



RESEARCH BRIEF 4

Online Credit Recovery: Resources and Costs

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About this research brief

This research brief is the fourth in [a series of briefs](#) for the *Online Credit Recovery Study*.¹ In the first brief, we provided an overview of the study and described the online learning model tested. In the next two briefs, we discussed implementation and initial outcomes for Algebra 1 and English 9 credit recovery classes, respectively.

In this brief, we highlight key findings about the **differences in resources and costs** between online and teacher-directed credit recovery courses. For our analysis of costs, we categorized resources and their associated costs as those the district would be expected to pay and those that are a cost to the teacher. District-incurred costs include the cost of teacher time within the contracted hours; the cost of other instructional staff and administrators who support the class; and the costs of nonpersonnel resources such as computers, digital curricula, and textbooks. Teacher-incurred costs include the cost of the time that teachers spend beyond their contracted hours on duties such as lesson planning, grading, and developing course materials. The overall cost of credit recovery classes includes both district-incurred and teacher-incurred costs.

Study overview

The *Online Credit Recovery Study* examines an online learning model for credit recovery where an online provider supplied the main course content and curriculum and the school provided a credentialed in-class teacher who could

Key Findings for Resources and Costs

- Overall, the online Algebra 1 classes cost about the same per student as the teacher-directed classes; the overall cost was \$28 more, but this difference was not statistically significant. The overall cost of the online English 9 classes was approximately \$47 less per student than the teacher-directed classes.
- If one looks only at costs incurred by the district, the online Algebra 1 and English 9 classes cost the district more than the teacher-directed classes. The higher cost is primarily due to purchasing the online curriculum for the online classes.
- The amount of time teachers spent outside of class on lesson planning, grading, and developing class materials was lower for the online classes than the teacher-directed classes. This reduced the overall costs for the online classes.

provide individualized support and supplement the digital instruction. We compared online credit recovery classes to typical teacher-directed credit recovery classes. All classes were conducted in the Los Angeles Unified School District, and all took place in standard high school classrooms during the district’s 5-week summer session.

This brief focuses on the costs for the study’s 28 Algebra 1 and 68 English 9 credit recovery classes.² Prior studies of the cost of online education have broadly compared the spending of whole-school models of online learning (also known as virtual schools), blended learning schools, and traditional schools without accounting for differences in services provided. For example, blended and traditional schools provide transportation and meals, and traditional schools are more likely to serve students with disabilities.^{3,4} Rather than examine the cost per student of implementing a school-wide online program as some earlier studies have done, we considered the cost of implementing an online credit recovery course compared with a traditional teacher-directed course within the same school.

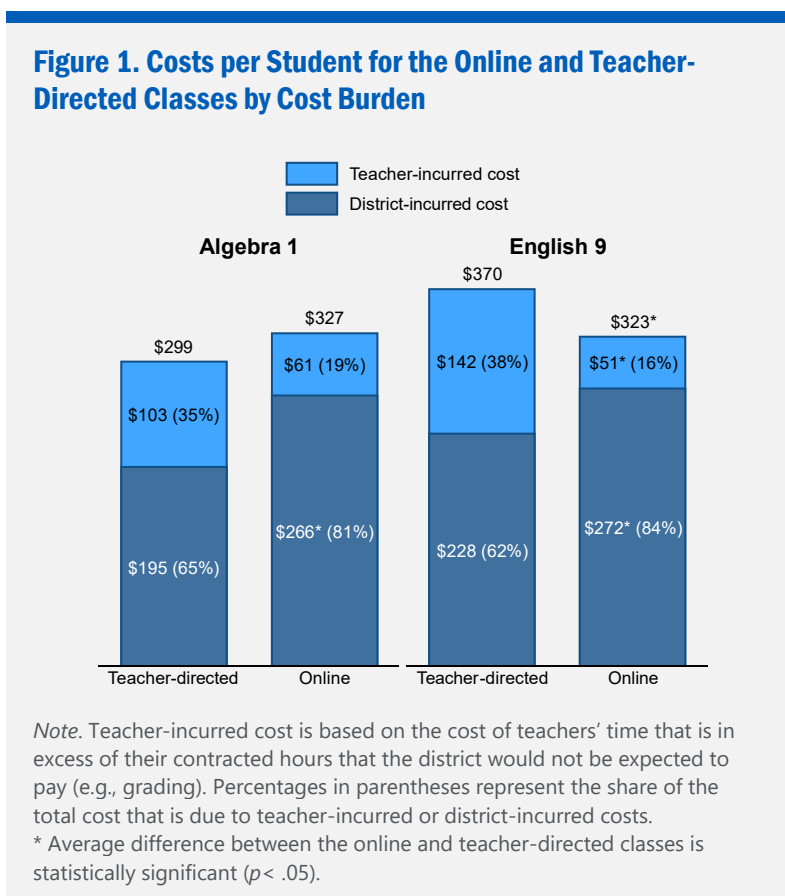
For purposes of this brief, the cost estimates represent the cost per pupil at a class size of 25 students for both online and teacher-directed classes. We did not consider costs that would likely be the same in both settings (such as facilities), so the cost estimates reported in this brief may not reflect the total costs required for a credit recovery course. However, the difference in costs between the two class types should not be affected by excluded costs. More information about the study’s design and methods is available in a technical supplement.

For Algebra 1, online and teacher-directed classes cost about the same

Online Algebra 1 credit recovery classes administered over the summer cost an average of \$327 per student. This was approximately \$28 more per student than the average cost of the teacher-directed classes administered over the summer, but the difference is not statistically significant (Figure 1).

For English 9, the online classes cost less than the teacher-directed classes

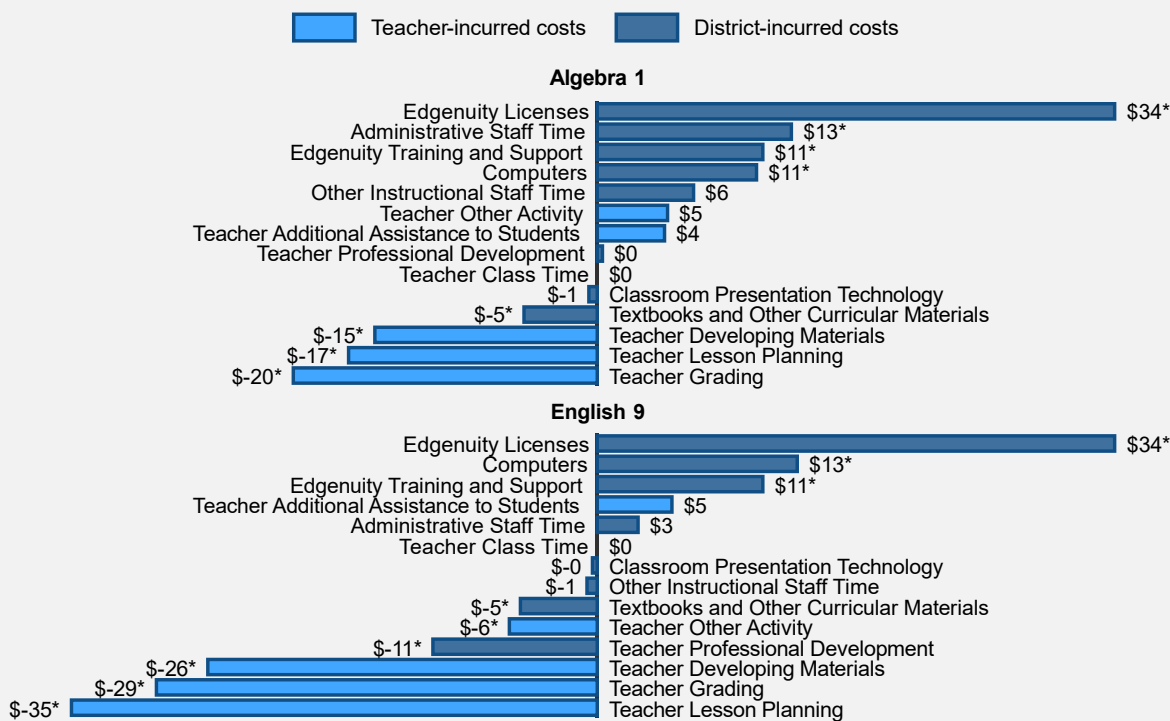
The cost of English 9 online credit recovery classes administered over the summer was similar to that of the Algebra 1 online credit recovery classes (\$323 compared with \$327 per student). However, the cost of online English 9 classes was significantly less (\$47 less per student) than that of the online classes (Figure 1).



Online classes cost the district more than teacher-directed classes but had lower teacher-incurred costs

In addition to examining overall costs, we disaggregated costs according to whether they were incurred by the district or by the teacher (Figures 1 and 2). As previously explained, district-incurred costs are those that the district pays and necessitate increased spending by the district. In contrast, teacher-incurred costs are the result of additional time spent on the class by teachers beyond their contracted hours. The additional time teachers spend outside their contracted hours does not increase district spending on credit recovery courses, but it represents an opportunity cost to the teachers. In other words, the teachers could have used that time doing something else of value.

Figure 2. Difference in Cost per Pupil Between Online and Teacher-Directed Classes by Resource Type



Note. Each bar represents the difference in average per-student cost of a given resource category between online and teacher-directed classes such that positive differences indicate resources that cost more in online classes and negative differences indicate resources that cost more in teacher-directed classes.

* Average difference between the online and teacher-directed classes is statistically significant ($p < .05$).

The online Algebra 1 and English 9 classes cost the district more per student, on average, compared with the teacher-directed course (\$70 more and \$44 more, respectively).⁵ In both Algebra 1 and English 9, the resource that contributed most to increasing the district-incurred cost of the online class was the purchase of the Edgenuity licenses, which were estimated to cost approximately \$34 per student.⁶ In addition, training and support provided by

Edgenuity was estimated to cost approximately \$11 per student, and the additional cost of computers for the online class was \$11 and \$13 per student for Algebra and English, respectively.

The online classes for both subjects resulted in lower teacher-incurred costs. This was because teachers spent less outside-of-class time on grading, developing lesson plans, and developing curricular materials in the online classes. The platform itself performed many of those tasks (Figure 3).

On average, over the course of the 5-week summer term, teachers of the online Algebra 1 classes spent 23 fewer hours outside of class and teachers of the online English 9 classes spent 37 fewer hours outside of class compared with teachers of the teacher-directed classes. The differences in teacher time resulted in average lower teacher-incurred costs for the online classes compared with the teacher-directed classes: \$42 less per student for Algebra 1 and \$91 less per student for English 9.

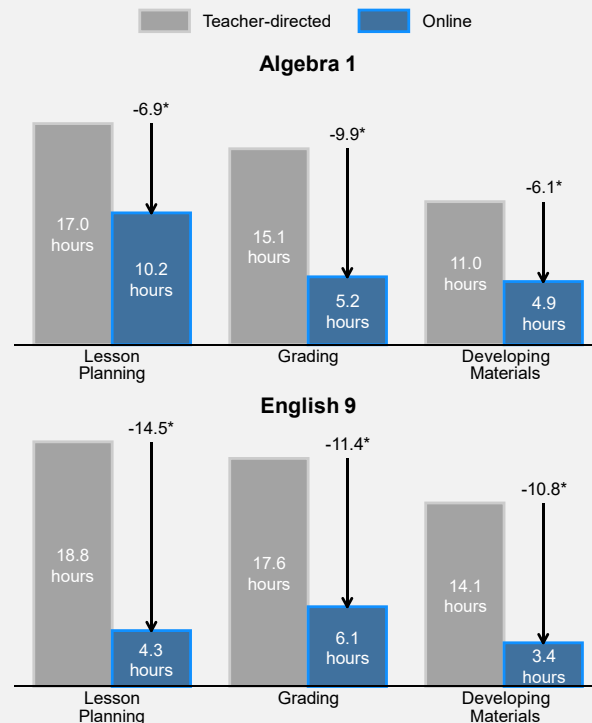
Implications

Prior research suggests that online education costs less than traditional teacher-directed educational models.

When implemented as whole-school models, Battaglini, Haldeman, and Laurans indicate that blended models cost at least 10% less than traditional models, and virtual models cost at least 30% less than traditional models.⁴ A number of other studies comparing per-pupil spending for online and traditional schools have consistently found spending to be lower in online schools.³

Prior studies note that cost savings for online courses occur largely through reduced personnel costs by increasing the ratio of students to teachers or reducing the average pay of instructors, for example by hiring paraprofessionals rather than traditional teachers.⁴ As implemented in this study, both online and teacher-directed courses were assigned teachers with full credentials, and the courses were intended to serve similar class sizes. While whole-school models of blended or online instruction may be able to achieve cost savings, we know of no studies that have compared the costs of individual online credit recovery courses with teacher-directed credit recovery courses within the same school.

Figure 3. Hours Devoted to Out-of-Class Activities by Teachers of Online and Teacher-Directed Classes



Note. Black arrows and values above the black arrows represent the difference in reported hours between teachers of online and teacher-directed classes. Other outside-of-class activities not shown in the figure include providing students additional assistance outside of normal class time, teacher professional development, and other out-of-class activities such as making calls to students or parents.

* Average difference between the online and teacher-directed classes is statistically significant ($p < .05$).

We found that providing online credit recovery courses cost the district more, primarily because it required the added cost of the online curriculum and the additional cost of computers. However, we also found that online courses result in less cost to teachers because teachers devote less time outside of class for lesson planning, grading, and developing course materials. For English courses, the additional cost to the district for online courses is smaller in magnitude than the cost savings to teachers, resulting in a lower overall average cost of the online course compared with the teacher-directed course. For Algebra courses, the increase in district costs for the online course was largely offset by the decrease in teacher costs on average, making the overall average cost of the online and teacher-directed courses comparable.

Rather than restructuring entire schools around the use of online learning, many district and school administrators may be considering whether or not to use online courses for specific types of classes, such as credit recovery. The findings presented in this brief provide practical information regarding the costs of online versus teacher-directed classes that are not implemented in whole-school online models.

Notes

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² Algebra 1 classes included in the study were in the Summer 2019 session only. English 9 classes included in the study were offered in the Summer 2018 and 2019 sessions.

³ Bakia, M., L. Shear, L., Toyama, Y., & Lassetter, A. (2012). *Understanding the implications of online learning for educational productivity*. Washington DC: U.S. Department of Education, Office of Educational Technology. Retrieved from <http://files.eric.ed.gov/fulltext/ED532492.pdf>

⁴ Battaglino, T. B., Haldeman, M., & Laurans, L. (2012). The costs of online learning. In C. E. Finn, Jr. & D. R. Fairchild (Eds.), *Education reform for the digital era* (pp. 55–76). Washington, DC: Thomas B. Fordham Institute. Retrieved from <http://files.eric.ed.gov/fulltext/ED532508.pdf>

⁵ The cost amounts reported in Figures 1 and 2 do not equate to the \$70 difference between the district-incurred costs for Algebra 1 online and teacher-directed classes because the amounts reported in the figures are rounded to the nearest dollar.

⁶ The district purchased annual licenses for Edgenuity, and each license can cover multiple students as long as students do not use the same license at the same time. To convert the annual license cost to a per-student cost, we assumed that a single license would cover eight students over a full year.



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