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AVID College Completion Project

*Year 2 Comprehensive Evaluation Report, Analysis of Fall
2014 and Fall 2015 Student Cohorts*



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Executive Summary

Background

In fall 2013, AVID Center received a grant from the Michael & Susan Dell Foundation (MSDF) to implement the AVID *for* Higher Education (AHE) program at selected colleges and universities across the country. After a planning year in 2013-14, the program referred to as the AVID College Completion Project was implemented, during both the 2014-15 and 2015-16 academic years, by six four-year institutions (i.e., California State University-San Marcos, Fort Valley State University, Texas Wesleyan University, University of North Carolina-Asheville, and Washington State University Tri-Cities) and three two-year community or technical colleges (i.e., Atlanta Technical College, Butler Community College, and Saddleback College). AVID liaisons guide the AHE programs at each institution. They coordinate program and research activities and lead a diverse AVID campus site team, which oversees all AHE-related activities. AHE is designed to impact the expectations and behaviors of administrators, faculty, and staff across the entire campus.

Staff and faculty at participating institutions of higher education (IHEs) participated in professional development related to the development, or redesign, of targeted freshman courses – most commonly, a first year experience (FYE) course. They also participated in faculty development related to high-engagement strategies, critical reading strategies, and other topics. In addition, most of the participating institutions sent their peer tutors to training on how to use Socratic tutoring approaches in their work with students in the campus tutoring and student success centers.

Research and Evaluation Activities

The AVID Center contracted with Gibson Consulting Group, Inc. (Gibson) to conduct a comprehensive evaluation of the AHE program, including how the program has been implemented across participating IHEs as well as an exploration of the near-term and long-term relationships between program participation and student outcomes (i.e., persistence in college and course passing rates). This Year 2 report addresses the following primary research objectives:

1. To what extent did participating institutions implement AHE with fidelity during the 2014-15 and 2015-16 academic years?
2. To what extent did academic outcomes differ for students in AHE when compared to those of students in matched comparison groups?

Institutions participating in the AVID College Completion Project began serving their first cohort of students in fall 2014, and their second cohort of students in fall 2015. The Year 3 evaluation report, which covers the 2016-17 academic year, will include a third cohort of students who began college in fall 2016. The study will follow the progress of 2014, 2015, and 2016 AVID cohorts as well as their matched comparison groups through fall 2018, assessing the near-term and long-term effects of AHE on student outcomes. To assess program implementation, the evaluation team conducted site visits to each of the nine participating IHEs in fall 2014 and 2015, administered student surveys in fall 2014 and fall 2015, administered faculty surveys in spring 2015 and spring 2016, and relied upon 2014-15 and 2015-16 AHE

Certification data provided by the AVID Center. In addition, the evaluation team conducted a detailed analysis of student outcomes for students served through the AVID program as well as a group of matched, comparison group students, who did not participate in the AHE program. This report includes the following student outcomes for the first (fall 2014) and second (fall 2015) cohorts of students.

Cohort 1 (Fall 2014)

- **College Persistence:**
 - Freshman fall-to-spring persistence
 - Freshman-to-sophomore year (i.e., Year 1-to-Year 2) persistence
 - Freshman-to-junior year (i.e., Year 1-to-Year 3) persistence
- **Course Passing Rate:**
 - Freshman year (i.e., Year 1) percent of courses passed with a C or better
 - Sophomore year (i.e., Year 2) percent of courses passed with a C or better¹

Cohort 2 (Fall 2015)

- **College Persistence:**
 - Freshman fall-to-spring persistence
 - Freshman-to-sophomore year (i.e., Year 1-to-Year 2) persistence
- **Course Passing Rate:**
 - Freshman year (i.e., Year 1) percent of courses passed with a C or better

Key Findings

AHE Program Implementation

The AVID Center provided the colleges and universities participating in the AVID College Completion Project with the flexibility to implement their AHE programs in a way that aligned best with their particular institutions; however, the AVID Center required that each participating IHE establish campus site teams with an assigned AVID liaison in order to coordinate program activities that they participate in on- and off-site AVID-based professional development, that they develop an AVID-infused freshman course (typically, but not always an FYE course), and that they employ a group of peer tutors trained in the use of Socratic questioning to assist students in need.

- Each of the nine IHEs participating in the College Completion Program successfully implemented AVID-based, student-centered strategies and content into one or more targeted freshman courses in fall 2014 and fall 2015. Seven institutions offered a first year experience course taught by AVID-trained faculty, and two institutions, Atlanta Technical College and WSU, Tri-Cities,

¹ The course passing rate analyses included only courses of three credits or more for Cohorts 1 and 2.

targeted other freshman courses (e.g., history, medical terminology, introduction to computers, financial accounting, English composition).

- Two participating institutions also implemented student learning communities (SLC) in 2014-15. Through a living learning community, UNC-Asheville implemented the SLCs concept. Tougaloo College implemented an SLC by enrolling common students in the AVID-infused FYE course, as well as Freshman English and Freshman Mathematics taught by AVID-trained faculty. In 2015-16, Tougaloo College continued with their SLC, and WSU, Tri-Cities implemented an SLC with a subset of their AVID students enrolling in common sections of history, anthropology, psychology, and English.
- An important aspect of AHE implementation is AVID professional development (PD) provided by AVID Center staff and consultants. The vast majority of the AVID professional development is provided on-site at the participating IHEs in order to maximize the number of potential attendees. In total, 772 individuals from the participating institutions attended AVID-related training between December 2013 and April 2015, and 946 faculty and staff attended AVID-related professional learning sessions between May 2015 and April 2016. The participating colleges and universities had a minimum of 28 and a maximum of 175 staff attend training in either of the two academic years.
- Despite the fact that over half of the 2014-15 and 2015-16 attendees of on-site AVID-related PD and off-site AVID-related PD (e.g., AVID Summer Institute and other AVID-related conferences) indicated that they were familiar with most of the strategies and content presented, the vast majority of survey respondents who attended off-site and on-site PD sessions rated the training quite highly, and agreed that they had used the strategies presented during the PD in their work with students.
- Most survey respondents indicated that after attending AVID PD, they implemented AVID strategies in their classes or mentoring session much more frequently or somewhat more frequently – roughly two-thirds of respondents said they did this in both the 2014-15 and 2015-16 academic years. The vast majority of survey respondents indicated that they either frequently or occasionally implement AVID strategies in their classes or tutoring/mentoring sessions (i.e., 86% in 2014-15 and 90% in 2015-16).
- While the primary focus of AVID professional development is on teaching and learning, staff also trained on the implementation of collaborative strategies used to implement the AHE program at their respective institutions. The majority of college and university administrators agreed that the AVID training helped them with an array of items related to program implementation, including improving their understanding of how to implement AHE at their school, how to implement strategies to facilitate change, and how to develop strategies for increasing collaboration between academic affairs and student services. During on-site group interviews with AVID site teams in fall 2014 and fall 2015, several college administrators shared that AHE helped bring different departments together for meetings, to discuss how they can work together to improve student

success at their institutions, while others felt that AHE helped to deepen an already strong relationship between university departments.

- Overall the average AVID Center’s Certified Self Study (CSS) rating rose from 1.27 in 2014-15 to 1.67 in 2015-16, with six of the nine participating institutions improving their rating between the first and second year of AHE implementation. For two IHEs ratings were unchanged, and one institution experiences a drop in their mean CSS rating as they transitioned AHE leadership from one group to another in 2015-16.
- Students enrolled in AVID and non-AVID sections of targeted courses were asked to reflect on their experiences in the course. In fall 2014, a proportion of students in AVID sections significantly larger than their non-AVID counterparts agreed that the course included student-centered content (e.g., inquiry-based activities, note-taking strategies, and effective reading strategies) and instructional approaches (e.g., active or collaborative learning strategies), and also agreed that the course improved their skills and confidence in their abilities to be successful in college.
- The fall 2015 survey of students revealed that the gap between the experiences of students in AVID and non-AVID students narrowed. The overall reported experiences of students in AVID and non-AVID sections of targeted freshman classes in fall 2015 was not statistically different. This may be the result of a spillover effect, caused by AVID-trained faculty sharing effective teaching approaches with other faculty, who did not attend AVID professional development sessions.
- Observations of AVID-and non-AVID sections of targeted courses reveal somewhat higher ratings for AVID sections than non-AVID sections for student engagement, student class energy, student collaboration, and instructor class energy metrics, as well as for the use of small group activities and of writing activities. However, consistent with the student survey findings, the magnitude of observed differences between AVID and non-AVID classrooms shrunk for the student engagement, small group activity, and student collaboration metrics, with noticeable improvements in scores observed for the non-AVID group. This finding, again, may be related to the “spillover effect” described in the bulleted finding above.
- High-engagement strategies most commonly observed in AVID course sections include quick writes, think-pair-share, jigsaw, gallery walks, expert groups, and critical reading strategies (e.g., marking the text and rereading). However, more elaborate strategies to engage students, such as Socratic Seminar, Philosophical Chairs, where students engage in debate-style dialogue over challenging texts and/or social issues, were observed in a just a handful of the AVID classrooms.

Relationship between AHE Participation and Student Academic Outcomes

The research team explored two primary outcomes in this report: 1) college persistence rates (i.e., freshman fall-to-spring, freshman-to-sophomore year, and freshman-to-junior year persistence); and 2) the percentage of courses of three or more credits passed with a grade of C or better (i.e., freshman-year course-passing rates and sophomore-year course-passing rates). The analyses include two cohorts of

students, those entering college in fall 2014 (Cohort 1) and those who entered college in fall 2015 (Cohort 2). For Cohort 1, all three of the persistence rates and both of the course passing rates were calculated for AVID students and a matched comparison group of non-AVID students. For Cohort 2, freshman fall-to-spring persistence rates, freshman-to-sophomore year persistence rates, and freshman-year course-passing rates were calculated for AVID students and a matched comparison group of non-AVID students.

Propensity score matched (PSM), regression-adjusted results were used to compare outcomes for students who participated in the AVID College Completion Project to students who did not participate. In essence, this approach adjusts for differences in the composition of the AVID and non-AVID groups at each institution (e.g., race/ethnicity, gender, SAT/ACT scores, high school grade point average, and Pell Grant eligibility status), and in the estimated average affect. Results were calculated separately for each participating institution and a random effects meta-analysis model was conducted to calculate average overall program effect sizes for four- and two-year institutions for both Cohort 1 and Cohort 2.

This report addresses the following student-outcomes-related research questions:

- 1) After controlling for prior academic performance, demographic, and socioeconomic factors, were differences in persistence rates observed between students participating in the AHE program and matched non-participants?
- 2) After controlling for prior academic performance, demographic, and socioeconomic factors, were differences in course passing rates observed between students participating in the AHE program and matched non-participants?

Cohort 1 (Fall 2014)

The results for Cohort 1 AVID students were compared to two different comparison groups: 1) a within-year comparison group of nonparticipating students who began college in fall 2014, similar to the AVID treatment group; and 2) a prior-year (Cohort 0) comparison group of students who began college in fall 2013 – the year before the colleges and universities implemented AHE. The within-group comparison represents a more conservative estimate of program impact; while the prior year comparison (i.e., Cohort 1 vs. Cohort 0) introduces the possibility of broader AVID-program components impacting results (e.g., improvements in peer-tutoring services), as well as other potential non-program-related events (e.g., other education initiatives and changes in admissions policies).

Cohort 1: Persistence Rate Analysis for Four-Year and Two-Year Institutions

- Regardless of the comparison group included in the analysis, Cohort 1 AVID students at four-year IHEs posted modestly higher, approximately two percentage points, freshman fall-to-spring (i.e., fall 2014 to spring 2015) persistence rates when compared to matched nonparticipating students.² However, Cohort 1 AVID students at UNC-Asheville who were enrolled in an AVID-infused FYE course section, and who participated in a living learning community with other AVID-

² Combined average effect size differences were not statistically significant.

program students, posted significantly higher fall-to-spring persistence rates when compared to either their within-year control group (+10.47 percentage points) or the prior-year control group (+5.78 percentage points). WSU, Tri-Cities also posted higher freshman fall-to-spring persistence rates than their non-AVID counterparts (+5.74 percentage points for the within-year comparison and +7.16 percentage points for the prior-year comparison).

- Among two-year technical and community colleges, Cohort 1 AVID students also returned for their spring semester of their first year in college at higher rates (+3.86 percentage points) than non-AVID students.³ Cohort 1 AVID students at Atlanta Technical College who were enrolled in an AVID-infused medical terminology or introduction to computers course section posted significantly higher fall-to-spring persistence rates, when compared to their within-year control group (+10.45 percentage points).⁴
- The combined average effect of AHE participation at four-year institutions on Cohort 1 freshman-to-sophomore year persistence was modest for within-year analyses (+1.52 percentage points), but it was larger and statistically significant for the Cohort 1 vs. Cohort 0 analyses (+9.88 percentage points). Regardless of the comparison group methodology used, at four of the five participating colleges, AVID students had higher freshman-to-sophomore year persistence rates than did their non-AVID counterparts.⁵
- Cohort 1 four-year institution results for freshman-to-junior year persistence were directionally consistent with the freshman-to-sophomore year results presented above, though somewhat more modest in magnitude (+4.80 percent combined average effect size using the within-year comparison group and 7.11 percentage points using the prior-year comparison group).⁶ Again, the largest differences between AVID and non-AVID groups were observed at Texas Wesleyan University, Fort Valley State University, and WSU, Tri-Cities, followed by UNC-Asheville.
- For two-year institutions, Cohort 1 AVID students at both Saddleback College and Atlanta Technical College persisted into their second year of college at higher rates than their non-AVID

³ Combined average effect size differences were not statistically significant.

⁴ Due to the limited number of covariates included in the two-year statistical models, these results should be viewed with some caution.

⁵ Using the within-year comparison group, freshman-to-sophomore year persistence rates were statistically higher for AVID students at Texas Wesleyan University. For the Cohort 1 vs Cohort 0 analysis, freshman-to-sophomore persistence rates were statistically higher for Texas Wesleyan University, Fort Valley State University, and WSU, Tri-Cities. While not statistically significant at the .10 level, AVID students persisted into their sophomore year between 5.37 percent and 6.93 percentage points more frequently than non-AVID students at UNC-Asheville.

⁶ The +7.11 percentage point effect size was statistically significant at the .05 level.

counterparts (+5.46 and +5.62 percentage points, respectively), and the combined average effect size was +5.54 percentage points, which was statistically significant at the .10 level.⁷

Cohort 1: Course Passing Rate Analysis for Four-Year and Two-Year Institutions

- For Cohort 1 AVID students, the four-year institution combined average effect size of program participation on the percentage of freshman-year three-credit courses passed with a C or better was +3.49 percentage points for within-year analysis and +5.06 for the prior-year comparison group analysis (i.e., Cohort 1 vs. Cohort 0).⁸ Cohort 1 AVID students at four of the five four-year institutions posted higher freshman-year course-passing rates than nonparticipating, with the largest differences observed at Fort Valley State University and Texas Wesleyan University.
- For Cohort 1 AVID students, sophomore-year course passing rate results were mixed, depending upon the institution and the comparison group included in the analysis. The combined average effect size on sophomore-year course passing rates for four-year institutions was small (less than three percentage points regardless of the comparison group or meta-analysis method), negative, and not statistically significant.
- For Cohort 1 AVID students at two-year IHEs, freshman-year course passing rates at Atlanta Technical College were approximately 4.65 percentage points higher than comparable non-AVID students at that college. Results were about the same for AVID and non-AVID students at Saddleback College. The combined average effect size on freshman-year course-passing rates for two-year institutions was small (+2.50 percentage points) and not statistically significant.

Cohort 2 (Fall 2015)

Fall 2015 was the second year that IHEs participating in the AVID College Completion Project offered AVID-infused freshman courses to selected students. The results for Cohort 2 AVID students were compared to a matched comparison group of nonparticipating students who began college in fall 2015, similar to the AVID treatment group.⁹

Cohort 2: Persistence Rate Analysis for Four-Year and Two-Year Institutions

- At three of the six four-year institutions, Cohort 2 AVID students persisted into the spring semester of their freshman year at higher rates than their non-AVID counterparts; however the difference was not statistically significant for any of the participating IHEs. The combined average effect of program participation on freshman fall-to-spring persistence was not substantively different from zero (-0.05 percentage points).

⁷ Due to the limited number of covariates included in the two-year statistical models, these results should be viewed with some caution.

⁸ These differences approached the .10 level, but were not statistically significant (i.e., $p=.16$ and $p=.13$, respectively).

⁹ More technical details about these two approaches are provided in Appendix B.

- Among two-year technical and community colleges, Cohort 2 AVID students also returned for their spring semester of their first year in college at higher rates than non-AVID students (i.e., a combined average effect of +5.70 percentage points).¹⁰ While freshman fall-to-spring persistence results were comparable for AVID and non-AVID students at Atlanta Technical College and Butler Community College, AVID students at Saddleback College who were enrolled in an AVID-infused courses posted significantly higher fall-to-spring persistence rates, when compared to their within-year control group (+10.53 percentage points).¹¹
- The combined average effect of AHE participation at four-year institutions on Cohort 2 freshman-to-sophomore year persistence was small and non-significant, ranging from -1.99 to -2.97 percentage points, depending upon the comparison group analysis). Institution-level results were mixed, with Cohort 2 AVID students at three of the six IHEs posting higher freshman-to-sophomore persistence rates than non-AVID students (i.e., CSU-San Marcos, +3.55 percentage points; Texas Wesleyan University, +7.01 percentage points; and UNC-Asheville, +6.02 percentage points). Lower freshman-to-sophomore year persistence rates were observed for the other three IHEs in the study.¹²
- Cohort 2 AVID students at two of the three two-year institutions (Butler Community College and Saddleback College) persisted into their second year of college at higher rates than their non-AVID counterparts (Butler Community College: +16.73 percentage points, and Saddleback College: +11.86 percentage points). Both of these differences were statistically significant. The combined average effect of AVID participation on freshman-to-sophomore year persistence was +8.40 percentage points, and the difference was statistically significant at the .10 level.

Cohort 2: Course Passing Rate Analysis for Four-Year and Two-Year Institutions

- At four of the six four-year institutions, freshman-year course-passing rates were higher for Cohort 2 AVID students than their non-AVID counterparts; however, the difference was only significant at one IHE, Texas Wesleyan University (+8.13 percentage points). The combined average effect of program participation on freshman course-passing rates was +1.28 percentage points.¹³
- For Cohort 2 AVID students at two-year institutions, AVID students passed between 1.78 and 5.57 percentage points fewer freshman courses of three or more credits than non-AVID students; however, none of these differences reached statistical significance. The two-year institution

¹⁰ Combined average effect size differences were not statistically significant ($p=0.15$).

¹¹ Due to the limited number of covariates included in the two-year statistical models, these results should be viewed with some caution.

¹² Only the differences at CSU-San Marcos (positive) and Fort Valley State University (negative) were statistically significant.

¹³ This difference was not statistically significant.

combined average effect size on freshman year course passing rates for Cohort 2 students was -2.68 percentage points.

Summary

Over the 2014-15 to 2015-16 period, six of the nine IHEs participating in the AVID College Completion Program improved their fidelity measures contained in the AVID Center's CSS process (two remained unchanged and one declined slightly), and each institution offered targeted freshman course sections, typically FYE courses, by AVID-trained instructors. Each IHE sent teams of staff and faculty to off-site (e.g., AVID Summer Institute) and on-site AVID professional development provided by AVID Center staff and consultants, which was well-received, as evidenced by large proportions of participants indicating that it positively impacted their work with students and their approaches to instruction. However, based on student survey data and observations of AVID and non-AVID sections of targeted freshman courses, it appears as though key differences in how the colleges and universities deliver AVID and non-AVID course sections are narrowing, with instructors in non-AVID sections utilizing more active and collaborative learning strategies taught in AVID professional learning sessions. This may signal that a "spillover effect" may be occurring, wherein AVID-trained faculty and non-AVID faculty share effective instructional approaches with each other. While faculty working more collaboratively to improve teaching and learning at their institutions is a positive result from an institutional standpoint, it may be having a dampening effect on differences between AVID and non-AVID students, creating a lower bound estimate of program impact on student persistence and grades.

For Cohort 1 (i.e., students who entered college in fall 2014), generally positive freshman-to-sophomore year persistence rates for two- and four-year IHEs, and freshman-to-junior year persistence rates for four-year IHEs, were observed for AVID students when compared to matched non-AVID comparison groups. Cohort 1 college-persistence rates were particularly compelling at Texas Wesleyan University; Fort Valley State University; WSU, Tri-Cities; and UNC-Asheville. However, the living learning community approach showed promising results for freshman fall-to-spring persistence at UNC-Asheville. For Cohort 1 students, the AHE program appears to have a stronger impact on freshman-year course-passing rates (i.e., when the AVID program intervention is more proximate to the outcome) than sophomore year course passing rates (i.e., when the students are generally a year removed from the program intervention). Lower sophomore year course passing rates for AVID students when compared to non-AVID students may be a result of differences in the difficulty or the courses taken in their second year of college between the two groups of students, among other factors. Promising persistence rate results were also observed for Cohort 1 at Atlanta Technical College and for Cohort 2 students at Butler Community College and Saddleback College.

For Cohort 2, freshman fall-to-spring persistence and freshman-to-sophomore year persistence was mixed across IHEs, with the most favorable results for AVID students observed at Texas Wesleyan University and UNC-Asheville. Freshman-year course-passing rates were higher and positive for AVID students at seven of the nine IHEs. Two of the colleges and universities had significantly higher course passing rates for AVID students when compared to non-AVID students. It will be important to assess if the

freshman course passing results continue into the sophomore year or dissipate, like Cohort 1. For two year institutions, promising persistence rate results were observed for Cohort 1 AVID students at Atlanta Technical College and for Cohort 2 AVID students at Butler Community College and Saddleback College.

In conclusion, while persistence and course-passing outcomes are mixed across participating institutions, consistently positive Cohort 1 and 2 results have been observed at selected institutions that have dedicated significant resources and energy toward effective AHE implementation. Measurement issues, resulting from possible contamination of treatment and control groups, and data quality at some institutions continue to be a challenge for the research team.

1 – Introduction

Background

The AVID *for* Higher Education (AHE) Student Success Initiative (SSI) was created in response to a growing need at institutions of higher education (IHEs) to increase student persistence and graduation. AVID Center’s work with three pilot sites in 2009 revealed that the participating institutions should include the following programmatic elements:

- Strong campus leadership, vision, and support
- Students access to rigorous credit-bearing coursework (i.e., rather than developmental coursework)
- Coherence in student experiences, which can be achieved through structures such as student cohorts, learning communities, linked courses, etc.
- Learner-centered instruction that engages students in AVID’s WICOR components (i.e., writing, inquiry, collaboration, organization, and reading)
- Participation in an AVID or AVID-like course during their freshman year

In 2010, the Texas Higher Education Coordinating Board (THECB) provided funding to implement the AHE program at 11 colleges and universities across Texas. This work expanded to include a second cohort of IHEs. Evaluation results showed some promising findings, particularly at institutions deemed to have implemented the program with fidelity.

AVID Center received a grant (i.e., the College Completion Project grant) from the Michael & Susan Dell Foundation (MSDF) to implement the AHE Student Success program at IHEs and to measure the impact of the program on institutional and student outcomes. The project period began in May 1, 2013, and will continue through December 31, 2018, with all evaluation activities and a final comprehensive report due in spring 2019. The 2013-14 academic year served as a planning period for participating IHEs, and the first cohort of AHE students were served in fall 2014. A second cohort of AHE students were served in fall 2015. Over the five-and-a-half-year grant term, the project will implement the AHE SSI on nine college campuses new to the AHE program. The primary goal of the program is to provide supports to help students persist in their studies and succeed in college. It is designed to impact the expectations and behaviors of administrators, faculty, and staff across the entire campus.

Through the AHE program, the AVID Center partners with IHEs to systemically address the goals of increased learning, persistence, completion, and success in and beyond college, particularly for economically disadvantaged, first-generation, and minority students. The AHE program strives to address systemic institutional barriers that traditionally limit student academic achievement (e.g., lack of communication between academic and student affairs or limited tutoring opportunities for students), and that assist students who are not fully prepared for college by providing training and support to develop their skills for academic success and persistence.

The focus of this report is on AHE program implementation at sites during the 2015-16 academic year, and student outcomes for the fall 2014 and fall 2015 student cohorts, which include enrollment and course completion data for 2015-16 as well as enrollment data for fall 2016. Institutions listed in Table 1.1 below are currently committed to the project, will be implementing the AHE program over the next five years, and will be part of the evaluation framework.

Table 1.1. – IHEs Participating in the AHE College Completion Project

Participating Institution	Location	Institution Type
Atlanta Technical College	Atlanta, Georgia	Two-Year
Butler Community College	El Dorado, Kansas	Two-Year
California State University – San Marcos	San Marcos, California	Four-Year
Fort Valley State	Fort Valley, Georgia	Four-Year
Saddleback College	Mission Viejo, California	Two-Year
Texas Wesleyan University	Fort Worth, Texas	Four-Year
Tougaloo College	Tougaloo, Mississippi	Four-Year
University of North Carolina –Asheville	Asheville, North Carolina	Four-Year
Washington State University, Tri-Cities	Richland, Washington	Four-Year

Source: AVID Center, 2015

Overview and Research and Evaluation Objectives

The five-year evaluation of the AVID College Completion Project includes three cohorts of AHE students (i.e., fall 2014, fall 2015, and fall 2016). It follows these student cohorts and their matched comparison groups into the 2018-19 academic year to assess program impact on persistence rates, course-passing rates (with a grade of C or better), certificate/degree attainment, and transfer rates from two-year institutions to four-year institutions. The focus of this report is the fall 2014 cohort.

Each of the nine participating AVID College Completion Project sites began serving students with a gateway AVID-infused course in fall 2014, which was typically, but not always, a FYE course. A second student cohort began in fall 2015. The performance of these two AVID cohorts are compared against the outcomes for a matched comparison group of students who did not participate in the AHE program.

This report addresses the following research questions¹⁴:

1. To what extent did participating institutions implement AHE with fidelity?

¹⁴ The research team will also address the following research question for the fall 2016 cohort of students: Did students who participated in AVID in high school have different postsecondary outcomes than students who did not participate in AVID in high school? The results of this analysis will be included in the Year 3 evaluation report (i.e., 2016-17) released in January 2018. The relationship between implementation fidelity and long-term student outcomes will be addressed in the final AHE program evaluation report in spring 2019.

2. How did students in AVID and non-AVID sections of targeted freshman courses perceive their experiences, and were there differences in the perspectives of students in Cohort 1 (fall 2014) and Cohort 2 (fall 2015)?
3. What is the relationship between student participation in the AHE program and academic outcomes?

Table 1.2 outlines which student achievement outcomes are addressed for each cohort in this report.

Table 1.2. – Student Outcome Measures by Cohort

	College Persistence Rates			Grades
	Freshman Year Fall-to-Spring Persistence	Freshman-to-Sophomore Year Persistence (Fall to Fall)	Freshman-to-Junior Year Persistence (Year 1 to Year 3)	Percent of Courses Passed with a Grade of C or Better
Student Cohort 1 (Fall 2014)	Yes	Yes	Yes	Yes (Freshman and Sophomore Years)
Students Cohort 2 (Fall 2015)	Yes	Yes		Yes (Freshman Year Only)

Source: Gibson Consulting Group, 2016.

Because of the diverse nature of the IHEs and the manner in which IHEs implement the AVID program, the Gibson evaluation team conducted institution-level analysis as well as a meta-analysis with results separated for two- and four-year institutions.

Data Sources

Data and research methods used to address each of the five primary research questions are outlined below. To assess the extent to which each of the participating IHEs has implemented the AHE program with fidelity, the Gibson Consulting Group, Inc. (Gibson) evaluation team relied on five primary means of data:

- Certification Self-Study (CSS) data collected from AVID Center at the conclusion of each year
- Interview, focus group, and observation data collected during annual evaluation site visits
- Student surveys related to the FYE course or other freshmen course(s) identified for the AHE intervention
- AHE professional development participant data
- AHE professional development survey data

Certification Self-Study Data

Certification is based on an annual institutional self-study using the AHE CSS Continuum document. Starting in the fall of Year 2 of the grant project, and in fall annually thereafter, each IHE campus team will prepare the self-study document to assess where the IHE is at the beginning of the academic year, and to

inform the planning and goals for improving and expanding AHE SSI on the campus. The campus teams revise the same document to reflect the steps taken, improvements made, and areas in need of further improvement for the CSS completed in the spring at the end of the academic year. Participating institutions submit their CSS with supporting documentation to AVID Center, who determines a final certification recommendation for each AHE SSI institution.

AVID Center defined five AHE Essentials for successful SSI implementation. These AHE Essentials are designed to transform campus culture by engaging all key campus members and programs in the change process, and include:

- Essential 1 —Administrative Leadership and Support
- Essential 2 —AVID Campus Team: Campus-Wide Collaboration
- Essential 3 —Faculty Development and Professional Learning
- Essential 4 —AVID Experience: First Year through Completion
- Essential 5 —Assessment and Research

The CSS is based off of these Five Essentials and evaluates how well the IHE implements each of the 30 indicators spread across the Five Essentials, based on documented evidence. The IHE rates itself on each factor according to the following standards defined by AVID:

- Not AVID (Level 0)
- Meets Certification Standards (Level 1)
- Routine Use (Level 2)
- Institutionalization (Level 3)

Gibson used CSS data from 2014-15 and 2015-16 to assess the extent to which participating institutions met AHE certification standards. CSS data is just one of several measures the evaluators used to assess program implementation fidelity.

On-Site Data Collection

During September - November 2015, Gibson evaluators visited each of the colleges and universities participating in the AVID College Completion Project to assess the breadth and nature of the AHE program that each school was implementing. Depending upon the number of courses selected for observation and the course schedules, the evaluators conducted one- or two-day site visits. The purpose of the site visits was to assess how various aspects of the AHE program were implemented across participating institutions. The evaluators conducted the following data collection activities while on-site:

- *Group interviews with the AVID implementation team:* In fall 2014, nine group interviews were conducted across participating institutions, with a total of 48 participants. In fall 2015, nine group interviews were conducted across participating institutions, with a total of 51 participants.

- *Group Interviews with FYE-course instructors and faculty members:* In fall 2014, nine group interviews were conducted across participating institutions, with a total of 36 participants. In fall 2015, nine group interviews were conducted across participating institutions, with a total of 45 participants.
- *Observations of AVID-infused courses (FYE course and freshman content courses):* In fall 2014, a total of 33 freshman courses (i.e., 20 AVID-based courses and 13 non-AVID course sections) were observed, with student-centered pedagogical approaches documented, and student-engagement levels scored using an observation rubric developed by Gibson for this study. In fall 2015, a total of 35 freshman courses (i.e., 26 AVID-based courses and nine non-AVID course sections) were observed.

In addition, Gibson researchers conducted focus groups with AVID-trained peer tutors at three institutions in fall 2015, with a total of 22 tutors who participated in the sessions.¹⁵ Interviewers took detailed notes, which were used to describe the implementation progress made by each institution, to provide formative feedback to the AVID Center about the perceived value of the faculty development and planning days, and to describe the ways in which the organization can better support colleges and universities in the implementation of the AHE program.

Surveys of Students Regarding Experiences in Targeted Freshmen Courses

The AHE program intervention across participating institutions includes the use of student-centered, high-engagement pedagogy and cross-disciplinary skill-building content in targeted freshman courses. While the majority of the participating colleges and universities embedded the AVID-based pedagogy and content into FYE courses, some participating institutions (e.g., Atlanta Technical College and WSU, Tri-Cities) implemented other targeted freshman courses (e.g., medical terminology, English composition, learning support courses for mathematics and reading, accounting, and history). While some institutions offered a “stand-alone” freshman seminar course (e.g., Saddleback College, Butler Community College, CSU-San Marcos, Tougaloo College, and Texas Wesleyan University), others created a FYE course that is content specific with infused AVID strategies (e.g., UNC–Asheville and Fort Valley State University). At UNC-Asheville and Fort Valley State University, FYE courses were offered through a variety of departments, such as English, economics, business, education, biology, fine arts, history, political science and chemistry, among others. At UNC-Asheville, the fall 2015 FYE course for AVID cohort students also includes a study skills component that was taught in a separate course offered only to students in the AVID living learning community in 2014-15. At each of these universities, the subject matter of the course followed the discipline of the faculty member teaching the course, but is taught with active or collaborative learning methods.

In fall 2015, a paper Scantron survey was administered to students in targeted AVID-infused and non-AVID freshman course sections to gauge their experiences with the course. Three primary survey constructs were developed: 1) Pedagogy and content of course; 2) Impact of course on confidence and skills; and 3)

¹⁵ In fall 2014, group interviews were conducted with peer tutors at seven institutions, with a total of 36 participants.

Impact of the course on the use of university resources. As Table 1.3 shows, Fall 2014 student survey response rates for AVID course sections ranged from a high of 88% to a low of 48%. Response rates for non-AVID sections were somewhat lower, ranging from a high of 87% to a low of 31%. The overall Fall 2014 response rate for students in AVID course sections was 72%.; while the overall response rate for students in non-AVID course sections was 49% (Table 1.3).

Table 1.3. – Fall 2014 Student Survey Response Rates

Institution	Responding Sample		Target Sample		Response Rate	
	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID
Atlanta Technical College	78	74	122	240	64%	31%
Butler Community College	40	60	63	152	63%	39%
CSU-San Marcos	182	228	215	726	85%	31%
Fort Valley State University	97	50	203	88	48%	57%
Saddleback College	77	144	97	218	79%	66%
Texas Wesleyan University	78	60	90	69	87%	87%
Tougaloo College	46	66	83	117	55%	56%
UNC – Asheville	136	253	155	476	88%	53%
WSU, Tri-Cities	110	33	144	39	76%	85%
Total Sample	1,022	1,232	1,419	2,494	72%	49%

Source: Fall 2014 AHE Student Survey, Gibson Consulting Group, 2015.

Fall 2015 student survey response rates for AVID course sections ranged from a high of 100% to a low of 35%. Response rates for non-AVID sections were somewhat lower, ranging from a high of 75% to a low of 17%. The overall response rate for students in AVID course sections was 69% and the overall response rate for students in non-AVID course sections was 54% (Table 1.4).

Table 1.4. – Fall 2015 Student Survey Response Rates

Institution	Responding Sample		Target Sample		Response Rate	
	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID
Atlanta Technical College	68	87	132	190	52%	46%
Butler Community College	41	70	65	127	63%	55%
CSU-San Marcos	237	214	291	326	81%	66%
Fort Valley State University	59	33	167	189	35%	17%
Saddleback College	85	84	119	144	71%	58%
Texas Wesleyan University	98	71	131	111	75%	64%
Tougaloo College	38	88	77	117	49%	75%
UNC – Asheville	70	82	87	134	80%	61%
WSU, Tri-Cities	110	32	110	71	100%	45%
Total Sample	806	761	1,174	1,409	69%	54%

Source: Fall 2015 AHE Student Survey, Gibson Consulting Group, 2016.

The student survey measured the extent to which the targeted courses met the needs of AVID cohort students, how the experiences of students in AVID and non-AVID-infused courses differed in terms of

course content and pedagogy (e.g., small group activities, hands-on activities, and AVID strategies), the students' perceptions of how the course may have impacted their skills and confidence in being successful in college, and the students' perceptions of how the course may have impacted their awareness of university resources (e.g., tutoring center, faculty office hours, and peer study groups) as well as their willingness to utilize those resources.

Gibson analyzed data descriptively and assessed the differences in student responses for AVID-infused and non-AVID-infused course sections. In January 2015, participating colleges and universities were provided with formative, institution-level reports on survey findings for AVID-infused and non-AVID freshman course sections that they could use to further refine the content and pedagogy in their targeted freshman courses. In addition, the student-survey data served as a key measure of AHE program implementation fidelity, by assessing the extent to which instructional approaches and student responses to the AVID-related intervention differed, for students across AVID-infused and non-AVID course sections. Gibson used this implementation metric as an independent variable in the models used to assess the relationship between program participation and student outcomes.

Section 3 of this report includes a detailed analysis of the fall 2015 student survey data. Specifically, the relationship between student enrollment in targeted freshman courses employing student-centered, high-engagement pedagogy and content designed to improve student study, reading, and critical thinking skills as well as:

- 1) Student perceptions of how the course has impacted their skills and confidence to be successful in college.
- 2) Student perceptions about how the course has impacted student connections to university resources (e.g., tutoring center and faculty office hours) and peer networks (student study groups and making friends in class).

Similar to the Fall 2014 student survey analyses, multivariate statistical models were utilized by the evaluation team to explore these important relationships between the targeted freshman courses and important non-cognitive outcomes, which may relate to student success and persistence in college.

AVID Professional Development Participation and Survey Data

AVID staff and consultants provide institutional staff (i.e., AVID liaisons, administrators, freshman seminar instructors, faculty members, and peer tutors/mentors) with on-site, targeted professional development (e.g., high-engagement strategies, advising, critical-reading strategies, peer tutoring, mentor training, etc.). During the AVID Summer Institutes, AVID staff and consultants also provide the institutional staff with three days of intensive training based on their role and their related professional development (PD) strand. This delivery of high-quality faculty development is a cornerstone of the AHE program. As a result, it is an important program implementation fidelity measure.

While Gibson queried campus staff members participating in interviews and focus groups about their experiences with the PD provided by the AVID Center, we also administered an online survey to all AVID-

involved campus administration staff, faculty/instructors, and tutor/mentors to systematically measure perceptions of the PD among all participants (i.e., a larger group than those participating in site visit activities). The evaluation team developed the survey instrument in collaboration with staff at the AVID Center to ensure that we included appropriate constructs of measurement, used appropriate terminology, and asked applicable questions of each target group. The online survey included the following areas:

- The quality and relevance of PD
- The impact of PD on the use of AVID-related instructional practices in the classroom and in tutoring/mentoring sessions
- The use of AVID-related administrative practices
- Student engagement and performance

In spring 2015, Gibson delivered 639 survey invitations to faculty at participating institutions who participated in off-site faculty development (e.g., AVID Summer Institutes) or on-site faculty development provided by AVID Center staff and consultants. Over the course of the fielding period, April 20, 2015 to May 13, 2015, institutional staff completed and submitted a total of 134 surveys through the online system (i.e., a 21% response rate). In spring 2016, Gibson sent 938 survey invitations to participating faculty. Between April 14, 2016 and May 11, 2016, a total of 225 surveys were completed online for a 24% response rate (Table 1.5).

Table 1.5. – Spring 2015 and 2016 Faculty Development Participant Survey Response Rates

Institution	Spring 2015 Responses (N)	Spring 2015 Response Rate	Spring 2016 Responses (N)	Spring 2016 Response Rate
Atlanta Technical College	23	23.7%	32	28.1%
Butler Community College	28	20.4%	60	34.9%
California State University – San Bernardino	8	16.0%	NA	NA
California State University – San Marcos	8	27.6%	18	30.5%
Fort Valley State University	7	13.7%	13	21.7%
Saddleback College	23	31.5%	37	24.5%
Texas Wesleyan University	1	2.3%	13	28.3%
Tougaloo College	10	35.7%	21	18.8%
University of North Carolina – Asheville	9	12.5%	17	13.0%
Washington State University, Tri-Cities	17	28.8%	14	15.1%
Total Sample	134	21.0%	225	24.0%

Source: *Spring 2015 and 2016 AHE Faculty Development Participant Survey, Gibson Consulting Group, 2016.*

Note: *CSU-San Bernardino dropped out of the project after the 2014-15 academic year; however their survey responses have been included in the results for Cohort 1.*

Gibson analyzed survey data descriptively to assess the extent to which training provided by the AVID Center has impacted the professional and instructional practices of participants.

Student-Level Data Collected from Participating Institutions and Student-Matching Approach

To address research questions related to how participation in the AHE program may be associated with various near-term student outcomes (e.g., fall-to-spring persistence, freshman-to-sophomore persistence, and course grades) and longer-term student outcomes (e.g., freshman-to-junior persistence), the evaluation team requested student-level data files from participating IHEs. In late spring 2015, Gibson requested data related to student demographics, baseline academic information (e.g., high school GPA, high school class rank, SAT/ACT scores, and math and reading placement scores), financial-aid information (e.g., Pell eligibility and Pell Grant recipient status), and course enrollment and performance from each of the participating colleges and universities for the following cohorts of first-time, full-time college students:

- 1) Cohort 0: Began college in fall 2013 (comparison group for the year prior to AHE implementation)
- 2) Cohort 1: Began college in fall 2014 (first year of AHE implementation, AVID and Non-AVID students)
- 3) Cohort 2: Began college in fall 2015 (second year of AHE implementation, AVID and Non-AVID students)

Gibson received student-level data files from each of the nine participating IHEs. This report provides outcomes data for:

- Cohort 0 students for the 2013-14 academic year (i.e., Cohort 0 freshman year), the 2014-15 academic year (i.e., Cohort 0 sophomore year), and the 2015-16 academic year (i.e., Cohort 0 junior year);
- Cohort 1 students for the 2014-15 academic year (i.e., Cohort 1 freshman year), the 2015-16 academic year (i.e., Cohort 1 sophomore year), and limited-enrollment data for the 2016-17 academic year (i.e., Cohort 1 junior year) to calculate year 1 to year 3 persistence rates; and
- Cohort 2 students for the 2015-16 academic year (i.e., Cohort 2 freshman year) and limited-enrollment data for the 2016-17 academic year (i.e., Cohort 2 sophomore year) to calculate year 1 to year 2 persistence rates.

Through a variety of statistical models, we address the following outcomes of interest in this report:

- *Fall-to-Spring Persistence Rates* (i.e. fall of freshman year to spring of freshman year)
- *Freshman-to-Sophomore Persistence Rates* (i.e., fall of Year 1 to fall of Year 2)
- *Freshman-to-Junior Persistence Rates* (i.e., fall of Year 1 to fall of Year 3)
- *Course Passing Rates* as measured by the percent of courses of three credits or more passed with a grade of C or better or a pass score in the academic year of interest

Methods for Addressing Program Impact Research Questions

The evaluation team relied on statistical procedures to ensure students who were enrolled in AHE-infused classrooms were compared against peers who were not enrolled in these course sections but who had similar measured baseline academic performance ability and demographic attributes. The evaluation design is quasi-experimental, where students who enrolled in an AHE FYE course are compared to students who did not enroll in an AVID-infused FYE course but who nonetheless resemble, based on the academic and non-academic measures provided by each institution, participating students. Two comparison groups were created for Cohort 1 (Fall 2014); however, only within-year analyses were conducted for Cohort 2 (Fall 2015):

1. Cohort 0 (Fall 2013):¹⁶ Non-participating students from the school year *prior* to the implementation of the AHE program (i.e., 2013-14) were compared to participating students from the first year of implementation (i.e., 2014-15). Comparisons between outcomes for Cohort 0 and Cohort 1 were only conducted for the first cohort of AVID students who began college in fall 2014.
2. Cohort 1 (Fall 2014): Non-participating students from the first year of implementation (i.e., 2014-15) were compared to participating students *within the same school year* (i.e., 2014-15 and 2015-16).
3. Cohort 2 (Fall 2015): Non-participating students from the second year of implementation (i.e., 2015-16) were compared to participating students *within the same school year* (i.e., 2014-15).

For each comparison group design, the outcomes analyses proceeded in two stages. First, propensity scores were estimated to quantify the probability of AHE FYE participation, conditional on available pre-treatment covariates provided by participating institutions. This score was then used to weight non-participating students in order to balance pre-treatment covariates between non-participating students and participating students so that, on average, both the participant and the non-participant groups were equivalent based on the covariates available to the research team.¹⁷ Next, multivariate regression was used to estimate the difference in the outcomes between treatment and comparison students. The difference represented the average treatment effect on the treated (ATET). The treated group refers to students who participated in the AHE program during the the first enrollment year for each cohort wave. More technical detail about this approach is provided in Appendix B.

Gibson performed analyses, including the specification of the propensity score, separately for each institution in order to calculate an institution-specific program participation effect. Similar to Shields et al.

¹⁶ This comparison was not available at two-year institutions due to inadequate data.

¹⁷ The variables available for inclusion in the model to estimate the propensity score used varied by institution, as some IHEs were able to provide all of the variables the research team requested. Appendix B includes variables used to match AVID students with comparison-group students for each institution included in the analysis. The appendix also details the methods used in the propensity score matching procedure.

(2014), the disaggregated institution-level effects were aggregated using random effects meta-analysis models to provide a combined average program AVID participation effect.¹⁸

Organization of the Report

Following this introduction, Section 2 provides an assessment of the extent to which participating IHEs have implemented core components of the AHE program with fidelity (e.g., participation in AVID-related faculty development, the perceived impact on faculty development and on professional and instructional practices across IHEs, and the extent to which AVID pedagogy and suggested cross-disciplinary skill-building content are being infused into targeted courses). In Section 3, a detailed analysis of student experiences with targeted freshmen courses are explored. The experiences of students in AVID course sections are compared with those of students enrolled in non-AVID “business as usual” course sections. Section 4 examines the relationship between student participation in AHE and key student outcomes (e.g., persistence rates and course-passing rates).

Appendix A includes the student survey instrument administered to students in AVID and non-AVID course sections in fall 2015. Appendix B provides the methodological detail for the statistical models which explored the relationship between program participation and student outcomes.

The research approach used to generate the findings contained in this report mirrors the approach used in the Year 1 (2014-15) AVID College Completion Project evaluation report (Shields, et al., 2016).

¹⁸ Additional technical detail about the meta-analysis procedure can be found in Appendix B.

2 – Program Implementation Overview

This section of the report addresses the following research questions related to AHE program implementation:

- 2.1 What core AHE program elements were implemented by participating institutions during the first two years of program implementation?
- 2.2 How many faculty and staff members at participating institutions participated in AVID faculty development, and in what ways did they feel the training impacted their work with students?
- 2.3 To what extent did participating institutions implement AHE with fidelity as measured through the AHE Certification process?
- 2.4 To what extent did participating institutions offer FYE or content courses infused with AVID strategies?

Research Question 2.1: What core AHE program elements were implemented by participating institutions during the first year of program implementation?

In both 2014-15 and 2015-16, each of the nine participating IHEs had identified an AVID liaison to coordinate project and research activities for their institution. In addition, each institution has an AVID site team in place which commonly included members from various departments (e.g., academic affairs, student affairs, student success, institutional research, tutoring centers, enrollment, faculty members from varied disciplines, and FYE-course instructors). The frequency of AVID site team meetings varied across sites from weekly meetings to a couple of meetings per semester.

The primary AHE intervention at each of the participating IHEs is a targeted first-year content course or courses, or a first-year experience (FYE) course infused with AVID strategies designed to help improve student persistence and college success. Faculty teaching AVID versions of targeted freshman courses at participating colleges and universities have either attended training in high engagement strategies at the AVID Summer Institute or received training through on-site professional learning opportunities facilitated by AVID Center staff or consultants. Seven of the nine participating IHEs offered AVID and non-AVID sections of a FYE course in both fall 2014 and fall 2015. Two IHEs, Atlanta Technical College and WSU, Tri-Cities created AVID and non-AVID sections for other freshman courses instead of following the FYE delivery model. In 2014, Atlanta Technical College created AVID-infused sections for their Introduction to Computers, required for all first-time students, and Medical Terminology, required for Allied Health majors. In 2015, Atlanta Technical College expanded AVID course offerings to Financial Accounting, English Composition, Medical Terminology, and support courses for mathematics and English. At WSU, Tri-Cities, AVID and non-AVID sections of their freshman history course were offered in fall 2014 and fall 2015. In addition, two institutions, UNC-Asheville and Tougaloo College, implemented student learning communities in 2014-15, and two universities – Tougaloo College and WSU, Tri-Cities – implemented student learning communities in 2015-16.

Through interviews, multiple faculty across participating institutions shared that they found a number of strategies taught to them by AVID staff or consultants to be highly effective, including Think-Pair-Share; Name Tents; Cornell Notes; Quick Writes; KLWA; 10-2-2 lecture style, where they lecture for 10 minutes followed by two minutes of reflection and discussion; Jigsaw; Reflections; Philosophical Chairs; Socratic Seminar; and Essential Questions, among others. One faculty member shared that *“I can’t talk enough about how the Socratic Seminar gets them to deeper level of thinking.”* Faculty shared that the use of AVID strategies has made them more excited about teaching, and has had a substantive impact on how they approach instruction. The following quotations from faculty members exemplify this point:

“AVID has not changed how I teach or student engagement in my classes, but it has made it more exciting for me.”

“AVID has reinvigorated me as an educator. I am much more conscious about trying to reach all students in my class.”

“AVID has totally transformed my teaching. I am now riffing and improvising. I used to get cranky about student performance, but now I realize it was me.”

“It is more fun for me, and more fun for them.”

“AVID has made me more approachable as a faculty member and I’m seeing more students coming to my office hours.”

Another faculty member from a community college shared that *“AVID is very useful on community college campuses because faculty have no training on how to teach.”* In general, faculty spoke about increased *“student group work,”* a more *“interactive environment,”* *“giving students voice and the floor,”* and *“being more purposeful and intentional”* in how they integrated AVID strategies into instruction. In both fall 2014 and fall 2015, campus team members, and faculty at participating colleges and universities, felt that high-engagement strategies, and student-centered instruction, were not consistently being implemented by faculty beyond the targeted AHE courses (i.e., FYE or specific freshman courses). One possible exception to this point is at Saddleback College, where the course catalogue indicates whether a course is being taught by an AVID-trained faculty member, and where work is being done to deepen AVID implementation at the campus.

AVID Center established some essentials for the AHE program (e.g., AVID-infused FYE course, AVID-trained tutors, professional development participation, and planning session participation); however, they also allowed participating schools some latitude when determining how they wanted to implement AHE at their institutions. All of the participating IHEs have developed an AVID-infused FYE course or a required freshman content course.

Research Question 2.2: How many faculty and staff members at participating institutions participate in AVID faculty development, and in what ways did they feel the training impacted their work with students?

Participation in AVID-Based Professional Development

During the planning year of 2013-14, and the first year of program implementation in 2014-15, four different types of professional development and planning assistance were provided by AVID Center staff and consultants:

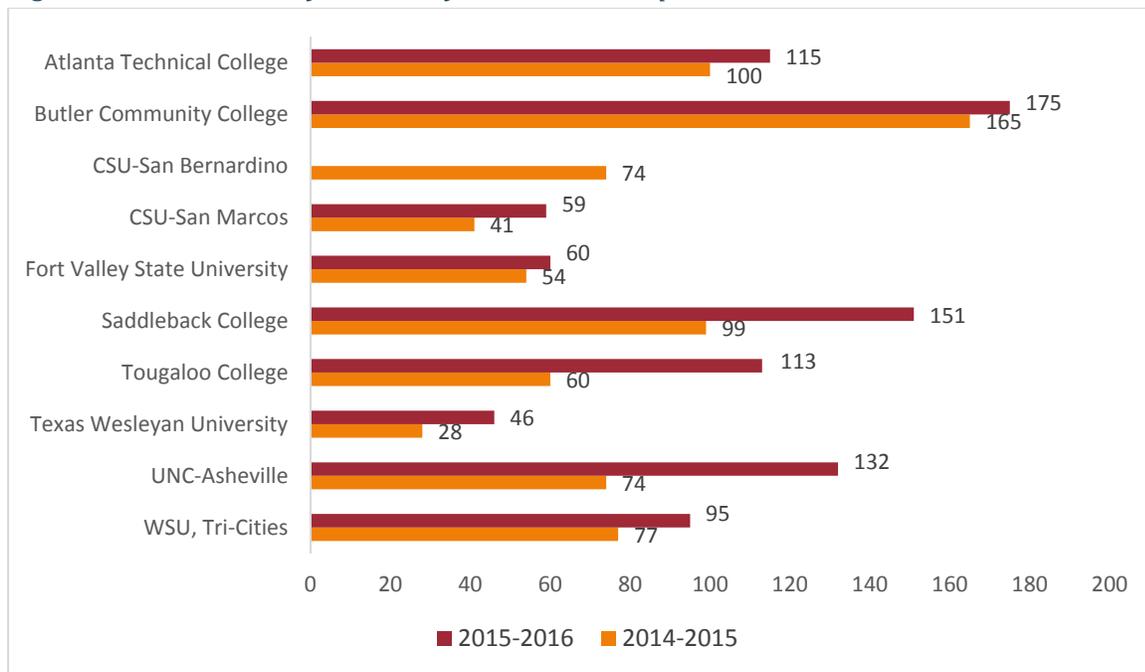
- 1) The Professional Learning Meeting, which coincided with the AVID National Conference in Dallas, Texas (December 2013)
- 2) AVID Summer Institutes, which took place in Dallas (June 2014) and San Diego (July 2014 - August 2014)
- 3) On-campus faculty development days held during the 2013-14 and 2014-15 academic years
- 4) On-campus planning days held during the 2013-14 and 2014-15 academic years

Figure 2.1 shows the reported number of unique participants for each institution in each academic year, combined across the various professional development opportunities. It is important to note that the vast majority of the AVID professional development is provided on-site at the participating IHEs to maximize the number of potential attendees. In total, 772 individuals from the participating institutions attended AVID-related training between December 2013 and April 2015.¹⁹ Between May 2015 and April 2016, 946 individuals attended AVID-related training at the participating institutions. A sizable number of faculty and staff at each of the colleges and universities participating in the AVID College Completion Project attended AVID-related professional development, with the number of attendees ranging from 28 at Texas Wesleyan University to 165 at Butler Community College in the 2014-15 academic year.²⁰ This range held true in the 2015-16 academic year, where the number of attendees ranged from 46 at Texas Wesleyan University to 175 at Butler Community College.

Faculty attendance at AVID-related professional development events in the 2015-16 academic year were higher across the board compared with the 2014-15 academic year. Tougaloo College and University of North Carolina at Asheville saw the highest increases with 2015-16 faculty participation in AVID-related professional development nearly double that of 2014-15 participation.

¹⁹ These figures include participants from CSU-San Bernardino, which dropped out of the study after the 2014-15 academic year. While they are not included in the student outcomes analyses, faculty and staff from this institution did participate in AVID professional development and are thus, included in the professional development analyses.

²⁰ The number of attendees is related to a number of different factors, including the size of the college or university.

Figure 2.1. – Number of AVID Professional Development Attendees, 2014-2016

Source: Gibson Survey of AVID Professional Development Participants, Spring 2015-2016.

Note: CSU-San Bernardino dropped out of the AVID College Completion Project after the 2014-15 academic year; however, their 2014-15 PD survey results are included in the findings presented in this report.

Perspectives on AVID-Based Professional Development

During the planning year of 2013-14, the first year of program implementation in 2014-15, and the second year of program implementation in 2015-16, four different types of professional development and planning assistance were provided by AVID Center staff and consultants:

- 1) The Professional Learning Meeting, which coincided with the AVID National Conference in Dallas, Texas (December 2013)
- 2) AVID Summer Institutes, which took place in Dallas (June 2014) and San Diego (July 2014 - August 2014)
- 3) On-campus faculty development days held during the 2013-14, 2014-15, and 2015-16 academic years
- 4) On-campus planning days held during the 2013-14, 2014-15, and 2015-16 academic years

Faculty and staff who participated in AVID-related professional development were asked to complete an online survey regarding their perspectives on the quality and relevance of the professional development received through one or more sessions attended, and the perceived impact of the professional development on their work during the 2014-15 and 2015-16 academic years. Responses in this section

are based on 134 completed surveys from the 2014-15 academic year and 225 completed surveys from the 2015-16 academic year.²¹

The majority of the survey respondents in both years identified themselves as instructors (69.4% in 2014-15 and 70.6% in 2015-16), while smaller percentages indicated that they were student advisors or counselors (29.6% in 2014-15, 20.1% in 2015-16), a college administrator in either the student affairs (7.5% in 2014-15, 7.4% in 2015-16) or the academic affairs (15.7% in 2014-15, 10.8% in 2015-16) departments, or peer tutors (9.0% in 2014-15, 12.3% in 2015-16). Among instructors, the most commonly noted content areas were FYE or study skills (35.9% in 2014-15, 23.9% in 2015-16), English (18.5% in 2014-15, 16.4% in 2015-16), sciences (9.8% in 2014-15, 11.9% in 2015-16), or math/statistics (6.5% in 2014-15, 9.7% in 2015-16). In the 2015-16 academic year, a large proportion of professional development participants reported teaching other courses not listed (42.5%).

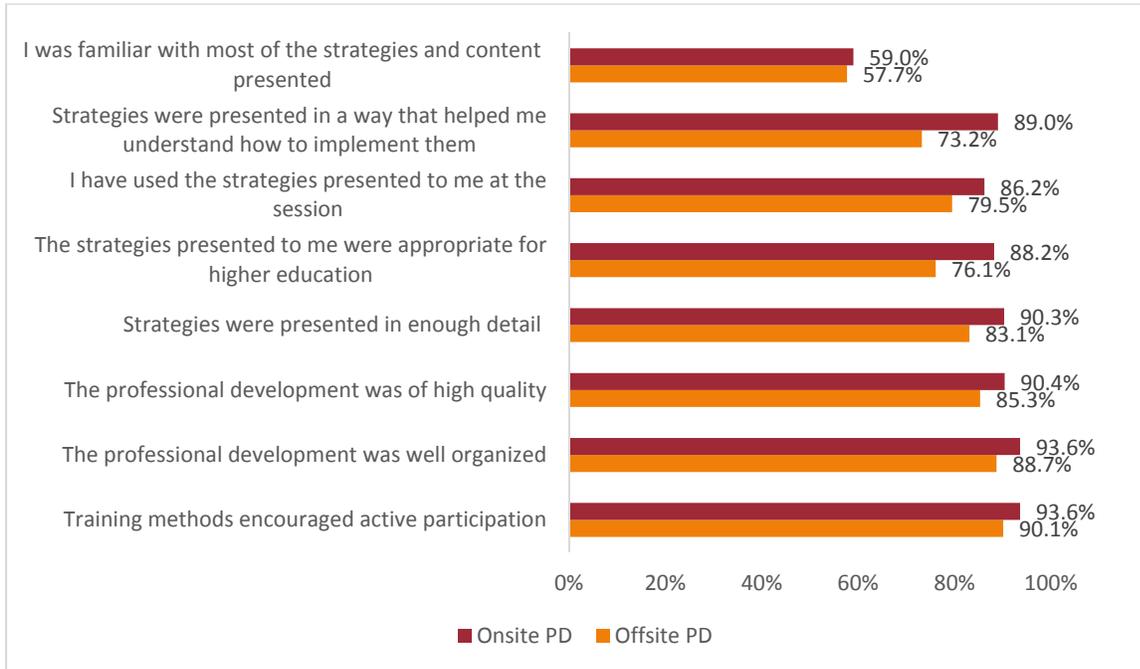
In both the 2014-15 and 2015-16 academic years, a large majority of survey respondents participated in AVID on-site professional development provided by AVID staff and consultants. Roughly three-quarters of respondents in 2014-15 (75.9%) and nine in 10 respondents in 2015-16 (89.1%) participated in some type of on-site AVID professional development. Between 2014-15 and 2015-16, a smaller proportion of respondents reported attending the Summer Institute. In 2014-15, 33.1% said they attended the 2014 AVID Summer Institute. In 2015-16, 22.8% of respondents said they attended the Summer Institute that year. Fewer respondents also reported participating in AVID National Conferences or Workshops (17.6% in 2014-15 vs. 11.4% in 2015-16).²²

As Figure 2.2 illustrates, in the 2014-15 academic year, over half of the attendees of off-site PD (i.e., AVID conference and AVID Summer Institute) and on-site PD provided by AVID staff and consultants indicated that they were familiar with most of the strategies and content presented. However, despite this fact, the vast majority of survey respondents who attended off-site and on-site PD sessions rated the training quite highly and agreed that they had used the strategies presented during the PD in their work with students. Between 76% (off-site) and 88% (on-site) of survey respondents felt that the content of the AVID PD sessions was appropriate for higher education faculty. Ninety percent of on-site PD attendees and 85% of off-site PD attendees were in agreement that the PD was of high quality.

²¹ In 2014-15, a total of 746 survey invitations were sent, 639 were successfully delivered, and 134 completed surveys were received (i.e., 21% response rate). In 2015-16, a total of 930 survey invitations were sent, 841 were successfully delivered, and 225 were received (i.e., 24% response rate).

²² Totals exceed 100% because individuals attended more than one of the professional development offerings.

Figure 2.2. – Percent of Survey Respondents in Agreement with Statements about Off-site and On-site AVID Professional Development, 2014-15

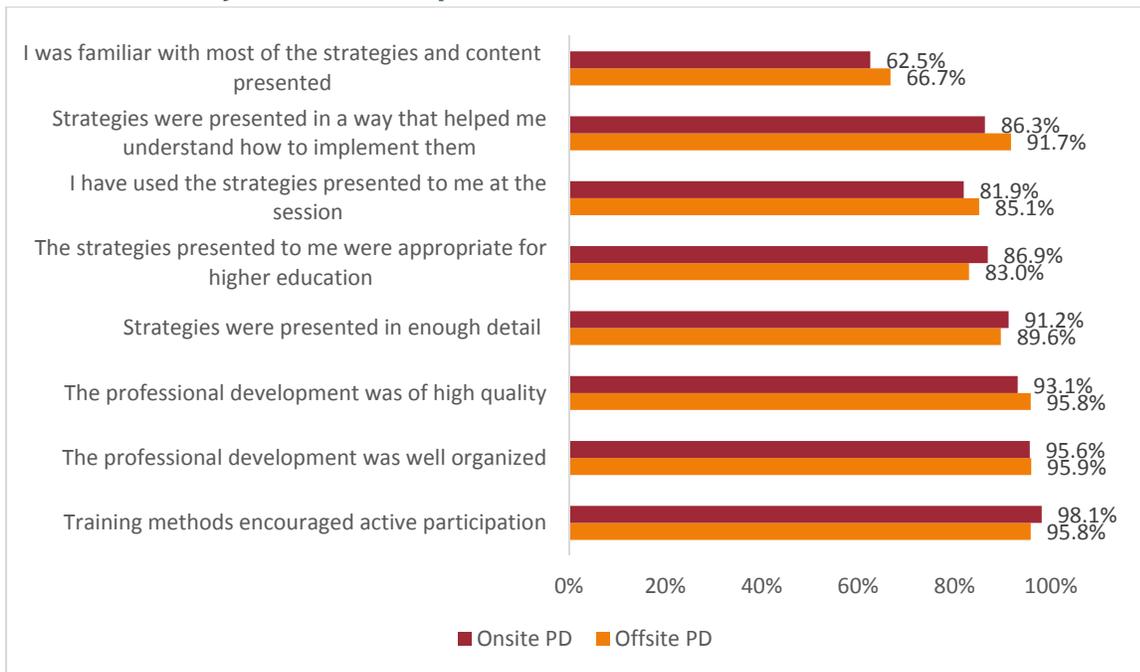


Source: Gibson Survey of AVID Professional Development Participants, Spring 2015.

Note: The number of respondents to off-site PD ranged from 68 to 73, depending upon the question. The number of respondents to on-site PD ranged from 93 to 94, depending upon the question.

Attendees of on-site and off-site AVID PD in 2015-16 consistently rated the professional learning experience highly across a wide range of metrics (e.g., organization of PD, encouragement of active participation, adequate detail, clarity in how to implement strategies being introduced, appropriateness for higher education). In the 2015-16 academic year, attendees of off-site and on-site PD were closer in their opinions about the professional development they received than during the 2014-15 academic year (Figure 2.3). For example, in 2014-15, 88.7% of off-site PD participants said the professional development was well organized while 93.6% of on-site PD attendees said the same – a difference of roughly five percentage points. In 2014-15, 76.1% of off-site PD participants said the strategies presented were appropriate for higher education while 88.2% of on-site PD attendees said the same – a difference of roughly 12 percentage points. In 2015-16, the differences were less than four percentage points between the responses of those who participated in off-site and on-site AVID-related professional development. This is true for nearly every question included.

Figure 2.3. – Percent of Survey Respondents in Agreement with Statements about Off-site and On-site AVID Professional Development, 2015-16

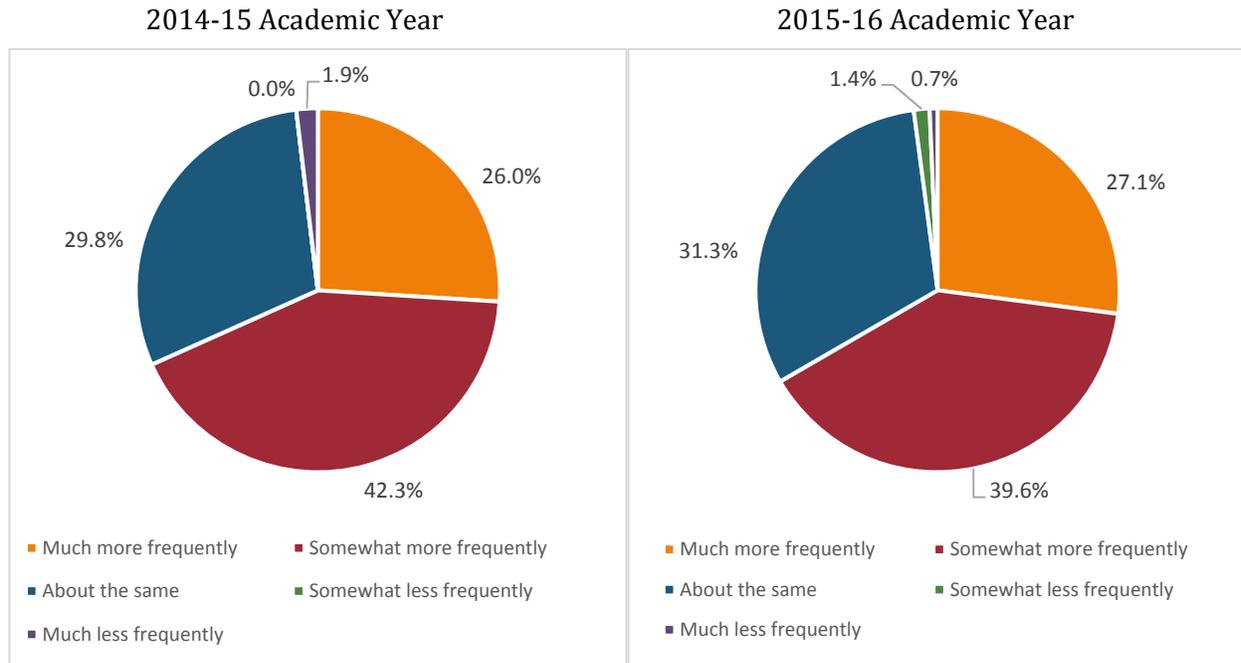


Source: Gibson Survey of AVID Professional Development Participants, Spring 2015.

Note: The number of respondents to off-site PD ranged from 43 to 49, depending upon the question. The number of respondents to on-site PD ranged from 159 to 160, depending upon the question.

AVID PD participants were also asked about how the various training sessions they attended may have impacted their professional and instructional practices during the 2014-15 academic year. Most survey respondents indicated that after attending AVID PD, they implemented AVID strategies in their classes or mentoring sessions much more frequently or somewhat more frequently – roughly two-thirds of respondents said they did this in both the 2014-15 and 2015-16 academic years. About 30% of respondents in both years indicated they use AVID strategies about the same as before the training. This percentage is in alignment with the proportion of PD attendees that reported that they were familiar with the content and strategies presented during the AVID-based PD sessions (Figure 2.4).

Figure 2.4. – Use of AVID-Based Strategies Employed after Attending AVID Professional Development



Source: Gibson Survey of AVID Professional Development Participants, Spring 2015.

Note: A total of 107 and 146 instructors and tutors/mentors responded to this question in 2014-15 and 2015-16, respectively.

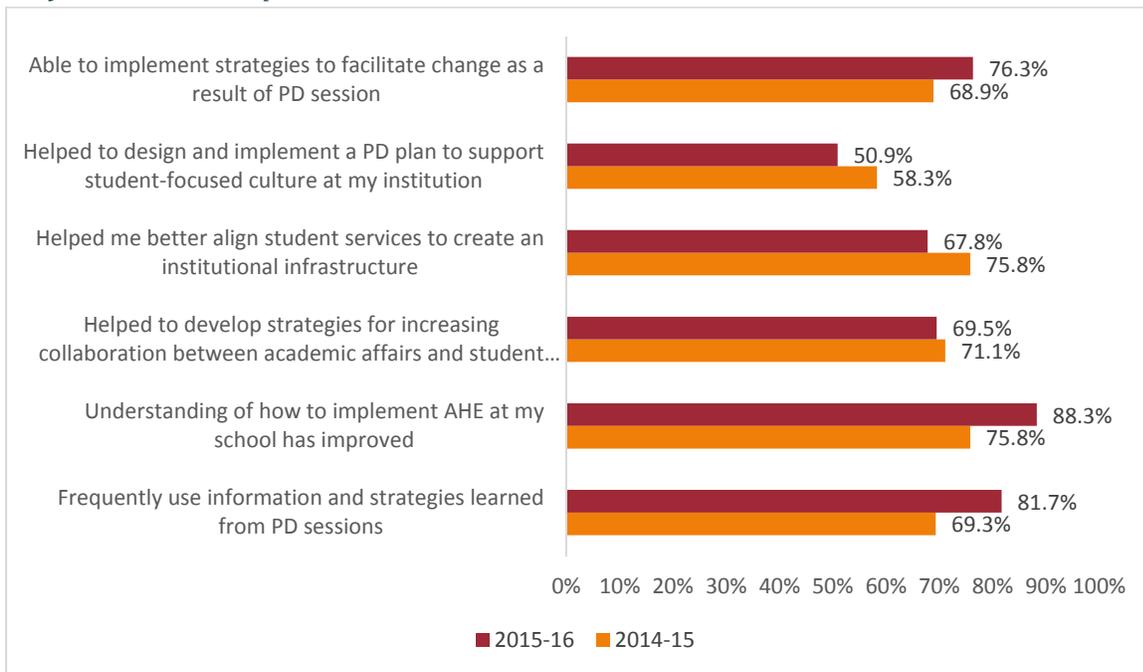
The vast majority of survey respondents indicated that they either frequently or occasionally implement AVID strategies in their classes or tutoring/mentoring sessions (86% in 2014-15 and 90% in 2015-16).

While the primary focus of AVID professional development is on teaching and learning, staff were also trained on the implementation of collaborative strategies used to implement the AHE program at their respective institutions. Thus, college administrators were asked a series of questions about how, if at all, their attendance at AVID professional development sessions may have impacted their administrative practices. As Figure 2.5 shows, the majority of college and university administrators were in agreement that the AVID training helped them with an array of items related to program implementation, including improving their understanding of how to implement AHE at their school (75.8% in 2014-15 and 88.3% in 2015-16), implementing strategies to facilitate change (68.9% in 2014-15 and 76.3% in 2015-16), and developing strategies for increasing collaboration between academic affairs and student services (71.1% in 2014-15 and 69.5% in 2015-16). During on-site group interviews with AVID site teams in fall 2014 and fall 2015, several administrators noted that AHE helped to bring different departments together for meetings to discuss how they can work together to improve student success at their institutions, while others felt that AHE helped to deepen an already strong relationship between university departments.

Differences in PD attendees’ perceptions about the impact of AVID professional development between 2014-15 and 2015-16 are relatively mixed. In 2015-16, a larger proportion of administrators agreed that they frequently used the information and strategies that they learned from PD sessions, that the

understanding of how to implement AVID for Higher Education had improved at their school, and that they were able to implement strategies to facilitate change as a result of the professional development sessions. However, compared with administrator respondents in 2014-15, a smaller proportion of administrators reported agreement that the AVID PD helped them create a professional development plan to support student-focused culture (51% in 2015-16 compared with 58% in 2014-15) and helped them align student services to create an institutional infrastructure (68% in 2015-16 versus 76% in 2014-15).

Figure 2.5. – Percent of College Administrators in Agreement with Statements about AVID Professional Development



Source: Gibson Survey of AVID Professional Development Participants, Spring 2015-2016.

Note: In 2014-15, the number of respondents ranged from 60 to 62, depending upon the question. In 2015-16, the number of respondents ranged from 59 to 60, depending upon the question.

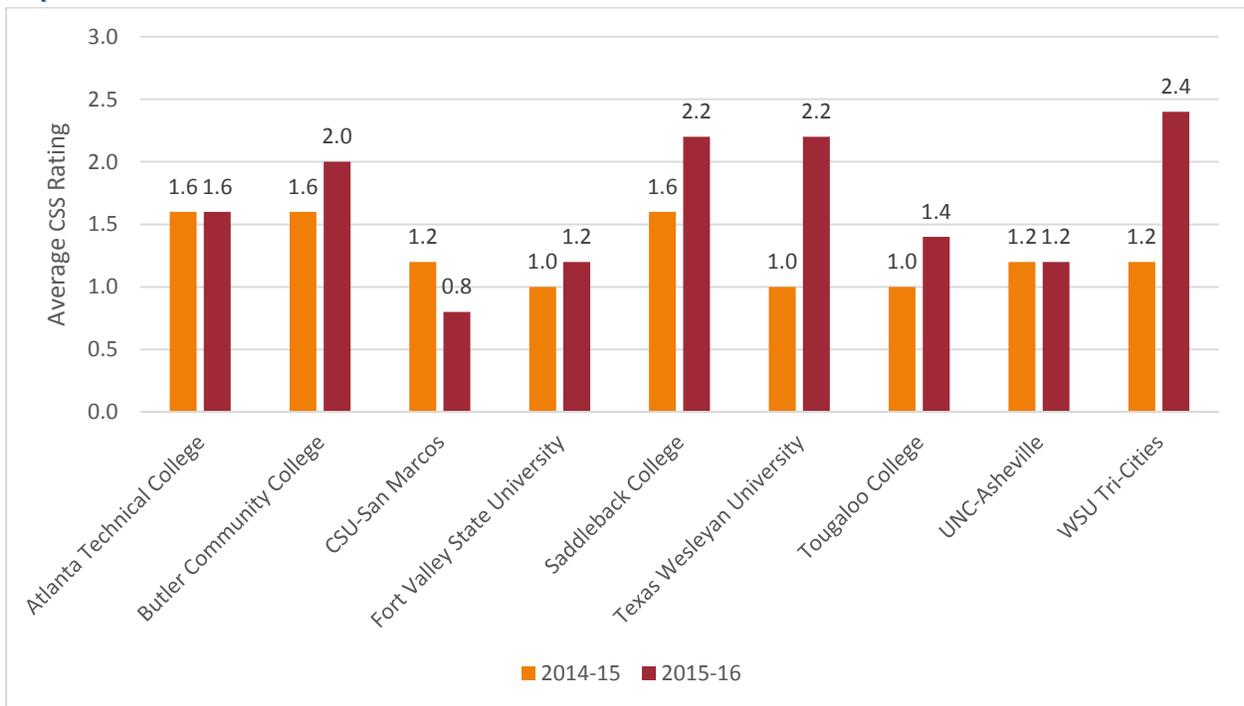
Research Question 2.3: To what extent did participating institutions implement AHE with fidelity as measured through the AHE Certification process?

Certification is based on an annual institutional self-study using the AHE CSS Continuum document. During the 2014-15 academic year, each AVID site prepared a Self-Study document in fall 2014 to assess where the IHE is at the beginning of each academic year, and to inform the planning and goals to be achieved to improve and expand AHE SSI on the campus. The CSS was then revised to reflect the steps taken, improvements made and areas needing further improvement in the spring at the end of the academic year. The same process was followed during each institution’s second year of AHE implementation during the 2015-16 academic year. The AVID Center determined a final certification recommendation for each AHE SSI institution, based on the following rubric:

- Not AVID (Level 0)
- Meets Certification Standards (Level 1)
- Routine Use (Level 2)
- Institutionalization (Level 3)

Figure 2.6 shows average CSS ratings for each of the participating institutions for 2014-15 and 2015-16. Overall the average CSS rating rose from 1.27 in 2014-15 to 1.67 in 2015-16, with eight of the nine participating institutions improving their rating between the first and second year of AHE implementation. It is relevant to note that the only institution which did not experience an increase in CSS rating, CSU-San Marcos, experienced a change in leadership of the AHE program, and was in transition. The highest 2015-16 CSS ratings were reported for WSU, Tri-Cities (mean=2.4), Texas Wesleyan University (mean=2.2), Saddleback College (mean=2.2), and Butler Community College (mean=2.0). These four institutions were, on average, at the “routine use” level of AHE implementation.

Figure 2.6. – AHE Certification Summary for 2014-15 Academic Year, Mean CSS Implementation Scores



Source: Certified Self Study (CSS) Ratings for 2014-15 and 2015-16 Academic Years, AVID Center, 2016

Research Question 2.4: To what extent did participating institutions offer first year experience or content courses infused with AVID strategies?

Since the primary AHE implemented during the first year was the infusion of student-centered, high-engagement instructional strategies and skill-based content into targeted freshman courses, Gibson determined that a campus-level measure of this intervention should serve as a key measure of

implementation fidelity. Based on interviews and course observations, it was evident that each participating college and university provided faculty with AVID training, so that they could deliver course content using high-engagement strategies in both 2014-15 and 2015-16.

Student Survey Results

To assess the extent to which the AVID-based pedagogy and content was an integral part of the targeted freshman courses, the evaluation team administered a survey to students in AVID and non-AVID course sections at the end of the fall 2014 semester. Table 2.1 includes 11 survey questions included on the five-point scale, which measured pedagogy and content of targeted courses.

Students enrolled in targeted AVID-infused freshman courses, typically FYE courses, were asked to rate their agreement with a series of statements on a 1 to 4 scale, where 1=strongly disagree and 4=strongly agree. As Table 2.1 shows, across participating institutions, large proportions of students enrolled in AVID-infused course sections indicated that high-engagement pedagogy and skill-based content was an integral part of their courses in both fall 2014 and fall 2015. In both fall 2014 and fall 2015, over 80% of students were in agreement that the targeted AVID-infused course in which they were enrolled:

- emphasized critical thinking and inquiry (90% to 91%);
- included useful advice from their instructor about college planning (87% to 86%);
- included weekly small group activities (86% to 82%);
- encourages students to visit the college's tutoring centers (82% to 85%);
- and included effective time management strategies (80% to 86%).

The percent of students who indicated that note-taking strategies, such as Cornell Notes, were emphasized in their targeted AVID-based course section rose from 67.4% in fall 2014 to 76.3% in fall 2015. The second largest change between fall 2014 and fall 2015 was related to the inclusion of test-taking strategies in the course content (56.3% in fall 2014 and 63.1% in fall 2015). A new question was added to the fall 2015 survey, which highlights that 73.2 percent of student were in agreement that effective reading strategies were taught in their targeted AVID course section (Table 2.1).

Table 2.1. – Item-Level Agreement Scores for the Pedagogy and Content Survey Construct, AVID Sections Only

Item	Fall 2014 Percent Agree	Fall 2015 Percent Agree
I receive useful advice from my instructor about college planning in this course.	86.8%	85.5%
This course emphasizes critical thinking and inquiry.	90.4%	91.4%
We do small group activities in this course every week.	85.5%	82.1%
I am encouraged to visit the college's tutoring center(s) in this course.	82.1%	85.1%
Effective time management strategies are taught in this course.	80.4%	85.8%
This course includes activities which connect me to campus events and activities.	73.4%	77.2%
Note-taking strategies (e.g., Cornell notes) are emphasized in this course.	67.4%	76.3%
I am familiar with AVID strategies (e.g., Think-Pair-Share, Costa's Levels of Questioning, Quick Writes, Re-reading the text, Marking the text, etc.) because of this course.	66.7%	69.7%
We do hands-on activities in this course every week.	70.0%	68.8%
Test-taking strategies are taught in this course.	56.3%	63.1%
Effective reading strategies are taught in this course.	NA	73.2%

Source: Survey of Students Regarding Targeted Freshman Course, Gibson Consulting Group, fall 2014 and fall 2015.

Note: The survey question related to effective reading strategies was not asked on the fall 2014 survey and was first introduced on the fall 2015 student survey.

Classroom Observation Results

To supplement student survey data, and to gain a better understanding of the teaching and learning in AVID and non-AVID course sections, in fall 2014, the evaluation team observed 33 classrooms (i.e., 20 AVID and 13 non-AVID) across each of the participating IHEs. In fall 2015, the evaluation team observed 36 classrooms (i.e., 26 AVID and 10 non-AVID). Each classroom that was observed received two ratings for the following four measures of the classroom environment (i.e., one for the first half of the class and one for the second half of the class):

- 1) **Student Engagement** (where 3 = High "Almost all students are engaged, on-task, and actively participating for the majority of the observed session"; 2 = Medium "Either half of the students are engaged, on-task, and actively participating for the majority of the observed session OR students are sometimes engaged and sometimes not engaged"; and 1 = Low "Most students are not engaged, off-task, and/or not actively participating for the majority of the session")

Classroom Energy - Instructor (where 3 = High "For the majority of the session, the instructor's energy level is high"; 2 = Medium "The instructor's energy level is sometimes high and sometimes not"; and 1 = Low "For the majority of the session, the instructor's energy level is not high")

- 2) **Classroom Energy - Students** (where 3 = High "The majority of students have high energy level for some or most of the period observed"; 2 = Medium "Some students have high energy level for

at least some of the period observed”; and 1 = Low “Few students, if any, have high energy level during the observed period”)

- 3) **Student Collaboration** (where 3 = High “The majority of students are engaged in active discussion with peers and with the instructor”; 2 = Medium “Some students are engaged in active discussion with peers and with the instructor for at least part of the session”; and 1 = Low “Few students, if any, are engaged in active discussion with peers and the instructor during the observation period”)

For each of these four measures, mean scores on the three-point scale described above were calculated for AVID and non-AVID classrooms. In fall 2014, AVID classrooms demonstrated higher levels of student engagement (2.70 vs 2.27 for non-AVID course sections), classroom energy from students (2.65 vs. 2.15 for non-AVID course sections), and student collaboration (2.63 vs. 1.88 for non-AVID course sections). Classroom energy levels exhibited by instructors were not dissimilar for AVID and non-AVID course sections (2.85 vs. 2.81). However, in fall 2015, the magnitude of observed differences between AVID and non-AVID classrooms shrunk for the student engagement, and student collaboration metrics, with noticeable improvements in scores observed for the non-AVID group. This finding may be related to “spillover effect” caused by faculty members, who have participated in AVID-based training, sharing effective instructional approaches with peers, who have not benefited from PD opportunities related to high engagement and collaborative learning approaches (Table 2.2).

Table 2.2. – Mean Observation Scores for Classroom Environment, Fall 2014 and Fall 2015

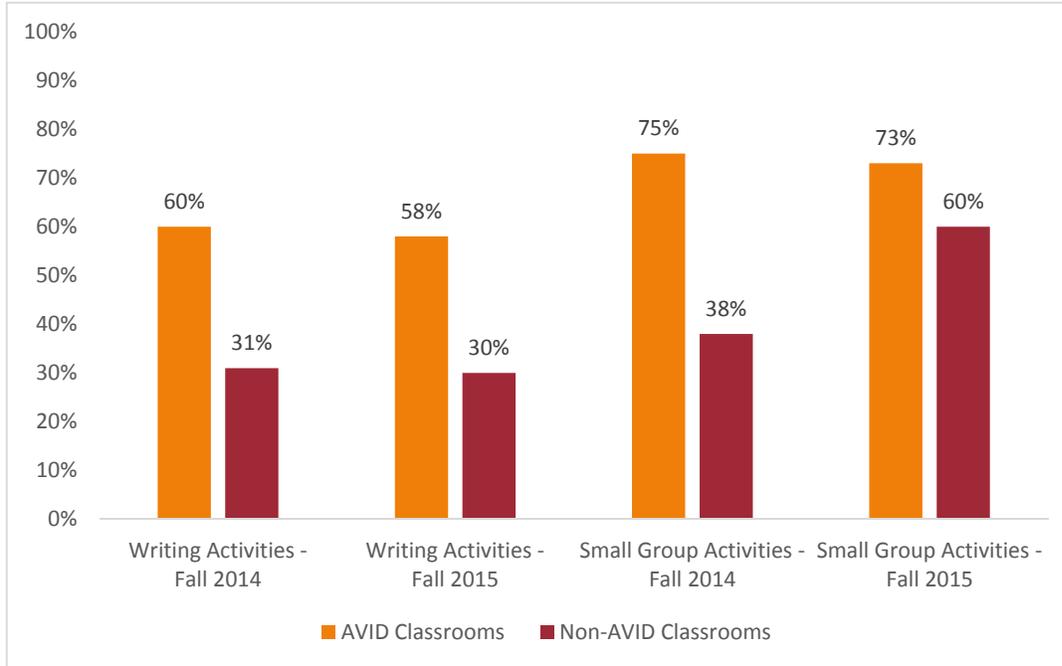
Observation Metric	Fall 2014 AVID Course Sections Mean Score (N=20)	Fall 2014 Non-AVID Course Sections Mean Score (N=13)	Fall 2015 AVID Course Sections Mean Score (N=26)	Fall 2015 Non-AVID Course Sections Mean Score (N=10)
Student Engagement	2.70	2.27	2.77	2.50
Classroom Energy Level - Instructor	2.85	2.81	2.88	2.80
Classroom Energy Level – Students	2.65	2.15	2.63	2.20
Student Collaboration	2.63	1.88	2.54	2.23

Source: Fall 2014 and 2015 Classroom Observations of Target Courses, Gibson Consulting Group, 2015 and 2016.

Courses were also observed for the presence of *writing activities* (where authentic writing opportunities, reflection on writing, or peer evaluation of writing is observed) and *small group activities* (where students have an opportunity to engage in meaningful discussions with peers). As Figure 2.7 illustrates, in both fall 2014 (60% vs. 31%) and fall 2015 (58% vs. 30%), a larger proportion of writing activities were observed in AVID classrooms than non-AVID classrooms. Likewise, in both fall 2014 (75% vs. 38%) and fall 2015 (73% vs. 60%), a larger proportion of small group activities were observed in AVID classrooms than non-AVID classrooms. However, in line with other observation scores presented in Table 2.2, instructional approaches related to small group activities are more similar in AVID and non-AVID classrooms in fall 2015

than they were in fall 2014. This again may suggest a “spillover effect” occurring where AVID-trained faculty are sharing effective teaching methods with faculty and staff who have not attended AVID PD.

Figure 2.7. – Percent of Classrooms where Reflective Writing and Small Group Activities Were Observed



Source: Fall 2014 and 2015 Classroom Observations of Target Courses, Gibson Consulting Group, 2015 and 2016.

High-engagement strategies most commonly observed in AVID course section include quick writes, think-pair-share, jigsaw, gallery walks, expert groups, and critical reading strategies (e.g., marking the text and rereading). However, more elaborate strategies to engage students, such as Socratic Seminar, Philosophical Chairs, where students engage in debate-style dialogue over challenging texts and/or social issues, were observed in a just a handful of the AVID classrooms.

3 – Student Perspective on Targeted Freshman Courses

This section addresses the following research questions related to one of the key AHE program components — the infusion of student-centered strategies (e.g., high-engagement strategies, small group instruction, hands-on activities, critical thinking and inquiry-based strategies, and structured note-taking strategies) into first year experience (FYE) and other freshman courses:

- 3.1 To what extent are high-engagement strategies and content intended to improve note-taking skills, organizational skills, study skills, reading comprehension skills, and critical thinking being implemented in AVID course sections?
- 3.2 To what extent are the experiences of students in AVID-infused sections different from students in non-AVID course sections of targeted (primarily FYE) courses?
- 3.3 To what extent have the perceptions of students in AVID and non-AVID sections of targeted freshman courses differed between Cohort 1 (fall 2014) and Cohort 2 (fall 2015)?

Profile of Students in AVID and Non-AVID Freshman Course Sections

First, we provide a summary of the characteristics of the 1,022 AVID students and 1,232 non-AVID students surveyed in fall 2014, and the 806 AVID students and 761 non-AVID students surveyed in fall 2015.²³ As Table 3.1 shows, in both fall 2014 and fall 2015, a somewhat larger proportion of students in AVID course sections were African American or Hispanic than students enrolled in non-AVID sections of targeted courses. Likewise, in both years, a smaller percentage of White students were enrolled in AVID sections of targeted courses than were enrolled in non-AVID sections of those courses. Differences in the mix of students in AVID and non-AVID course sections by gender were negligible.

Table 3.1. – Student Characteristics, Race and Gender, by AVID Course Enrollment Status, Cohorts 1 and 2

	AVID Fall 2014	Non-AVID Fall 2014	AVID Fall 2015	Non-AVID Fall 2015
Race/Ethnicity				
White	33%	42%	39%	40%
African-American	22%	16%	21%	25%
Hispanic	40%	31%	32%	23%
Gender				
Male	39%	42%	39%	39%
Female	61%	58%	61%	61%

Source: Fall 2014 and Fall 2015 Surveys of Students Regarding Targeted Freshman Course, 2015 and 2016.

²³ Overall response rates, as well as institution-level response rates for the fall 2014 and 2015 student surveys are presented in Tables 1.3 and 1.4 in Chapter 1 of this report.

For both fall 2014 and fall 2015 cohorts, a higher percentage of AVID students indicated that neither of their parents had attended college (38% in 2014 and 49% in 2015) than their non-AVID counterparts (33% in 2014 and 41% in 2015). It is important to note that a higher percentage of students in Cohort 2, entering college in fall 2015, were first generation college students (Table 3.2). This may have important implications for the student outcome analyses which follow in Chapter 4 of this report.

Because the amount of time a student works at a job may impact their academic outcomes, we asked students about the number of hours they work per week on average. Approximately 46% of AVID students and 41% of non-AVID students starting college in fall 2014 (Cohort 1) indicated that they had a job during their first semester in college. Approximately 45% of AVID students and 48% of non-AVID students starting college in fall 2015 (Cohort 2) indicated that they had a job during their first semester in college. Overall, only modest differences were observed between AVID and non-AVID students across years.

Lastly, we wanted to know whether students enrolled in AVID and non-AVID sections had taken an AVID elective class while in high school. As Table 3.2 shows, students enrolled in AVID sections of targeted freshman college courses were somewhat more likely to have had some exposure to the AVID program in high school (23% in 2014, 19% in 2015) than non-AVID college students (20% in 2014, 14% in 2015) in 2014 and 2015 (Table 3.2).

Table 3.2. – Student Characteristics, Parent Education, Pell Grant Recipient Status, Work Hours, and Prior High School AVID Experience, by AVID Course Enrollment Status

	AVID Fall 2014	Non-AVID Fall 2014	AVID Fall 2015	Non-AVID Fall 2015
Parent Education				
No College Experience	38%	33%	49%	41%
Attended Some College/No Degree	16%	14%	11%	13%
Earned College Degree	46%	53%	40%	43%
Pell Grant Recipient				
Yes	NA	NA	40%	40%
No	NA	NA	36%	38%
Don't Know/Not Sure	NA	NA	24%	22%
Work Hours				
None	55%	59%	55%	52%
Less Than 20 Hours	23%	20%	21%	22%
20 or More Hours	23%	21%	24%	26%
Enrollment in AVID High School Elective Class				
Yes	23%	20%	19%	14%
No/Not Sure	77%	80%	81%	86%

Source: Fall 2014 and Fall 2015 Surveys of Students Regarding Targeted Freshman Course, 2015 and 2016.

Note: Students were not asked about whether or not they received a Pell Grant on the fall 2014 survey. Percentages may not total to 100% due to rounding.

Research Question 3.1: To what extent are high-engagement strategies and content intended to improve note-taking and study skills, reading comprehension skills, and critical thinking being implemented in AVID course sections?

First, we provide a description of constructs that were created from the survey items and used in the analyses. Constructs represent a series of survey items which are rolled up to a single scale score that capture a latent, common concept that is important for understanding the impact of AVID course strategies or AVID course participation. The three main constructs or scales are:²⁴

- Construct 1: Course Pedagogy and Content
- Construct 2: Course Impact on Students' Skills and Confidence
- Construct 3: Course Impact on Students' Connection to University Resources

The scales range from 1 to 4 with an increase in the scale signifying an increase in agreement with the survey items underlying each construct. Students entering college in fall 2014 (Cohort 1) and fall 2015 (Cohort 2) were in agreement that student-centered, high-engagement pedagogy was utilized in their AVID-based FYE or content course, and that the course included content which facilitated growth in study, reading, and critical thinking skills (mean score of 3.01 in 2014 and 3.03 in 2015 on the aforementioned four-point scale). For many of the Content & Pedagogy scale survey items, consistent results were observed across years for the AVID students, with agreement percentage either dropping or rising slightly between fall 2014 and fall 2015 (Table 3.3). However, sizable increases in the levels of agreement by AVID students were observed for the following items:

- Note-taking strategies are emphasized in this course: 67.4% (2014) vs. 76.3% (2015)
- Test-taking strategies are taught in this course: 56.3% (2014) vs. 63.1% (2015)

As Table 3.3 shows, the vast majority of students in AVID course sections indicated that they did small group activities in class on a weekly basis (86% in fall 2014 and 82% in fall 2015), that the course emphasized critical thinking and inquiry (90% in fall 2014 and 91% in fall 2015), that they received useful advice from their instructor about college planning in the course (87% in fall 2014 and 86% in fall 2015), that effective time management strategies are taught in the course (80% in fall 2014 and 86% in fall 2015), and that they are encouraged to visit the college's tutoring centers in this course (82% in fall 2014 and 85% in fall 2015). These results are further evidence that AVID students were enrolled in a course when skill-building content and high-engagement strategies were present.

²⁴ The survey instrument is provided in Appendix A. The items associated with each of the three main scales/constructs are organized using the boldfaced headings on the survey instrument.

Table 3.3. – Percentage of AVID and non-AVID Students in Agreement with Statements Related to the Pedagogy and Content of their Targeted Freshman Course

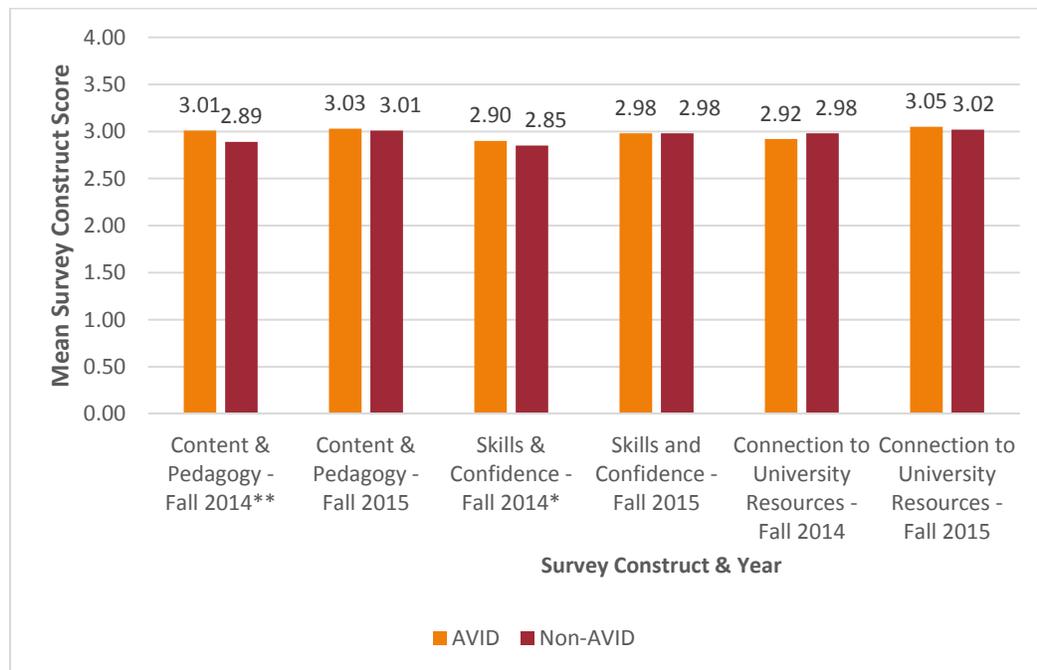
	Class type	Agree or Strongly Agree Fall 2014	Agree or Strongly Agree Fall 2015
Course Content			
We do hands-on activities in this course every week.	AVID	70.0%	68.8%
	Non-AVID	61.1%	74.4%
We do small group activities in this course every week.	AVID	85.5%	82.1%
	Non-AVID	70.1%	77.0%
I am encouraged to visit the college’s tutoring center(s) in this course.	AVID	82.1%	85.1%
	Non-AVID	79.1%	80.0%
This course includes activities which connect me to campus events and activities.	AVID	73.4%	77.2%
	Non-AVID	83.4%	78.4%
Effective time management strategies are taught in this course.	AVID	80.4%	85.8%
	Non-AVID	82.9%	88.1%
Note-taking strategies (e.g., Cornell notes) are emphasized in this course.	AVID	67.4%	76.3%
	Non-AVID	56.7%	61.2%
I am familiar with AVID strategies (e.g., Think-Pair-Share, Costa’s Levels of Questioning, Quick Writes, Re-reading the text, Marking the text, etc.) because of this course.	AVID	66.7%	69.7%
	Non-AVID	47.9%	52.4%
Test taking strategies are taught in this course.	AVID	56.3%	63.1%
	Non-AVID	55.1%	65.9%
This course emphasizes critical thinking and inquiry.	AVID	90.4%	91.4%
	Non-AVID	82.8%	87.7%
I receive useful advice from my instructor about college planning in this course.	AVID	86.8%	85.5%
	Non-AVID	90.2%	92.0%
Effective reading strategies are emphasized in this course	AVID	NA	80.3%
	Non-AVID	NA	73.2%

Source: Fall 2014 and 2015 Surveys of Students Regarding Targeted Freshman Course, 2015 and 2016.

Research Question 3.2: To what extent are the experiences of students in AVID-infused sections differed from students in non-AVID course sections of targeted (primarily FYE) courses?

As Figure 3.1 illustrates, students in Fall 2014 AVID course sections (Cohort 1) were significantly more inclined to indicate that student-centered, high-engagement pedagogy was utilized in their course – and that the course included content which facilitated growth in study, reading, and critical thinking skills – than students in non-AVID course sections (mean scale score of 3.01 vs. 2.89 for non-AVID group). Students in Fall 2014 AVID course sections also were significantly more likely to indicate that the course had improved their academic and non-academic skills as well as their confidence that they would be successful in college (mean scale score of 2.90 vs. 2.85 for non-AVID group). The mean scale score for the connection to university resources scale was lower for AVID students (2.92) than non-AVID students (2.98); however, the difference was not statistically significant. For the Fall 2015 cohort (Cohort 2), content and pedagogy scale scores (3.03 for AVID and 3.01 for non-AVID students), skills and confidence scale scores (2.98 for AVID and 2.98 for non-AVID), and connection to university resources scales (3.05 for AVID vs. 3.02 for non-AVID) were not significantly different. In addition, the fact that the variation in the content and pedagogy construct between fall 2014 and fall 2015 have dissipated may suggest that non-AVID trained teachers may also be adopting active and collaborative learning strategies as a result of informal exposure to these teaching methods from fellow faculty members.

Figure 3.1. – Mean Student Survey Construct Scores, AVID versus Non-AVID, Fall 2014 and Fall 2015



Source: Fall 2014 Survey of Students Regarding Targeted Freshman Course, Gibson Consulting Group, 2014.

Notes: * $p < 0.1$; * $p < 0.05$; *** $p < 0.01$

As Table 3.4 shows, the primary areas in which AVID students felt the targeted courses benefited them more profoundly than non-AVID students was in note-taking skills. In fall 2014 (+9.1 percentage points) and fall 2015 (+10.5 percentage points), students enrolled in AVID sections of targeted freshman courses were much more likely to agree that the course had improved their note taking skills. They were also more likely to feel that the note-taking strategies learned in the course positively impacted the way they take notes in other classes.

Table 3.4. – Percentage of AVID and non-AVID Students in Agreement with Statements Related to How the Targeted Freshman Course has Impacted their Skills and Confidence that They will be Successful in College

	Class type	Agree or Strongly Agree Fall 2014	Agree or Strongly Agree Fall 2015
Impact of Course on Student’s Skills and Confidence			
This course will help me be successful in college.	AVID	82.0%	84.3%
	Non-AVID	83.5%	88.2%
I have made friends with other students in this course.	AVID	89.2%	91.4%
	Non-AVID	84.0%	88.1%
This course has helped me better plan for college so I can graduate on time.	AVID	74.1%	79.4%
	Non-AVID	80.4%	85.6%
This course has helped to make me a better problem solver.	AVID	69.0%	73.2%
	Non-AVID	65.9%	74.7%
This course has helped to make me think more critically about issues.	AVID	82.2%	84.1%
	Non-AVID	75.9%	82.0%
This course has made me a more confident college student.	AVID	76.7%	78.9%
	Non-AVID	78.4%	81.1%
This course has made me less anxious about taking college exams.	AVID	50.2%	58.2%
	Non-AVID	52.1%	56.7%
This course has helped to improve my note-taking skills.	AVID	56.7%	68.9%
	Non-AVID	47.6%	58.4%
The note taking strategies I learned in this course has positively impacted the way I take notes in other classes.	AVID	53.3%	64.3%
	Non-AVID	46.6%	57.7%

Source: Fall 2014 and 2015 Surveys of Students Regarding Targeted Freshman Course, 2015 and 2016.

Research Question 3.3: To what extent have the perceptions of students in AVID and non-AVID sections of targeted freshman courses differed between Cohort 1 (fall 2014) and Cohort 2 (fall 2015)?

As Figure 3.1 shows, the mean content and pedagogy score for AVID students rose slightly from 3.01 to 3.03, while the mean content and pedagogy score for non-AVID students increased from 2.89 to 3.01 – closing the gap to a non-significant 0.02 difference. Similarly for the skills and confidence scale, the mean skills and confidence construct score for AVID students rose from 2.90 to 2.98, and the mean skills and confidence construct score for non-AVID students increased from 2.85 to 2.98 – indicating a strong degree of agreement with the underlying survey items for both student groups in fall 2015. This finding also implies that an instructional “spillover effect,” where faculty are sharing effective teaching strategies and content with each other, may be taking place at participating institutions. Differences in other items on the skills and confidence scale dissipated over the fall 2014 to fall 2015 period with marked improvements observed in the non-AVID courses – again, signaling a possible “spillover effect” occurring between treatment and control course sections.

For the construct relating to students’ connection of university resources and to peers through study groups, there is no statistically detectable difference between the AVID and non-AVID student groups for either year. In fall 2014, the mean Connection to University Resources scale score was 2.92 compared to 2.98 for students in non-AVID sections of targeted freshman courses. However, the mean scale score increased from 2014 to 2015 from 2.92 to 3.05 for the AVID group and more modestly from 2.98 to 3.02 for the non-AVID group. (Figure 3.1)

Larger percentages of students in AVID sections of targeted courses were in agreement with the following statements in fall 2015, when compared to fall 2014:

- Because of this course, I am more likely to participate in group study sessions (+10.0 percentage points)
- Because of this course, I am more likely to organize group study sessions with other students (+9.2 percentage points)
- This course has motivated me to seek assistance from one of the college’s tutoring centers (+7.3 percentage points)
- Because of this course I am more likely to utilize college resources (+5.1 percentage points)
- I increased my level of involvement in campus events due to this course (+5.0 percentage points)

These increases in agreement among AVID students resulted in the narrowing of gaps between AVID and non-AVID groups for Connection to University Resources scale items where AVID students were less likely to agree with an item in fall 2014 than non-AVID students, and resulted in AVID students being much more likely in fall 2015 than non-AVID students to agree that they would be willing to participate in (76.0% for AVID vs. 67.7% for non-AVID) or organize (70.1% for AVID vs. 62.6% for non-AVID) peer study groups (Table 3.5).

Table 3.5. – Percentage of AVID and non-AVID Students in Agreement with Statements Related to How the Targeted Freshman Course Has Impacted their Connection to Peers and University Resources

	Class type	Agree or Strongly Agree Fall 2014	Agree or Strongly Agree Fall 2015
Impact of Course on Student’s Skills and Confidence			
Students’ Connection to University Resources Scale (mean)	AVID	2.92	3.05
	Non-AVID	2.98	3.02
This course has increased my awareness of how to access college resources available to me.	AVID	90.4%	93.8%
	Non-AVID	92.2%	92.8%
Because of this course, I am more likely to utilize college resources.	AVID	83.3%	88.4%
	Non-AVID	85.6%	88.1%
Because of this course I am more likely to seek assistance from a college advisor or counselor.	AVID	82.2%	85.5%
	Non-AVID	85.4%	86.5%
This course motivated me to seek assistance at one of the college’s tutoring centers.	AVID	66.4%	73.7%
	Non-AVID	67.1%	72.1%
This course has made me more comfortable visiting professors during scheduled office hours.	AVID	71.3%	81.8%
	Non-AVID	74.8%	79.8%
I feel comfortable calling on my instructor in the future for assistance or advice.	AVID	81.9%	84.8%
	Non-AVID	84.6%	87.3%
I increased my level of involvement in campus events due to this course	AVID	52.7%	57.7%
	Non-AVID	60.7%	58.5%
Because of this course, I am more likely to participate in group study sessions.	AVID	66.0%	76.0%
	Non-AVID	64.3%	67.7%
Because of this course, I am more likely to organize study groups with other students.	AVID	60.9%	70.1%
	Non-AVID	61.2%	62.6%

Source: Fall 2014 and 2015 Surveys of Students Regarding Targeted Freshman Course, 2015 and 2016.

4 – Relationship between AHE Participation and Student Outcomes

In this section, we present findings that describe the relationship between participation in the AHE program and student outcomes. This section addresses the following research questions:

- 1) After controlling for prior academic performance, demographic, and socioeconomic factors, were differences in persistence rates observed between students participating in the AHE program and comparable non-participants?
- 2) After controlling for prior academic performance, demographic, and socioeconomic factors, were differences in course passing rates observed between students participating in the AHE program and comparable non-participants?

Four student outcomes were examined: fall-to-spring persistence, first-fall to second-fall persistence (i.e., freshman-to-sophomore year persistence), first-fall to third-fall persistence (i.e., freshman-to-junior year persistence), and the percentage of credit-bearing courses²⁵ passed with a grade of C or better. The evaluation design was quasi-experimental, where students who enrolled in an AHE FYE course were compared to students who did not enroll in a targeted AVID-infused freshman course. The grid below outlines the outcome measures presented for each of the two student cohorts.

	College Persistence Rates			Grades
	Freshman Year Fall-to-Spring Persistence	Freshman-to-Sophomore Year Persistence (Fall to Fall)	Freshman-to-Junior Year Persistence (Year 1 to Year 3)	Percent of Courses Passed with a Grade of C or Better
Student Cohort 1 (Fall 2014)	Yes	Yes	Yes	Yes (Freshman and Sophomore Years)
Students Cohort 2 (Fall 2015)	Yes	Yes	No	Yes (Freshman Year Only)

For Cohort 1 (Fall 2014), two comparison groups were created:

1. Cohort 0 (fall 2013):²⁶ Non-participating students from the school year *prior* to the implementation of the AHE program (e.g., 2013-14) were compared to participating students from the first year of implementation (2014-15). This comparison captured both the impact of being part of the AVID cohort, and receiving instruction and services that non-AVID students did not receive, as well as the impact of broader AHE services that all students may have benefited from in 2014 (e.g., improved tutoring services and institutional focus on student success).

²⁵ Only courses of three credits or more are included in the course passing rate analyses.

²⁶ This comparison was not available at two-year institutions due to inadequate data.

2. Cohort 1 (fall 2014): Non-participating students from the first year of implementation (2014-15) were compared to participating students *within the same school year* (2014-15). This comparison captured only the impact of being part of the AVID cohort, and receiving instruction and services that non-AVID students did not receive. It is assumed that the broader AHE services that all students may have benefited from in 2014 (e.g., improved tutoring services and institutional focus on student success) impacted 2014 AVID and non-AVID students equally.

For Cohort 2 (fall 2015), students who enrolled in an AHE FYE course were compared to students who did not enroll in a targeted AVID-infused freshman course in fall 2015:

3. Cohort 2 (fall 2015): Non-participating students from the second year of implementation (2015-16) were compared to participating students *within the same school year* (2015-16).

For each comparison group design, the outcomes analyses proceeded in two stages. First, propensity scores were estimated to quantify the probability of AHE FYE participation, conditional on available pre-treatment covariates provided by participating institutions. This score was then used to weight non-participating students in order to balance pre-treatment covariates between non-participating students and participating students so that, on average, both the participant and the non-participant groups were equivalent based on the covariates available to the research team.²⁷ Next, multivariate regression was used to estimate the difference in the outcomes between treatment and comparison students. The difference represented the average treatment effect on the treated (ATET). The treated group refers to students who participated in the AHE program during the first enrollment year for each cohort wave. More technical detail about this approach is provided in Appendix B.

Analyses, including the specification of the propensity score, were performed separately for each institution in order to calculate an institution-specific program participation effect. Similar to Shields et al. (2014), the disaggregated institution-level effects were aggregated using meta-analysis to provide a combined average program AVID FYE participation effect.²⁸

Sample Description

Table 4.1 provides the number of AVID FYE participants and non-participants from Cohort 1 (2014-15) at each participating institution. The following four-year institutions are included in the student outcome analyses presented in this report section: California State University, San Marcos (CSU-San Marcos); Fort Valley State University; Texas Wesleyan University (TWU); Tougaloo College; University of North Carolina, Asheville (UNC-Asheville); and Washington State University, Tri-Cities (WSU, Tri-Cities). The following two-year institutions are included in the student outcome analyses presented in this report section: Atlanta Technical College; Butler Community College; and Saddleback College. Table 4.1 shows the number of AVID and non-AVID students included in the student outcomes analysis conducted by Gibson. A total of 1,106 AVID students and 3,304 matched non-AVID students from seven institutions were included in the

²⁷ The covariates used for the propensity score reweighting procedure are listed in Appendix B.

²⁸ Additional technical detail about the meta-analysis procedure can be found in Appendix B.

persistence analyses for Cohort 1. 1,272 AVID students and 3,477 matched non-AVID students from nine institutions were included in the persistence analyses for Cohort 2.²⁹ For Cohorts 1 and 2, CSU-San Marcos served by far the largest number of students through their AHE program (474 in 2014 and 539 in 2015).³⁰ This is important when interpreting the meta-analysis, since CSU-San Marcos will receive somewhat larger weights in the random effects meta-analysis approach than institutions with fewer students included in the analyses.

Table 4.1. – Number of AVID and Non-AVID Students Included in Cohort 1 and Cohort 2 Student Outcomes Analyses

College Name	Number of AVID Students Fall 2014	Number of Non-AVID Students Fall 2014	Number of AVID Students Fall 2015	Number of Non-AVID Students Fall 2015
<i>Atlanta Technical College</i>	127	747	110	247
<i>Butler Community College</i>	NA	NA	36	81
California State University – San Marcos	474	1,229	539	1,512
Fort Valley State University	107	104	157	250
<i>Saddleback College</i>	113	526	1034	359
Texas Wesleyan University	88	193	126	239
Tougaloo College	NA	NA	43	74
University of North Carolina – Asheville	87	446	113	511
Washington State University, Tri-Cities	110	59	100	253
Total	1,106	3,304	2,258	2015

Source: Administrative Data Collected from Participating Institutions, 2015.

Notes: Two-year institutions are italicized. Counts reflect the number of students included in the statistical models used to estimate the effect of AVID College Completion Project participation. Two institutions participating in AHE (Tougaloo College and Butler Community College) were not able to be included in the Cohort 1 outcomes analysis for 2014-15 due to insufficient or untimely submission of data; however, they are included in the Cohort 2 analysis included in this report for 2015-16. For Saddleback College, the Fall 2014 AVID group included only students in AVID-infused sections of the Counseling 140 (FYE) course in fall 2014, and the Fall 2015 AVID group included all students who was enrolled in an AVID-infused courses in fall 2015. The AHE program was expanded substantial at Saddleback College in 2015-16.

Institutions were encouraged to target students eligible for the Federal Pell Grant program for the AVID College Completion Project. Students who are eligible for this grant must have met the financial need requirements established by the program, which is based on the expected financial contribution from

²⁹ Only students who persisted into their second year of college were included in the sophomore year course-passing rate analyses.

³⁰ Participation counts were derived from the records provided by each institution's institutional research office and may differ from those reported by AVID liaisons. The method for determining whether a student was a participant varied across participating institutions. For instance, although the research team requested a data element that contained a flag indicating whether a student was in the targeted freshman course, some institutions were unable to provide this variable. Consequently, participating students at these institutions were identified by their course enrollment records. Furthermore, at two-year institutions (e.g., Atlanta Technical College, Butler Community College, and Saddleback College) non-participants were restricted to students who enrolled in the equivalent non-AVID-infused introductory course.

students' families. Table 4.2 describes the percentage of AVID and non-AVID students from Cohort 1 and Cohort 2 who *were eligible to receive*, and in almost all cases did receive, Federal Pell Grants in the 2014-15 and 2015-16 academic years.³¹ The largest differences in the percentage of AVID and non-AVID students eligible for Pell Grant assistance were observed at UNC-Asheville and Texas Wesleyan University. Unfortunately, the research team did not receive financial data from each participating school and, thus, were not able to include this covariate in the propensity score reweighting procedures and regression models.

Table 4.2. – Percentage of Students in Cohort 1 and Cohort 2 Who Were Eligible to Receive Pell Funds during their Freshman Year, by AVID Participation Status

College Name	Percent of AVID Students Fall 2014	Percent of Non-AVID Students Fall 2014	Percent of AVID Students Fall 2015	Percent of Non-AVID Students Fall 2015
<i>Atlanta Technical College</i>	NA	NA	87.3%	87.9%
<i>Butler Community College</i>	NA	NA	NA	NA
<i>California State University – San Marcos</i>	NA	NA	NA	NA
<i>Fort Valley State University</i>	86.0%	85.6%	81.5%	84.0%
<i>Saddleback College</i>	NA	NA	NA	NA
<i>Texas Wesleyan University</i>	63.6%	22.8%	51.6%	18.4%
<i>Tougaloo College</i>	NA	NA	NA	NA
<i>University of North Carolina – Asheville</i>	81.6%	15.9%	54.0%	29.9%
<i>Washington State University, Tri-Cities</i>	47.3%	40.7%	52.0%	43.9%

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: Only institutions that provided financial aid data are shown. For institutions with missing financial aid information, Pell eligibility could not be included as a control variable in the statistical models to control for differences in the compositions of the AVID and non-AVID groups. Fall 2015 non-AVID data reflect results from a comparison group of first-time, full-time students at WSU, Vancouver. NA refers to instances where usable data were not available from the participating institution.

Table 4.3 presents the distribution of SAT scores for reading and mathematics.³² With the exception of mean fall 2015 SAT reading and math scores at UNC-Asheville (where the average score for AVID students was 1049 compared to 1174 for non-AVID students), and mean fall 2015 SAT reading and math scores at WSU, Tri-Cities and comparison students at WSU, Vancouver (where the average score for AVID students was 956 compared to 1027 for non-AVID students), only modest differences were observed between AVID and non-AVID students for Cohorts 1 and 2 of this study.

³¹ The research team requested students' Pell eligibility and whether students *received* a Pell grant. However, most institutions only submitted the amount of Pell funds awarded to each student.

³² ACT scores are presented for Tougaloo College for fall 2015.

Table 4.3. – Mean SAT Scores (Reading and Math) and Grade Point Average, by AVID Participation Status

College Name	Mean SAT AVID Students Fall 2014	Mean SAT Score Non-AVID Students Fall 2014	Mean SAT Score AVID Students Fall 2015	Mean SAT Score Non-AVID Students Fall 2015
<i>Atlanta Technical College</i>	NA	NA	NA	NA
<i>Butler Community College</i>	NA	NA	NA	NA
California State University – San Marcos	976	990	969	952
Fort Valley State University	822	844	858	851
<i>Saddleback College</i>	NA	NA	NA	NA
Texas Wesleyan University	986	970	985	956
Tougaloo College (ACT Scores)	17.5	17.3	17.3	17.2
University of North Carolina – Asheville	1155	1182	1049	1174
Washington State University, Tri-Cities	986	992	956	1027

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: Fall 2015 non-AVID student scores reflect results from a comparison group of first-time, full-time students at WSU, Vancouver. NA refers to instances where usable data were not available from the participating institution.

Outcome Measures

Four outcome measures were examined. Their operational definitions are provided below.

Fall-to-Spring Persistence, for Analyses of Cohorts 1 and 2

Fall-to-spring persistence is an important near-term outcome for the AHE program since the targeted freshman course (typically an FYE course) is provided in students' first fall semester at most institutions. Each institution provided student-level enrollment and course-taking records for each school year and semester. Fall-to-spring persistence was determined by identifying students who were enrolled in the fall semester, and who also were enrolled and took at least one course in the spring semester of the same school year.

Freshman-to-Sophomore Year (i.e., Year 1 to Year 2 Persistence), for Cohort 1 and 2 Analyses

Institutions provided enrollment records for fall 2015 of and fall 2016 in order to identify students from Cohort 1 and Cohort 2 who returned to the same institution in their second year. Thus, for Cohort 1, freshman-to-sophomore year persistence is operationalized as students who were enrolled in the fall of 2014 who also enrolled in fall 2015. For Cohort 2, freshman-to-sophomore year persistence is operationalized as students who were enrolled in the fall of 2015 who also enrolled in fall 2016. Because fall-to-fall persistence in the Year 1 report is defined as students' *first* fall to second fall persistence, for

Cohort 0, fall-to-fall persistence is operationalized as having been enrolled in fall 2013 *and* enrolled in fall 2014.

Freshman-to-Junior Year (i.e., Year 1 to Year 3 Persistence), for Analyses of Cohort 1 Only (Four-Year Institutions Only)

Institutions provided enrollment records for fall 2016 in order to identify students from Cohort 1 who returned to the same institution in their third year. Thus, Year 1 to Year 3 persistence (i.e., freshman-to-junior persistence) is operationalized as students who were enrolled in fall 2014 who also enrolled in fall 2016. Because fall-to-fall persistence in the Year 2 report is defined as students' *first* fall to *third* fall persistence, for Cohort 0, fall-to-fall persistence is operationalized as having been enrolled in fall 2013 *and* enrolled in fall 2015.

Course Passing Rates (Freshman Year and Sophomore Year)

Institutions provided all course records for AVID and non-AVID students for each semester for the 2013-14 (Year 1 for Cohort 0), the 2014-15 school year (Year 1 for Cohort 1 and Year 2 for Cohort 0), and the 2015-16 school year (Year 1 for Cohort 2, Year 2 for Cohort 2, and Year 3 for Cohort 0). The outcome for this measure is the percentage of three or four hour credit-bearing courses in which a student earned a C or better (or, for some courses without letter grades, earned a satisfactory or passing score).

Findings are presented separately for four-year and two-year institutions for each of the outcome measures described above. In addition, the results for the two comparison groups (i.e., fall 2014 AVID students compared to fall 2013 non-AVID students; fall 2014 AVID students compared to fall 2014 non-AVID students; and fall 2015 AVID students compared to fall 2015 non-AVID students) for each measure.

Results for Four-Year Institutions

This section reports college persistence and course passing results for four-year colleges and universities participating in the AVID College Completion Project. Five institutions are included in the Cohort 1 analyses, which compare the results of AVID students who entered college in fall 2014 to two comparison groups: 1) other students who entered college in fall 2014 who did not participate in the AHE program; and 2) other students who entered college in fall 2013 – the year before AHE was implemented at the college or university. The following four-year institutions are included in the Cohort 1 analysis: CSU-San Marcos; Fort Valley State University; Texas Wesleyan University; UNC-Asheville; and WSU, Tri-Cities.

Six colleges and universities are included in the Cohort 2 analysis, which compare the results of AVID students who entered college in fall 2014 to other students who entered college in fall 2014 who did not participate in the AHE program. The following four-year institutions are included in the Cohort 2 analysis: CSU-San Marcos; Fort Valley State University; Texas Wesleyan University; Tougaloo College; UNC-Asheville; and WSU, Tri-Cities. While usable Cohort 1 student-level data were not made available by Tougaloo College, data for first-time, full-time students entering Tougaloo College in fall 2015 (i.e., Cohort 2) were provided and included in the analyses presented below. It should be noted that only two

covariates (gender and ACT/SAT score) were available for propensity score reweighting and inclusion in regression models. Thus, the results for Tougaloo should be viewed with some caution. In addition, a comparison group for Cohort 2 was not available at WSU, Tri-Cities because all of the students were enrolled in AVID-based History 105 course sections (i.e., the freshman course targeted for infusion of AVID strategies/taught by faculty who attended AVID professional development). The research team at Gibson, in consultation with WSU, Tri-Cities institutional research and program staff determined that the best possible comparison group would be first-time, full-time students at WSU, Vancouver. However, because it was not possible to control for institution-level effects associated with attending school at WSU, Vancouver, the Cohort 2 WSU, Tri-Cities analyses should also be interpreted with caution.

Cohort 1 Persistence Analyses (Four-Year Institutions)

As Table 4.4 shows, across four-year institutions, fall-to-spring persistence rates ranged from 88.6% to 97.7% for students in the 2014 AVID cohort (Cohort 1), and from 86.5% to 96.1% for non-AVID students. A slightly lower proportion of Cohort 1 AVID students at Fort Valley State University (-1.69 percentage points in the within-year analysis and -1.09 percentage points in the Cohort 1 vs. Cohort 0 analysis) and CSU-San Marcos (-1.62 percentage points in the within-year analysis and -1.96 percentage points in the Cohort 1 vs. Cohort 0 analysis) re-enrolled in the spring 2015 semester than did non-AVID students, though the difference was substantively small and not statistically significant. Meaningful and statistically significant differences between Cohort 1 AVID and non-AVID students were found at UNC-Ashville where higher proportions of Cohort 1 AVID students returned for the freshman spring semester (+10.47 percentage points in the within Cohort 1 analysis and +5.78 points in the Cohort 1 vs. Cohort 0 analysis) than their non-AVID counterparts. Differences between AVID and non-AVID students were also found at WSU, Tri-Cities where a larger percentage of AVID students returned for their first spring semester (+5.74 percentage points for the within Cohort 1 analysis, and 7.16 percentage points for the Cohort 1 vs. Cohort 0 analysis) than non-AVID students.³³ Both UNC-Asheville, through a year-long living learning community and additional academic support, and WSU, Tri-Cities, through the offering of an optional AVID-infused research course in spring 2015, provided interventions which may have positively affected fall-to-spring persistence. The combined effect estimate across all four-year institutions was positive for AVID students (+2.26 percentage points for the within-year analysis and +1.79 for the Cohort 1 vs. Cohort 0 analysis), but not statistically significant.

³³ The difference was not significant for the within-year Cohort 1 ($p=.21$) analysis, but was significant for the Cohort 1 vs. Cohort 0 analysis ($p=.05$).

Table 4.4. – Four-Year Institutions: Propensity Score Reweighted and Regression-Adjusted Persistence Rate and Average Treatment Effect of AVID Participation on Freshman Fall-to-Spring Persistence, by Institution, Within-Year Cohort 1 and Cohort 1 vs. Cohort 0 Analyses

Freshman Fall-to-Spring Persistence Rates										
Cohort 1 Analysis						Cohort 1 vs. Cohort 0 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	94.52	96.13	-1.62	0.17	1,703	94.52	96.47	-1.96	0.08	2,570
Fort Valley State University	93.46	95.15	-1.69	-0.51	211	93.46	92.37	1.09	0.68	618
Texas Wesleyan University	88.64	86.49	2.15	0.42	299	88.64	89.84	-1.20	0.77	353
University of North Carolina – Asheville	97.70	87.23	10.47***	0.01	533	97.70	91.92	5.78**	0.03	587
Washington State University, Tri-Cities	95.45	89.71	5.74	0.21	170	95.45	88.29	7.16**	0.05	235
Combined average effect size			2.26	0.35				1.79	0.37	.

Source: Administrative Data Collected from Participating Institutions, 2015.

Note: *p<0.1; ** p<0.05; *** p<0.01.

The research team also examined freshman-to-sophomore year (i.e., fall 2014 to fall 2015) and freshman-to-junior year (i.e., fall 2014 to fall 2016) persistence rates for Cohort 1. As Table 4.5 shows, four of the five IHEs experienced higher freshman-to-sophomore year persistence rates for AVID students and non-AVID students, with more positive results evident in the Cohort 0 vs. Cohort 1 analysis, which accounts for broader AVID program effects and potentially other non-program effects resulting from between year analyses. Freshman-to-sophomore year persistence was significantly higher at Texas Wesleyan University for the more conservative within-year Cohort 1 analysis (+11.26 percentage points), and significantly higher at Fort Valley State University (+20.67 percentage points), Texas Wesleyan University (+17.23 percentage points), and WSU, Tri-Cities (+10.21 percentage points) for the more liberal Cohort 1 vs. Cohort 0 analysis. UNC-Asheville also posted higher AVID Cohort freshman-to-sophomore persistence rates (+5.37 percentage points for the within Cohort 1 analysis and +6.93 percentage points for the Cohort 1 vs. Cohort 0 analysis); however, these differences did not reach statistical significance.

Similarly, for the freshman-to-junior year persistence, AVID students at four of the five institutions persisted into their junior year at higher rates than students who did not participate in the AVID program. Freshman-to-junior year persistence was significantly higher at Fort Valley State University for the within-year Cohort 1 analysis (+17.27 percentage points), and significantly higher at Texas Wesleyan University (+13.87 percentage points), Fort Valley State University (+11.65 percentage points), and WSU, Tri-Cities (+13.32 percentage points) for the more liberal Cohort 1 vs. Cohort 0 analysis.

Table 4.5. – Four-Year Institutions: Propensity Score Reweighted and Regression-Adjusted Average Treatment Effect of AVID Participation on Freshman-to-Sophomore and Freshman-to-Junior Persistence, by Institution, Within-Year Cohort 1 and Cohort 1 vs. Cohort 0 Analyses

Freshman-to-Sophomore Persistence Rates										
Cohort 1 Analysis						Cohort 1 vs. Cohort 0 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	80.59	82.45	-1.86	0.38	1,703	80.59	84.15	-3.56	0.07	2,570
Fort Valley State University	79.44	77.12	2.32	0.69	211	79.44	58.77	20.67***	0.00	618
Texas Wesleyan University	78.41	67.15	11.26*	0.08	299	78.41	61.18	17.23***	0.01	353
University of North Carolina – Asheville	80.46	75.09	5.37	0.36	533	80.46	73.53	6.93	0.20	587
Washington State University, Tri-Cities	75.45	73.59	1.86	0.79	170	75.45	65.24	10.21*	0.09	235
Combined average effect size			1.52	0.51				9.88*	0.09	

Freshman-to-Junior Persistence Rates										
Cohort 1 Analysis						Cohort 1 vs. Cohort 0 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	64.14	67.04	-2.90	0.28	1,703	64.14	64.59	-0.45	0.85	2,570
Fort Valley State University	60.75	43.47	17.27***	0.01	211	60.75	49.10	11.65**	0.02	617
Texas Wesleyan University	61.36	57.57	3.79	0.61	281	61.36	47.50	13.87*	0.08	263
University of North Carolina – Asheville	66.67	65.02	1.64	0.81	533	66.67	62.05	4.62	0.44	587
Washington State University, Tri-Cities	68.18	57.94	10.24	0.19	169	68.18	54.86	13.32**	0.04	235
Combined average effect size			4.80	0.24				7.11**	0.04	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: * $p < 0.1$; * $p < 0.05$; ** $p < 0.01$. Tougaloo College was not able to be included in the Cohort 1 outcomes analysis for 2014-15 due to insufficient or untimely submission of data. They are included in the Cohort 2 analysis included in this report for 2015-16.

The combined effect estimate for Cohort 1 freshman-to-sophomore persistence across all four-year institutions was positive for AVID students (+1.52 percentage points for the within-year analysis and +9.88 for the Cohort 1 vs. Cohort 0 analysis), with statistically significant results for the Cohort 1 vs. Cohort 0 ($p = .10$). The combined effect estimate for Cohort 1 freshman-to-junior persistence across all four-year institutions was also measured using the random effects meta-analysis approach. The combined effect estimate for Cohort 1 freshman-to-junior year persistence across all four-year institutions was positive for AVID students (+4.80 percentage points for the within-year analysis and +7.11 for the Cohort 1 vs. Cohort 0 analysis), with statistically significant results for the Cohort 1 vs. Cohort 0 ($p = .04$).

Cohort 1 Course Passing Rate Analyses (Four-Year Institutions)

As Table 4.6 shows, the percentage of three credit-hour courses passed with a grade of C or better completed by Cohort 1 students during their freshman year (2014-15) was somewhat higher for AVID students at four of the five participating institutions, and significantly higher at Texas Wesleyan University (+9.19 percentage points and +13.71 percentage points in the more liberal Cohort 1 vs. Cohort 0 analysis) and at Fort Valley State University (+4.90 percentage points for the within-year Cohort 1 analysis³⁴ and +9.54 percentage points for the Cohort 1 vs. Cohort 0 analysis).

The combined effect estimate for Cohort 1 freshman course passing rates across all four-year institutions was positive for AVID students (+3.49 percentage points for the within-year analysis and +5.06 percentage points for the Cohort 1 vs. Cohort 0 analysis). Neither the within Cohort 1 ($p=.16$) nor the Cohort 1 vs. Cohort 2 ($p=.13$) combined effect estimates reached statistical significance (Table 4.6).

In contrast to the freshman year course passing results, the course passing rate for Cohort 1 students during their sophomore (2015-16) year was lower at some IHEs (for example, -10.08 percentage points at WSU, Tri-Cities for the within Cohort 1 analysis and -11.21 percentage points for the Cohort 1 vs. Cohort 0 analysis); however, the combined effect estimate for Cohort 1 sophomore year course passing rate across all four-year institutions was only slightly negative for the within Cohort 1 analysis (-1.99 percentage points) and the Cohort 1 vs. Cohort 0 analysis (-2.97 percentage points). Results were mixed for several institutions based on the comparison group included in the analysis (e.g., Fort Valley State University, Texas Wesleyan University, and UNC-Asheville). None of the combined effects for the Cohort 1 sophomore year course passing rates were statistically significant (Table 4.6).

³⁴ This difference neared, but did not reach statistical significance at the .10 level or better ($p=.11$).

Table 4.6. – Four-Year Institutions: Propensity Score Reweighted and Regression-Adjusted Average Treatment Effect of AVID Participation on Freshman and Sophomore Year Course Passing Rates, by Institution, Within-Year Cohort 1 and Cohort 1 vs. Cohort 0 Analyses

Year 1 Course Passing Rates (Freshman Year, 2014-15)										
Cohort 1 Analysis (2014-15)						Cohort 1 vs. Cohort 0 Analysis (2014-15)				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	84.38	86.64	-2.25*	0.09	1,703	84.38	87.16	-2.78**	0.03	2,570
Fort Valley State University	72.98	68.09	4.90	0.11	211	72.98	63.45	9.54***	0.00	618
Texas Wesleyan University	77.33	68.14	9.19**	0.02	299	77.33	63.62	13.71***	0.00	353
University of North Carolina – Asheville	86.25	82.00	4.25	0.23	533	86.25	83.76	2.49	0.40	587
Washington State University, Tri-Cities	82.48	77.53	4.94	0.32	170	82.48	79.01	3.46	0.34	235
Combined average effect size			3.49	0.16				5.06	0.13	

Year 2 Course Passing Rates (Sophomore Year, 2015-16)										
Cohort 1 Analysis						Cohort 1 vs. Cohort 0 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	85.71	86.11	-0.40	.80	1,319	85.71	85.34	-0.37	0.78	2,095
Fort Valley State University	71.36	67.02	4.34	0.34	166	71.36	77.76	-6.40**	0.05	379
Texas Wesleyan University	63.01	61.82	1.19	0.86	181	63.01	66.22	-3.21	0.59	178
University of North Carolina – Asheville	85.00	90.29	-5.30	0.19	425	85.00	81.21	3.78	0.33	460
Washington State University, Tri-Cities	78.24	88.31	-10.08**	0.03	135	78.24	89.45	-11.21***	0.01	173
Combined average effect size			-1.99	0.36				-2.97	0.25	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Tougaloo College was not able to be included in the Cohort 1 outcomes analysis for 2014-15 due to insufficient or untimely submission of data. They are included in the Cohort 2 analysis for 2015-16.

Cohort 2 Persistence Rates (Four-Year Institutions)

As Table 4.7 shows, the freshman fall-to-spring persistence rates were similar to Cohort 1 results and ranged from 84.0% at WSU, Tri-Cities to 96.1% at CSU-San Marcos for AVID students and 78.8% at Texas Wesleyan University to 96.8% at Fort Valley State University for non-AVID students. Mixed freshman fall-to-spring persistence results were observed for four-year institutions when college persistence rates for

Cohort 2 (i.e., students who entered college in fall 2015) were examined. As Table 4.7 illustrates, AVID students persisted into the spring semester of their freshman year at higher rates than their non-AVID counterparts at Texas Wesleyan University (+6.09 percentage points), UNC-Asheville (+3.70 percentage points), and CSU-San Marcos (+0.53 percentage points); however, none of these differences reached statistical significance. In contrast, AVID students persisted into the spring semester of their freshman year at lower rates than non-AVID students at WSU, Tri-Cities (-5.75 percentage points), Fort Valley State University (-2.55 percentage points), and Tougaloo College (-2.21 percentage points). Again, none of these differences reached statistical significance. Caution should be used when interpreting all Cohort 2 findings for WSU, Tri-Cities because the results for AVID students at this university were compared to those of first-time, full-time students at WSU, Vancouver. This analysis does not account for institutional differences between the two WSU schools which may have impacted student experiences and outcomes.

Table 4.7. – Four-Year Institutions: Propensity Score Reweighted and Regression-Adjusted Average Treatment Effect of AVID Participation on Freshman Fall-to-Spring and Freshman-to-Sophomore Year Persistence, by Institution, Cohort 2 Analysis

College Persistence Rates										
Freshman Fall-to-Spring Persistence Rates						Freshman-to-Sophomore Persistence Rates				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	96.10	95.58	0.53	0.60	2,051	85.16	81.61	3.55**	0.05	2,051
Fort Valley State University	94.27	96.82	-2.55	0.23	407	72.61	80.50	-7.89*	0.07	407
Texas Wesleyan University	84.92	78.83	6.09	0.25	365	61.90	54.89	7.01	0.27	365
Tougaloo College	88.37	90.58	-2.21	0.71	117	65.12	75.64	-10.52	0.22	117
University of North Carolina – Asheville	94.69	90.99	3.70	0.24	624	75.22	69.21	6.02	0.31	624
Washington State University, Tri-Cities	84.00	89.75	-5.75	0.19	353	69.00	78.39	-9.39	0.11	353
Combined average effect size			-0.05	0.96				-1.10	0.73	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Because a within campus comparison group was not available, non-AVID comparison group for WSU, Tri-Cities are first-time, full-time students at WSU- Vancouver. These results should be viewed with caution as differences may be the results of school-specific factors as opposed to AHE program-participation.

Similar findings were observed for freshman-to-sophomore persistence rates for four-year institutions, with the same three institutions posting more positive results for AVID students (Texas Wesleyan University, +7.01 percentage points; UNC-Asheville, +6.02 percentage points; and CSU-San Marcos, +3.55 percentage points) and the same three institutions posting less favorable results for AVID students (Tougaloo College, -10.52 percentage points; WSU, Tri-Cities, -9.39 percentage points; and Fort Valley State University, -7.89). Of these, only the freshman-to-sophomore results at CSU-San Marcos and Fort Valley State University were statistically significant (Table 4.7).

The combined effect estimate for Cohort 2 freshman fall-to-spring persistence and freshman-to-sophomore persistence across all four-year institutions was, again was small, slightly negative, and not statistically significant (Table 4.7).

Cohort 2 Course Passing Rates (Four-Year Institutions)

The percentage of three credit-hour courses passed with a grade of C or better completed by Cohort 2 students during their freshman year (2014-15) was higher for AVID students at four of the six institutions included in the Cohort 2 analysis, and significantly higher at Texas Wesleyan University (+8.13 percentage points). In both Cohort 1 and Cohort 2 analyses, AVID students at Texas Wesleyan University passed a larger proportion of their freshman courses than their non-AVID counterparts, and those differences were statistically significant. The combined effect estimate for Cohort 1 freshman course passing rates across all four-year institutions was positive for AVID students (+1.28 percentage points), but the difference was not statistically significant (Table 4.8)

Table 4.8. – Four-Year Institutions: Propensity Score Reweighted and Regression-Adjusted Average Treatment Effect of AVID Participation on Course Passing Rates, by Institution, Cohort 2 Analysis

Year 1 Course Passing Rates (Freshman Year, 2015-16)					
College Name	AVID	Non-AVID	Estimate	P-value	N
California State University – San Marcos	87.11	85.56	1.55	0.17	2,051
Fort Valley State University	74.70	73.84	0.85	0.54	407
Texas Wesleyan University	70.17	62.04	8.13**	0.03	365
Tougaloo College	64.94	68.03	-3.10	0.61	117
University of North Carolina – Asheville	84.82	82.73	2.08	0.51	624
Washington State University, Tri-Cities	75.35	80.58	-5.23	0.19	353
Combined average effect size			1.28	0.25	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Because a within-campus comparison group was not available, the non-AVID comparison group for WSU, Tri-Cities are first-time, full-time students at WSU-Vancouver. These results should be viewed with caution as differences may be the results of school-specific factors as opposed to AHE program-participation.

Results for Two-Year Institutions

This section reports college persistence and course passing results for two-year colleges and universities participating in the AVID College Completion Project. Two institutions are included in the Cohort 1 analyses, which compare the results of AVID students who entered college in fall 2014 to other students who entered college in fall 2014 but did not participate in the AHE program. Atlanta Technical College and Saddleback College are included in the Cohort 1 analysis.

Three colleges and universities are included in the Cohort 2 analysis, which compare the results of AVID students who entered college in fall 2014 to other students who entered college in fall 2014 who did not participate in the AHE program. The following two-year institutions are included in the Cohort 2 analysis: Atlanta Technical College; Butler Community College; and Saddleback College. Usable Cohort 1 student-level data were not made available by Butler Community College; however, data for students entering Butler in fall 2015 (i.e., Cohort 2) were provided and included in the analyses. It is important to note that two-year technical and community colleges typically collect less student-level data than four-year institutions. This reduces the research team's ability to adjust for student-level characteristics that are associated with both AVID participation and the outcomes considered in this evaluation. For example, high school grade point average and SAT/ACT scores are not available for enough students to include those covariates in the model. This limits the research team's ability to control for differences in the composition between the AVID and non-AVID students and yields potentially biased effect estimates. For these reasons, the results for two-year institutions should be viewed with caution.

In addition, freshman-to-sophomore year persistence rates should also be interpreted with some caution because the estimates do not account for students who successfully transferred to four-year institutions after their first year in college. The extent to which students from AVID and non-AVID groups transferred, and the extent to which transfer rates are different for the two groups is not known at this time. Transfer data from two-year institutions will be collected and included in the Year 3 (2016-17) evaluation report.

Cohorts 1 and 2 Persistence Analyses (Two-Year Institutions)

For Cohort 1, statistically significant differences in first year fall-to-spring persistence rates between AVID and non-AVID students were found at Atlanta Technical College (+10.45 percentage points); however, only a modest (+0.39 percentage point) difference was found between Cohort 2 AVID and non-AVID students at Atlanta Technical College. Conversely, a small negative difference in Cohort 1 freshman fall-to-spring persistence was observed between AVID and non-AVID students (-2.91 percentage points) at Saddleback College. At Butler Community College, the freshman fall-to-spring persistence rate was not materially different for AVID (77.78%) and non-AVID students (77.11%).

After expanding the cohort of AVID scholars at Saddleback College from only FYE course (i.e., Counseling 140) enrollees to a substantially larger group of students who took a variety of different freshman courses taught by AVID-trained faculty, freshman fall-to-spring, and freshman-to-sophomore persistence rates improved substantially for Cohort 2 (i.e., students who began college in fall 2015). At Saddleback College,

Cohort 2 freshman fall-to-spring persistence rate was 10.53 percentage points higher than students not enrolled in courses taught by AVID trained faculty.³⁵ (Table 4.9)

At two-year institutions, AVID students in Cohorts 1 and 2 experienced higher freshman fall-to-spring persistence rates than their non-AVID counterparts. The combined average effect size was +3.86 percentage points for Cohort 1 and +5.70 percentage points for Cohort 2, but the differences were not statistically significant for either cohort. (Table 4.9)

Table 4.9. – Two-Year Institutions: Propensity Score Reweighted and Regression Adjusted Average Treatment Effect of AVID Participation on Freshman Fall-to-Spring Persistence, by Institution, Cohort 1 and Cohort 2 Analyses

Freshman Fall-to-Spring Persistence Rates										
Cohort 1 Analysis						Cohort 2 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
Atlanta Technical College	86.82	76.37	10.45***	0.00	908	74.55	74.15	0.39	0.94	357
Butler Community College	NA	NA	NA	NA	NA	77.78	77.11	0.67	0.94	117
Saddleback College	85.84	88.75	-2.91	0.43	649	95.06	84.54	10.53***	0.00	1393
Combined average effect size			3.86	0.56				5.70	0.15	.

Source* p<0.1; ** p<0.05; *** p<0.01.

Note: Butler Community College was not able to be included in the Cohort 1 outcomes analysis for 2014-15 due to insufficient or untimely submission of data; however, they are included in the Cohort 2 analysis included in this report for 2015-16. Due to limited covariates included in the statistical models, results of two-year institution should be viewed with caution. NA refers to instances where usable data were not available from the participating institution.

For Cohort 1, a larger proportion of AVID students at Atlanta Technical College (+5.62 percentage points) and Saddleback College (+5.46 percentage points) persisted from their first to second year of college (i.e., freshman-to-sophomore year persistence) than their non-AVID counterparts. The combined average effect for freshman-to-sophomore year persistence for two year institutions was +5.54 percentage points which was statistically significant at the .10 level.

For the Cohort 2 analysis, little difference in freshman-to-sophomore year persistence was observed between AVID and non-AVID students at Atlanta Technical College. At Saddleback College, AVID students persisted between fall 2015 and fall 2016 at a significantly higher rate (80.75%) than non-AVID students (68.89%).³⁶ Similar to Saddleback College, a significantly larger proportion of AVID students at Butler Community College (61.11%) continued their education at the college from fall 2015 to fall 2016 than non-

³⁵ This difference is statistically significant at the .01 level.

³⁶ The 11.86 percentage point difference between Cohort 2 AVID and non-AVID students for freshman-to-sophomore year persistence at Saddleback College were statistically significant at the .01 level..

AVID students (44.38%). The difference in freshman-to-sophomore persistence rates for Cohort 2 students at Butler Community College was significant at the .10 level (Table 4.10).

As Table 4.10 shows, the combined average effect size for freshman-to-sophomore year persistence was +8.40 percentage points and this difference was statistically significant ($p=.09$).

Table 4.10. – Two-Year Institutions: Propensity Score Reweighted and Regression Adjusted Average Treatment Effect of AVID Participation on Freshman-to-Sophomore Persistence, by Institution, Cohort 1 and Cohort 2 Analyses

Freshman-to-Sophomore Persistence Rates										
Cohort 1 Analysis						Cohort 2 Analysis				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
Atlanta Technical College	49.61	43.99	5.62	0.23	908	41.82	42.72	-0.90	0.87	357
Butler Community College	NA	NA	NA	NA	NA	61.11	44.38	16.73*	0.09	117
Saddleback College	73.45	68.00	5.46	0.25	649	80.75	68.89	11.86***	0.00	1393
Combined average effect size			5.54*	0.10				8.40*	0.09	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$. Butler Community College was not able to be included in the Cohort 1 outcomes analysis for 2014-15 due to insufficient or untimely submission of data; however, they are included in the Cohort 2 analysis included in this report for 2015-16. Due to limited covariates included in the statistical models, results of two-year institution should be viewed with caution. NA refers to instances where usable data were not available from the participating institution. For Saddleback College, the fall 2014 AVID group included only students in AVID-infused sections of the Counseling 140 (FYE) course in fall 2014, and the fall 2015 AVID group included all students who was enrolled in an AVID-infused courses in fall 2015. The AHE program was expanded substantial at Saddleback College in 2015-16. For Atlanta Technical College, the Cohort 1 AVID group consistent of student in AVID-infused sections of Medical Terminology and Introduction to Computers courses; however, in fall 2015, the Cohort 2 AVID group consisted of students in AVID sections of a broader array of courses, including English Composition, Financial Accounting, Medical terminology, and developmental courses in English and Math.

Cohort 1 and Cohort 2 Course Passing Rate Analyses (Two-Year Institutions)

The percentage of three credit-hour courses passed with a grade of C or better completed by Cohort 1 students at two-year technical or community colleges during their freshman year (2014-15) was higher for AVID students at Atlanta Technical College (+4.65 percentage points) and flat at Saddleback College (+0.32 percentage points) when compared to the experiences of non-AVID students. The combined effect estimate for Cohort 1 freshman course passing rates across all two-year institutions was positive for AVID students (+2.50 percentage points), but the difference was not statistically significant (Table 4.11). As Table 4.11 shows, Year 2 course-passing rate results for Cohort 1 were mixed, with AVID students at Atlanta Technical College (+2.60 percentage points) passing a larger proportion of sophomore year courses, and students at Saddleback College passing a lower proportion of their sophomore year courses (-5.22 percentage points) than non-AVID students.³⁷

³⁷ Neither of these differences were statistically significant.

In contrast to Cohort 1, Cohort 2 AVID students at the three two-year institutions recorded lower freshman year course passing rates than their non-AVID counterparts; however, none of the differences (-5.51 percentage points at Atlanta Technical College, -5.57 percentage points at Butler Community College, and -1.78 percentage points at Saddleback College) were statistically significant. The combined passing rate average effect size among two-year IHEs (-2.68 percentage points) was not statistically significant (Table 4.11). As previously stated, results for two-year institutions should be interpreted with a certain degree of caution because of the lack of statistical controls available to adjust for differences in the composition of AVID and non-AVID student populations.

Table 4.11. – Two-Year Institutions: Propensity Score Reweighted and Regression Adjusted Average Treatment Effect of AVID Participation on Course Passing Rates, by Institution, Cohort 1 and 2 Analyses

Year 1 Course Passing Rates (Freshman Year, 2014-15)										
Cohort 1 Analysis (2014-15)						Cohort 2 Analysis (2015-16)				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
Atlanta Technical College	65.72	61.07	4.65	0.16	719	49.12	54.63	-5.51	0.20	357
Butler Community College	NA	NA	NA	NA	NA	48.17	53.74	-5.57	0.44	117
Saddleback College	50.42	50.11	0.32	0.93	1099	59.75	61.52	-1.78	0.39	1393
Combined average effect size			2.50	0.29				-2.68	0.14	
Year 2 Course Passing Rates (Sophomore Year, 2015-16)										
Cohort 1 Analysis (2015-16)						Cohort 2 Analysis (2016-17)				
College Name	AVID	Non-AVID	Estimate	P-value	N	AVID	Non-AVID	Estimate	P-value	N
Atlanta Technical College	68.67	66.07	2.60	0.76	149	NA	NA	NA	NA	NA
Butler Community College	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Saddleback College	51.93	57.15	-5.22	0.46	177	NA	NA	NA	NA	NA
Combined average effect size			-1.93	0.72				NA	NA	

Source: Administrative Data Collected from Participating Institutions, 2015 and 2016.

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Due to limited covariates included in the statistical models, results of two-year institution should be viewed with caution. NA refers to instances where usable data were not available from the participating institution. For Saddleback College, the fall 2014 AVID group included only students in AVID-infused sections of the Counseling 140 (FYE) course in fall 2014, and the fall 2015 AVID group included all students who was enrolled in an AVID-infused courses in fall 2015. The AHE program was expanded substantial at Saddleback College in 2015-16. For Atlanta Technical College, the Cohort 1 AVID group consistent of student in AVID-infused sections of Medical Terminology and Introduction to Computers courses; however, in fall 2015, the Cohort 2 AVID group consisted of students in AVID sections of a broader array of courses, including English Composition, Financial Accounting, Medical terminology, and developmental courses in English and Math.

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Appendix A – Student Surveys

Fall 2014 Student Survey

This survey is designed to learn about your experiences in this course and how the material covered may be impacting your first year in college. Please carefully consider your responses, as the results will be used to make important decisions about future course content and instructional approaches for this course at your school. Your responses are confidential and will not be connected to you in any way. **Your participation in this survey is voluntary.**

Course Pedagogy and Content

1. Please rate the extent to which you agree or disagree with the following statements about your Freshman Seminar course (Strongly Disagree, Disagree, Agree, Strongly Agree):
 - a. We do hands-on activities in this course every week.
 - b. We do small group activities in this course every week.
 - c. I am encouraged to visit the college's tutoring center(s) in this course.
 - d. This course includes activities which connect me to campus events and activities.
 - e. Effective time management strategies are taught in this course.
 - f. Note-taking strategies (e.g., Cornell notes) are emphasized in this course.
 - g. I am familiar with AVID strategies (e.g., Think-Pair-Share, Costa's Levels of Questioning, Quick Writes, Re-reading the text, Marking the text, etc.) because of this course.
 - h. Test-taking strategies are taught in this course.
 - i. Effective reading strategies are emphasized in this course.
 - j. This course emphasizes critical thinking and inquiry.
 - k. I receive useful advice from my instructor about college planning in this course.

Impact of Course on Students' Skills and Confidence

- a. This course will help me be successful in college.
- b. I have made friends with other students in this course.
- c. This course has helped me to better plan for college so I can graduate on time.
- d. This course has helped to make me a better problem solver.
- e. This course has helped to make me think more critically about issues.
- f. This course has made me a more confident college student.
- g. This course has made me less anxious about taking college exams.
- h. This course has helped to improve my note-taking skills.
- i. The note taking strategies I learned in this course has positively impacted the way I take notes in other classes.

Impact of Course on Students' Connection to University Resources

- a. This course has increased my awareness of how to access college resources available to me.
- b. Because of this course, I am more likely to utilize college resources.
- c. Because of this course, I am more likely to seek assistance from a college advisor or counselor.
- d. This course motivated me to seek assistance at one of the college's tutoring centers.
- e. This course has made me more comfortable visiting professors during scheduled office hours.
- f. I feel comfortable calling on my instructor in the future for assistance or advice.
- g. I increased my level of involvement in campus events due to this course.
- h. Because of this course, I am more likely to participate in group study sessions.
- i. Because of this course, I am more likely to organize study groups with other students.

Background Information

3. Are you:
 - a. Male
 - b. Female

4. Are you Hispanic?
 - a. Yes
 - b. No

5. What is your ethnicity? (select all that apply)
 - a. White
 - b. African American
 - c. Asian/Pacific Islander
 - d. Native American
 - e. Other

6. What is the highest level of education that either of your parents completed? (select only one option)
 - a. Did not graduate from high school
 - b. Graduated from high school or received GED
 - c. Attended college, but did not graduate
 - d. Graduated from a two-year college
 - e. Graduated from a four-year college
 - f. Obtained a graduate or professional degree (e.g., master's degree, law degree, medical degree, doctorate degree, etc.)
 - g. Don't know/Not sure

7. Did you take an AVID elective class in high school?
 - a. Yes
 - b. No
 - c. Don't know/Not sure
8. Are you currently attending college:
 - a. As a full time student (at least 12 credit hours)
 - b. As a part-time student (less than 12 credit hours)
9. How many hours per week do you work at a paid job or at an internship position?
 - a. None
 - b. 10 or fewer
 - c. Between 10 and 20
 - d. Between 20 and 30
 - e. Between 30 and 40
 - f. More than 40
10. On average, how many hours per week do you volunteer your time?
 - a. None
 - b. 1 to 2 hours
 - c. 3 to 5 hours
 - d. 5 to 7 hours
 - e. 8 to 10 hours
 - f. More than 10 hours

Fall 2015 Student Survey

This survey is designed to learn about your experiences in this course and how the material covered may be impacting your first year in college. Please carefully consider your responses, as the results will be used to make important decisions about future course content and instructional approaches for this course at your school. Your responses are confidential and will not be connected to you in any way. **Your participation in this survey is voluntary.**

Course Content

1. Please rate the extent to which you agree or disagree with the following statements about your Freshman Seminar course (Strongly Disagree, Disagree, Agree, Strongly Agree):
 - a. We do hands-on activities in this course every week.
 - b. We do small group activities in this course every week.
 - c. I am encouraged to visit the college's tutoring center(s) in this course.
 - d. This course includes activities which connect me to campus events and activities.
 - e. Effective time management strategies are taught in this course.
 - f. Note-taking strategies (e.g., Cornell notes) are emphasized in this course.
 - g. I am familiar with AVID strategies (e.g., Think-Pair-Share, Costa's Levels of Questioning, Quick Writes, Re-reading the text, Marking the text, etc.) because of this course.
 - h. Test-taking strategies are taught in this course.
 - i. Effective reading strategies are emphasized in this course.
 - j. This course emphasizes critical thinking and inquiry.
 - k. I receive useful advice from my instructor about college planning in this course.

Impact of Course on Students' Skills and Confidence

- a. This course will help me be successful in college.
- b. I have made friends with other students in this course.
- c. This course has helped me to better plan for college so I can graduate on time.
- d. This course has helped to make me a better problem solver.
- e. This course has helped to make me think more critically about issues.
- f. This course has made me a more confident college student.
- g. This course has made me less anxious about taking college exams.
- h. This course has helped to improve my note-taking skills.
- i. The note-taking strategies I learned in this course has positively impacted the way I take notes in other classes.

Impact of Course on Students' Connection to University Resources

- a. This course has increased my awareness of how to access college resources available to me.

- b. Because of this course, I am more likely to utilize college resources.
- c. Because of this course, I am more likely to seek assistance from a college advisor or counselor.
- d. This course motivated me to seek assistance at one of the college's tutoring centers.
- e. Because of this course, I am more comfortable visiting professors during scheduled office hours.
- f. I feel comfortable calling on my instructor in the future for assistance or advice.
- g. I increased my level of involvement in campus events due to this course.
- h. Because of this course, I am more likely to participate in group study sessions.
- i. Because of this course, I am more likely to organize study groups with other students.

Background Information

- 3. Are you:
 - a. Male
 - b. Female

- 4. Are you Hispanic?
 - a. Yes
 - b. No

- 5. What is your ethnicity? (select all that apply)
 - a. White
 - b. African American
 - c. Asian/Pacific Islander
 - d. Native American
 - e. Other

- 6. What is the highest level of education that either of your parents completed? (select only one option)
 - a. Did not graduate from high school
 - b. Graduated from high school or received GED
 - c. Attended college, but did not graduate
 - d. Graduated from a two-year college
 - e. Graduated from a four-year college
 - f. Obtained a graduate or professional degree (e.g., master's degree, law degree, medical degree, doctorate degree, etc.)
 - g. Don't know/Not sure

- 7. Did you take an AVID elective class in high school?
 - a. Yes
 - b. No

- c. Don't know/Not sure
8. Which of the following best describes the high school grades you tended to earn?
- a. Mostly As
 - b. As and Bs
 - c. Mostly Bs
 - d. Bs and Cs
 - e. Mostly Cs
 - f. Cs and Ds
9. Which of the following best describes what college course grades you will make this semester?
- a. Mostly As
 - b. As and Bs
 - c. Mostly Bs
 - d. Bs and Cs
 - e. Mostly Cs
 - f. Cs and Ds
10. Are you currently attending college:
- a. As a full time student (at least 12 credit hours)
 - b. As a part-time student (less than 12 credit hours)
11. Did you receive a Pell Grant for the 2015-16 academic year?
- a. Yes
 - b. No
 - c. Don't know/ Not sure
12. How many hours per week do you work at a paid job or at an internship position?
- a. None
 - b. 10 or fewer
 - c. Between 10 and 20
 - d. Between 20 and 30
 - e. Between 30 and 40
 - f. More than 40
13. On average, how many hours per week do you volunteer your time?
- a. None
 - b. 1 to 2 hours
 - c. 3 to 5 hours
 - d. 5 to 7 hours
 - e. 8 to 10 hours
 - f. More than 10 hours

Appendix B – Methodological Approach to Deriving AVID Participation Effect Estimate

Design Rationale

Neither students nor instructors were randomly assigned to participate in the AVID FYE intervention. For instance, academically low-performing students may have elected to participate, or students at risk of not persisting may have been urged to participate in the program to improve their chances of remaining enrolled in college and performing well in their courses. This type of intentional assignment based on student characteristics that are linked to academic performance may distort the relationship between AVID program participation and the outcomes of interest. The evaluation team observed outcomes for students who elected to participate, and those who did not: we did not observe the outcomes for each student for each condition: their performance if they participated in AVID and if they had not participated in AVID. Because of this non-random assignment, a quasi-experimental design using a potential outcomes framework was used to compare differences in outcomes between participating and non-participating students who resembled, based on observable characteristics, participating students.

Construction of the Propensity Score and Implementation of the Regression Reweighting Scheme

To identify observably similar non-participating students, the evaluation team used a propensity score reweighting method, where a student's likelihood of being a member of the treatment group, however defined, is conditioned on a number of pre-treatment student covariates X^C (Nichols, 2007). The conditional probability $\hat{\lambda}$ of being in the treatment group derived from this model is then used to calculate a weight based on the odds $\hat{\lambda}/(1 - \hat{\lambda})$. Because evaluators had different control conditions (e.g., Cohort 2, Cohort 1, and Cohort 1 compared to Cohort 0) each control group was reweighted based on the conditional probability of being a member of the treatment group based on separate propensity score models.

After fitting the propensity score model, a multivariate regression model with double-robust estimators that incorporate covariates used in the propensity score model, as well as others hypothesized to be related to the outcome of interest, was fit (Lunceford & Davidian, 2004).

Below, we provide a detailed description of the approach used to estimate the association between AVID participation and student outcomes:

1. Restrict population of students to full-time first-time freshmen at four-year institutions³⁸
2. Fit propensity score model estimating the conditional probability of treatment using a logistic regression for three control conditions:
 - a. Cohort 1 participants compared to Cohort 0 non-participants
 - b. Cohort 1 participants compared to Cohort 1 non-participants
 - c. Cohort 2 participants compared to Cohort 2 non-participants
3. Vector of student covariates included in the propensity score model included³⁹:
 - a. High school grade point average
 - b. Sex
 - c. Age
 - d. Race
 - e. SAT/ACT scores⁴⁰
 - f. Indicator of whether student received Pell funds
 - g. Disability status
 - h. Math and English remediation needs
 - i. Incoming credits
 - j. First generation student status
4. Calculate the conditional odds of being in the treatment group using the formula: $\hat{\lambda}/(1 - \hat{\lambda})$
5. Assign a weight of 1 to *all* students in the treatment condition, and a weight equal to $\hat{\lambda}/(1 - \hat{\lambda})$ for all students in the comparison group
6. Fit regressions for the response variable (e.g., fall-to-fall persistence, percentage of courses passed) on the AVID participation indicator applying the following restrictions, weights, and covariates:

³⁸ This rule was modified for two-year institutions given the different student population served by these institutions. Both part-time and full-time students were retained, and the population of students was restricted to those enrolled in a targeted freshman course with both an AVID and a non-AVID strand. At Saddleback College, this was a *Counseling 140* course for Cohort 1 and for Cohort 2 the students in the AVID section of this course were compared to students who took no AVID courses. At Atlanta Technical College, this was one of the targeted courses which varied for cohorts 1 and 2, and for Butler Community College it was a First Year Experience course.

³⁹ Not all variables were able to be used for each cohort/institution. Table B.1 outlines exactly which variables were used for each institution and cohort comparison.

⁴⁰ SAT/ACT data were not available for students at two-year IHEs. At four-year IHEs, SAT/ACT and HS GPA were missing for a non-trivial number of students at each institution. Following the guidance provided by Stuart (2011), the evaluation team used single variable imputation to populate missing SAT/ACT scores, created missing value indicators for observations that were imputed, and include the imputed values and dummy variables flagging the imputed values in the propensity score model. As Stuart (2011) posits, this procedure matches on both the missing data patterns *and* the observed values of the variables with missing data.

- a. Restrict analytic sample to only students in the region of common support based on the propensity score model
 - i. This is defined, according to Leuven and Sianesi (2003), as cases where the propensity score of the control cases is within the range (minimum and maximum) of the propensity score of the treatment cases.
- b. Include all covariates included in the functional form for estimating the propensity score in addition to covariates hypothesized to be correlated with the response variable to achieve double-robustness
- c. Apply probability weights using the weight calculated for the respective treatment measures

Table B.1. – Included Matching and Control Variables

Cohort	College	Variable												
		HS GPA	HS GPA Imputed	Student Age	Gender	Race/Ethnicity	Disability Status	Math Remediation	English Remediation	SAT/ACT Scores	SAT/ACT Scores Imputed	Pell Eligibility	Incoming Credits	First Generation Student
Within C2	CSU-San Marcos	X	X	X	X	X	X	X	X	X				
Within C1	CSU-San Marcos	X		X	X	X	X	X	X	X				
Between C1C0	CSU-San Marcos	X		X	X	X	X	X	X	X				
Within C2	Fort Valley State	X		X	X					X		X	X	
Within C1	Fort Valley State	X		X	X							X		
Between C1C0	Fort Valley State	X		X	X					X		X		
Within C2	Texas Wesleyan	X	X	X	X	X		X	X	X	X	X	X	
Within C1	Texas Wesleyan	X		X	X	X		X	X	X	X	X		
Between C1C0	Texas Wesleyan	X		X	X	X		X	X	X	X	X		
Within C2	Tougaloo College				X					X				
Within C2	UNC-Asheville	X		X	X	X				X		X	X	
Within C1	UNC-Asheville	X		X	X	X				X		X		
Between C1C0	UNC-Asheville	X		X	X	X				X		X		
Within C2	WSU, Tri-Cities	X		X	X	X			X	X	X	X	X	X
Within C1	WSU, Tri-Cities	X			X	X		X		X	X	X		X
Between C1C0	WSU, Tri-Cities	X		X	X	X		X	X	X	X	X		X
Within C2	Atlanta Technical			X	X	X		X	X			X		
Within C1	Atlanta Technical			X	X	X		X	X					
Within C2	Butler			X	X									
Within C2	Saddleback				X	X		X	X					
Within C1	Saddleback				X	X		X	X					

Source: Gibson Consulting Group, 2016.

Average Treatment Effect on the Treated

The effect estimated produced from the technique described above is referred to as the average treatment effect on the treated (ATET), which is distinct from the average treatment effect (ATE). Briefly, the ATET estimate is derived from the comparison between participating students and non-participating students that were reweighted based on their similarity (or dissimilarity) to AVID students. That is, non-participating students were reweighted so that students with the highest likelihood of participating in the AVID program, but who did not participate, received a larger weight than non-participating students who had a low likelihood of participating. These potential outcome comparisons were restricted *only to participating students*: that is, non-participating students were not also reweighted to resemble participating students.

This has important interpretative implications. The scope of the inference of effect estimate is restricted to only students who were recruited, and enrolled, in the AVID FYE course, and their non-treated counterparts. This is an intentionally conservative choice, since the counterfactual outcome for non-participating students (that is, their outcome if they had participated) is not incorporated into the calculation of the effect estimate. Put less abstractly, at most institutions, students were recruited to participate in the AVID FYE based on specific characteristics (e.g., students were eligible for Pell funds). The ATET estimate reflects the impact of AVID participation *among students who were recruited for participation in the program* and not all first-time freshmen enrolled at the respective school.

Creation of the Combined Effect Estimate

Institution-level effect estimates were combined into an overall measure of the relationship between AVID participation and the response variable using random effects meta analysis (Borenstein, Hedges, and Rothstein, 2007). Each study was assigned the weight $W_i^* \frac{1}{V_i^*}$, where V_i^* is given by $V_i^* = V_i + T^2$. In this equation, V_i represents the within-study variance and T^2 represents the between-study variance. With these terms, the combined weighted mean \bar{T} for each outcome was computed using the formula below, which represents the sum of the effect sizes multiplied by the weights divided by the sum of the weights.

$$\bar{T} = \frac{\sum_{i=1}^k W_i^* T_i}{\sum_{i=1}^k W_i^*}$$

This method incorporates two sources of variance in the construction of the weights to compute the combined effect estimate. The random effects model was chosen since it does not assume a single, 'true' effect for the program but, rather, there is a distribution of potential effects and those that are included in the study are sampled from a larger population of other potential effect estimates. Put another way, this approach acknowledges that the effect estimates for the program may not be homogenous, and may vary across institutions for a variety of reasons.⁴¹ Because this method integrates the between-study

⁴¹ This acknowledgement is particularly relevant for this study due to the plethora of institution-specific conditions and idiosyncracies that may contribute to effect heterogeneity. For instance, institutions varied widely in both the quality, and the amount, of data they could provide the research team for this study. In addition, and as discussed

variance in the computation of the combined effect estimates, this moderates the influence of large institutions in the combined effect estimate, since even though larger institutions effect estimates are more precise, the effect is not assumed to be the same for all institutions.⁴²

in the implementation section of this report, the program was not implemented uniformly across all institutions. Rather, institutions were granted some discretion in designing some features of the program, and the fidelity of implementation of essential program features was inconsistent.

⁴² This is true when the between-study variance is greater than zero and the total variance is larger than the expected total variance (which is the degrees of freedom). Otherwise, the random and fixed effects estimate will be identical.