement complete reached the “tipping point”. Another 10 percent achieved additional college-level achievement on the way to the tipping point. Slightly more than half the

students, however, gained no additional achievement. This means that even for those students who have already passed critical thresholds, additional attention is required to ensure they arrive at the “tipping point.” It is important to consider what strategies will help ensure that these students go on to complete their degrees and certificates.

Conclusion and Next Steps

This report analyzed a subset of workforce students with less than an Associate degree for their achievement in one academic year. The achievement measurements, selected from the Student Achievement Initiative, are critical milestones for securing a student's place on an educational pathway that leads to the "tipping point" and beyond. The subset of workforce students included students regardless of their program, funding source or immediate goals that may be short of the "tipping point" threshold.

The analysis demonstrated the methodology of disaggregating a cohort of community and technical college students to better understand who they are and what roadblocks they face on the way to the "tipping point" and beyond. The findings show that as students increase their achievement, higher percentages reach the "tipping point" threshold. During the 2007-08 academic year, nearly one-third (31 percent) of students with substantial achievement and college math ended the year at the tipping point. By comparison, 18 percent of students who started the year with some prior achievement but no math, and only 2 percent of those who started with no prior college achievement, reached the tipping point.

The analysis also grouped students based on their prior levels of achievement to demonstrate how much achievement each group gained, serving as a framework for analyzing all students to identify promising practices. Based on the analysis, it is clear that all along students' pathways it is critical to review and help them secure their further success.

How a student begins the year has implications for program design, instruction and advising. For example, students with little or no prior achievement who are starting new need to be guided to that first 15 college credit milestone. All students with no prior math need to be monitored for their preparation for and completion of college math. Even students with substantial prior achievement need to be reviewed for what they need to do to reach the tipping point and beyond. All students should be advised and guided towards pathways that have the milestones they need to reach.

In addition to the ways the students were examined in this report, there are many ways to further analyze them to answer specific questions and identify promising practices and lessons learned. The data for these analyses are in the Student Achievement database. In addition, the students can be linked by their SIDs to other student unit records. In this study, 45 percent of the students preparing for new jobs were between 20 and 29 years of age. One-fifth of the students were between 30 and 39 and another fifth were over 39. Less than 20 percent were under 20. Slightly more than half (52 percent) are female. Further analyses could disaggregate these students' achievement for younger and older students, race and ethnicity or other demographics such as socioeconomic background.

Target populations including Worker Retraining and WorkFirst students could be identified to analyze how these program goals affect achievement. Another research report, Opportunity Grants (Oct. 2008) analyzes the retention and achievement of students enrolled in high demand pathways for the financial assistance awarded to them. Colleges can analyze their own efforts by tracking students using their SIDs.

2007-08 Achievement Points by College for Students Preparing for Work

College	Basic Skills Gains	Pre-College English Gains	Pre-College Math Gains	15 College-Level Credits	30 College-Level Credits	Math	Tipping Point	Total Points
Bates	180	136	361	535	406	112	242	1,972
Bellevue	95	131	163	401	338	150	152	1,430
Bellingham	59	1	136	562	460	287	324	1,829
Big Bend	129	60	88	206	162	109	97	851
Cascadia	-	1	12	9	11	8	2	43
Centralia	5	37	157	188	184	136	67	774
Clark	15	279	626	464	409	155	263	2,211
Clover Park	42	144	603	989	962	387	414	3,541
Columbia Basin	64	224	362	398	346	216	167	1,777
Edmonds	17	171	115	265	234	227	181	1,210
Everett	41	281	333	647	485	150	201	2,138
Grays Harbor	77	120	136	136	128	89	84	770
Green River	32	68	139	398	272	114	212	1,235
Highline	131	179	203	371	278	122	120	1,404
Lake Washington	120	219	554	542	445	238	222	2,340
Lower Columbia	35	149	341	232	200	55	130	1,142
Olympic	59	112	348	441	364	90	390	1,804
Peninsula	222	36	119	140	110	34	88	749
Pierce Fort Steilacoom	145	148	145	364	310	133	132	1,377
Pierce Puyallup	30	98	170	164	149	104	24	739
Renton	66	-	15	384	332	92	283	1,172
Seattle Central	13	61	153	324	285	59	144	1,039
Seattle North	10	22	67	155	138	42	72	506
Seattle South	60	35	101	969	632	89	158	2,044
Seattle Voc Institute	-	-	-	218	209		156	583
Shoreline	203	129	204	350	307	236	168	1,597
Skagit Valley	53	156	259	362	315	167	186	1,498
South Puget Sound	79	85	174	297	271	203	120	1,229
Spokane	-	284	586	1,273	1,115	605	711	4,574
Spokane Falls	11	86	110	327	322	139	134	1,129
Tacoma	221	277	339	276	256	171	138	1,678
Walla Walla	759	126	278	414	366	150	292	2,385
Wenatchee Valley	55	103	181	195	187	135	147	1,003
Whatcom	29	152	261	169	160	110	70	951
Yakima Valley	74	268	378	396	360	183	214	1,873