

Does Deeper Learning Improve Longer Term Outcomes for Students?

Results From the *Study of Deeper Learning: Opportunities and Outcomes*

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For the *Study of Deeper Learning: Opportunities and Outcomes*, funded by the William and Flora Hewlett Foundation, experts at the American Institutes for Research[®] (AIR[®]) set out to determine whether students who attended high schools with a mature and at least moderately well-implemented approach to promoting deeper learning experienced greater deeper learning opportunities and achieved better short- and long-term outcomes than they would have if they did not attend these schools.

The study included students from high schools that were part of networks focused on deeper learning (“network high schools”) and students from a sample of comparison schools that served similar student populations. Participants were followed for up to 6 years after high school to provide evidence about whether the concept of deeper learning—applied across a variety of approaches and a diversity of students—has potential merit as a means for improving college, workforce, and civic engagement outcomes.

Students entering the workforce today face very different expectations compared with students in previous generations. New graduates are expected to enter the job market able to thrive within diverse communities and a global economy, solve complex and changing problems, and navigate new technologies. In addition, with increasingly widespread use of social media and a divided political landscape, young adults are expected to become wise consumers of information, demonstrate active and engaged citizenship and advocacy for their beliefs, and participate in new forms of political discourse. The global pandemic and heightened political and social justice issues of recent years further bring to light the challenges the next generation must face. More than ever, the skills and abilities commonly associated with deeper learning have become critical for students’ success beyond high school.

What Is Deeper Learning?

The concept of “deeper learning” is a combination of (a) a deeper understanding of core academic content; (b) the ability to apply that understanding to novel problems and situations; and (c) the development of a range of competencies, including interpersonal skills and intrapersonal skills such as academic mindsets and self-management. The William and Flora Hewlett Foundation identified six interacting dimensions of deeper learning that many argue are prerequisites for success in college, career, and civic life,¹ which are as follows:

- Mastery of core academic content
- Critical thinking and problem solving
- Effective communication
- Ability to work collaboratively
- Learning how to learn
- Academic mindsets

Early research reports from the *Study of Deeper Learning* found positive impacts of attending a deeper learning network high school on students’ opportunities for deeper learning, specific deeper learning competencies (e.g., collaboration skills, self-efficacy), high school graduation, and enrollment in 4-year colleges.² These results provided evidence of the positive impact of attending a deeper learning

network high school on classroom experiences and student outcomes during and immediately following high school. When these reports were released, however, insufficient time had elapsed to determine whether these positive, short-term effects translated into positive, longer term impacts on students' adult lives.

Five years after releasing the initial study findings, the *Study of Deeper Learning* research team collected additional data to examine the longer term impacts of attending a deeper learning network high school on postsecondary educational attainment, civic engagement, and workforce outcomes. This second phase of the study explored relationships between students' self-reported opportunities for deeper learning and deeper learning competencies in high school (as measured by a survey administered when students were juniors or seniors in high school) and college, civic engagement, and workforce outcomes in young adulthood.

The Study of Deeper Learning: Study Design

For the *Study of Deeper Learning*, AIR's research team examined a set of selected high schools associated with 10 established school networks from across the country. These networks embraced the goals of deeper learning and promoted instructional practices intended to develop deeper learning competencies. Schools in the networks educated a diverse and traditionally underserved group of students, including substantial populations of students living in poverty and, in some cases, large populations of English learners. Schools included in the study were identified by network leaders as implementing their approach to deeper learning at least moderately well.

To examine whether students in these high schools benefitted from greater opportunities for deeper learning and more enhanced outcomes than they likely would have experienced in other schools, the study also included students from a set of comparison schools from similar geographic locales that served similar student populations as the network high schools. The study focused on students who entered the ninth grade between the 2007–08 and 2010–11 school years.

Data sources included district administrative data, a high school survey administered in spring 2013, a follow-up survey administered in summer 2019, and college enrollment and degree completion data using the StudentTracker Service at the National Student Clearinghouse. All schools that participated in these data collections were in California or New York City. The study team used these data to (a) examine the impact of attending a deeper learning network high school on both short- and longer term outcomes and (b) explore how deeper learning opportunities and competencies in high school relate to longer term outcomes.

For more information about the *Study of Deeper Learning*, visit <http://www.air.org/deeperlearning>.

Are There Longer Term Impacts of Attending Deeper Learning Network High Schools?

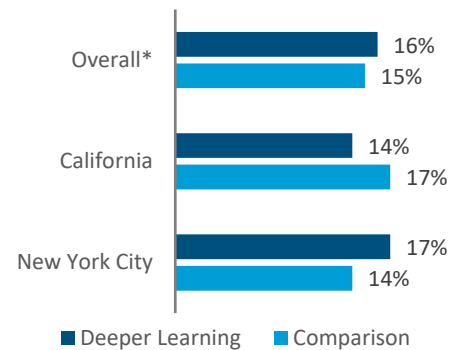
To assess the longer term impacts of attending deeper learning network high schools, AIR analyzed college, civic engagement, and workforce outcome data for students who attended at least moderately well-implemented network high schools and students in matched comparison schools in California and New York City. After accounting statistically for differences in observed student background characteristics, researchers identified the following results:

COLLEGE OUTCOMES



Students from deeper learning network high schools and comparison schools did not differ with respect to college enrollment, persistence, and graduation outcomes. The results for bachelor's degree completion within 6 years after expected high school graduation varied by locale, however.

- In New York City, students from network high schools were more likely than students who attended comparison schools to complete a bachelor's degree (17% versus 14%).
- In California, students from network high schools were less likely to complete a bachelor's degree than those who attended comparison schools (14% versus 17%).

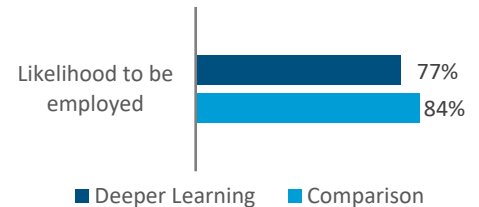


*The difference between groups was not statistically significant.

WORKFORCE OUTCOMES



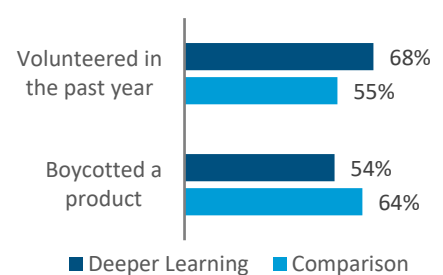
Students from deeper learning network high schools and comparison schools did not differ with respect to earned income, unemployment, alignment of job with career goals, and job satisfaction. Students from network high schools, however, were less likely than students from comparison schools to be employed at the time of the follow-up survey, 5–6 years after expected high school graduation (77% versus 84%).



CIVIC ENGAGEMENT OUTCOMES



Students from deeper learning network high schools were more likely to have volunteered in the past year but less likely to report boycotting or expressing negative opinions about a product or company online than students who attended comparison schools. Students from network and comparison schools did not differ on the other measures of civic engagement included in the survey (e.g., perceptions of the importance of community service or political participation, likelihood of donating or raising money for charity).



Do Deeper Learning Opportunities and Competencies Make a Difference?

We learned from the original *Study of Deeper Learning* that schools differed in their approaches to fostering deeper learning. Although the study revealed greater opportunities for deeper learning among the network high schools, some approaches to deeper learning were present in the comparison schools. Therefore, the study team examined whether students' experiences with specific opportunities for deeper learning in high school, and students' development of deeper learning competencies, were associated with longer term outcomes, no matter which type of school they attended. After accounting statistically for observed student background characteristics, these analyses revealed that students' self-reported experiences of specific deeper learning opportunities and specific deeper learning competencies in high school were positively associated with college, civic engagement, and workforce outcomes. Several trends stood out:

COLLEGE DEGREE ATTAINMENT



Multiple deeper learning competencies and two measures of opportunities for deeper learning in high school were associated with improved college outcomes. Students with higher self-reported levels of **locus of control, perseverance, self-efficacy, and self-management** during high school, and with higher self-reported opportunities for **feedback and learning how to learn**, were more likely to complete a bachelor's degree within 6 years after expected high school graduation. Students with higher self-reported locus of control and perseverance also were more likely to complete an associate's degree or certificate within 3 years after expected high school graduation.

WORKFORCE OUTCOMES



Some opportunities for deeper learning in high school were associated with improved workforce outcomes. Students who reported greater opportunities for **complex problem solving, creative thinking, collaboration, and real-world connections** were significantly more likely to report having a job that aligned with their career goals. In addition, students who reported greater opportunities for **complex problem solving** were more likely to report being employed at the time of the follow-up survey, and they were more likely to report having an annual earned income of at least \$30,000.

CIVIC ENGAGEMENT OUTCOMES



Opportunities for deeper learning in high school were associated with civic engagement outcomes. Opportunities for **interdisciplinary learning and connecting course material to real-world problems** had the most consistent positive relationships with civic engagement outcomes, including beliefs about the importance and value of community service and political participation, volunteering or donating or raising money for charity in the past 12 months, expressing opinions during political conversations with friends, boycotting products, and using social media to express an opinion about a product or company.

What do these findings say about the value of deeper learning?

In summary, the *Study of Deeper Learning* revealed mixed evidence regarding the longer term impacts of attending a deeper learning network high school, but found that several opportunities for deeper learning and deeper learning competencies in high school are positively related to students' longer term college, workforce, and civic engagement outcomes, regardless of the high school setting. It is important to consider some possible explanations for these seemingly contradictory sets of findings.

Although the *Study of Deeper Learning* has multiple strengths, particularly the quasi-experimental design and inclusion of multiple data sources covering an extended period of time, a few limitations of the study may have constrained our ability to detect significant longer term impacts of attending deeper learning network high schools. For example, the study focused on students who attended network high schools but did not attend a school with a concerted focus on deeper learning prior to high school. Therefore, their exposure to the deeper learning approach was limited to only a few years of education. In addition, students who attended non-network schools may have been exposed to opportunities for deeper learning outside their high schools—in extracurricular activities, activities in their communities, or during college. Therefore, differences in opportunities for deeper learning may

have been reduced or “washed out” across time through these experiences outside high school classrooms.

Perhaps the most likely explanation is that deeper learning was found to be present at some level in both network and non-network schools, with a high level of variation in students’ self-reported opportunities for deeper learning both within and across network and non-network schools.³ It is possible that this variation in student opportunities within and across schools both weakened our ability to detect longer term impacts of attending a deeper learning network school and strengthened our ability to detect associations among opportunities, competencies, and longer term outcomes.

Evidence that opportunities for deeper learning and deeper learning competencies in high school may contribute positively to students’ longer term outcomes, regardless of the high school they attend, demonstrate the promise of deeper learning for preparing young adults well for postsecondary education, work life, and civic participation. Therefore, it will be valuable for future studies to explore how to effectively foster these opportunities and competencies across educational settings.

Although longitudinal studies are logistically challenging, the results of the *Study of Deeper Learning* demonstrate the value that a longer term examination of outcomes has for the field. After leaving high school, students were exposed to new opportunities and experiences, including multiple transitions in and out of college and employment. In addition, it is reasonable to assume that the impact of the COVID-19 pandemic, the complex political landscape, and increased efforts toward social justice have affected the work status and civic engagement of many study participants. This study demonstrated the importance of having structures in place that enable researchers to (a) track study participants across time, (b) better understand the factors that influence students’ trajectories after high school graduation, and (c) build the evidence of what works to prepare students for college, careers, and beyond.

About AIR

Established in 1946, American Institutes for Research (AIR) is an independent, nonpartisan, not-for-profit organization that conducts behavioral and social science research on important social issues and delivers technical assistance, both domestically and internationally, in the areas of education, health, and workforce productivity.

¹ Chow, B. (2010). The quest for “deeper learning.” *Education Week*. http://www.edweek.org/ew/articles/2010/10/06/06chow_ep.h30.html

William and Flora Hewlett Foundation. (2013). *Deeper learning competencies*. https://hewlett.org/wp-content/uploads/2016/08/Deeper_Learning_Defined_April_2013.pdf

² Bitter, C., Taylor, J., Zeiser, K. L., & Rickles, J. (2014). *Providing opportunities for deeper learning* (Report 2, Findings From the Study of Deeper Learning: Opportunities and Outcomes). American Institutes for Research. <https://files.eric.ed.gov/fulltext/ED553361.pdf>

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³ Zeiser, K. L., Brodziak de los Reyes, I., & Yang, R. (2020a). Equitable opportunities for deeper learning: Exploring differences between traditional and network schools. <https://www.air.org/sites/default/files/Deeper-Learning-Equity-Differences-Traditional-Network-Schools-508-June-2020.pdf>