Paper 3: Who attends summer credit recovery classes, and who benefits from doing so?

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Purpose / Objective / Research Question / Focus of Study[3]

This current paper uses data collected as part of an efficacy trial funded by a grant from the Institute of Education Sciences (IES) National Center for Education Research (NCER) (See Symposium Justification and Paper #1 for a more complete description of the focus of the broader study).

Since participation in the study was voluntary, students showing up for summer school likely differed from students who failed the second semester of algebra but who did not show up in many important ways. If the idea behind credit recovery is to get kids back on track (to recover), how likely is that given how far behind they are? This paper examines which students attend summer school, which students recover the credit during summer school, and how classroom contexts impact the likelihood that various types of students recover credits. Specifically, the current paper seeks to address the following questions:

1) What are the characteristics of students who show up for summer credit recovery, compared with (a) students who don't show up but need to recover, and (b) students who succeeded in Algebra I in grade 9?
2) Which types of students who show up for summer school are most likely to recover their credits and score well on the post-test in summer school?
    a. Students that started far behind in math skills benefit less than students who were far behind?
    b. Students who only needed one credit more successful than students who needed multiple?
3) How does students' probability of passing summer school depend on the interaction of their individual characteristics and the characteristics of the classrooms they are in (size, teacher qualifications, peer composition [prior academic achievement of students in class])?
    a. For example, do students who have failed more classes prior to summer school benefit more from smaller class sizes than their relatively more successful peers? Or are students with high numbers of prior failures highly likely to not pass summer school regardless of class size?

In the current paper, we will focus on which students showed up to summer school, which students recovered the credits, and a few short-term measures of outcomes, but over the course of this 4-year study, we will continue to compare and contrast the students who showed up to summer school versus those who did not in terms of future test scores, course-taking and likelihood of dropout.

[3] Any parts of the abstract template that do not appear in this paper appear in Paper 1, which describes the overall study design.

Population / Participants / Subjects
The current paper uses data from slightly different groups of students for different sets of analyses. For the first of analyses (refer to question #1 Purpose section), we examine data from all students who attended the study schools and who were first-time ninth graders in fall of 2010 or fall of 2011 to compare the background characteristics and previous academic achievement of three groups of students: 1) students who failed Algebra I and attended one of the study summer school classes; 2) students who failed Algebra I but did not attend one of the study summer school classes; and 3) students who passed Algebra I.

For the second set of analyses (refer to question #2 in the Purpose section), we examine data from all CPS students who were first-time ninth graders in fall of 2010 or fall of 2011 and who failed Algebra I during their ninth grade year to examine the extent to which students successfully recovered the credit during the summer as well as identify the characteristics of students who did so compared with those who did not recover the credit. Within this second set of analyses, we take an in-depth look at students within the study schools and compare and contrast three groups of students: 1) students who showed up to summer school and recovered the credit; 2) students who showed up to summer school but did not recover the credit; and 3) students who did not show up to summer school. We are unable to do this in-depth look at students within schools that did not participate in the study since CPS does not consistently keep a record of which students attended summer school but did not recover credits. If students did not recover the credit over the summer, we generally do not know if that is due to students not attending summer school or to students attending but not passing summer school.

For the third set of analyses (refer to question #3 in the Purpose section), we examine data from all students who attended the study schools and who were first-time ninth graders in fall of 2010 or fall of 2011 and who failed Algebra I during their ninth grade year to examine how students' probability of passing summer school depends on the interaction of their individual characteristics and the characteristics of the classrooms (size, teacher qualifications, peer composition [prior academic achievement of students in class]) they are in. In this set of analyses, students will be clustered into their summer school classrooms.

Data Collection and Analysis
This paper utilizes the following data to examine the research questions:

1) **Students' background characteristics** (Race/ethnicity, Socioeconomic status (SES), Gender, Bilingual status, Special education status)
2) **Students' academic achievement** (Number of credits accumulated, Grades, Test scores [Explore and PLAN], Attendance)
3) **Students' credit recovery** during Summer 2011 or Summer 2012 (Credit recovery, Score on post-test administered at end of session)
4) **Classroom characteristics** (Size, Teacher qualifications, Peer composition [Prior achievement of the students in class])

The first two sets of analyses – identifying the background characteristics, previous academic achievement, and likelihood of passing summer school of different groups of students – will be largely descriptive. They will provide detailed picture of who attends summer school and who passes summer school.

For the third set of analyses, we will use 2-level models with students nested within classrooms. At level one, we will include student-level control variables. At level two, classroom characteristics (Size, Teacher qualifications, Peer composition [Prior achievement of the students in class]) will be used to predict intercept and coefficients that have been identified as risk factors based on previous analyses (i.e., number of previous failures, failing both semesters of algebra, poor attendance, etc.). These models will enable us to identify how classroom contexts impact the likelihood that various types of students recover credits.

Findings / Results

The implementation phase of this study has been completed. Many of the data are just now becoming available, however, so results are not yet available. Test score data and grades from the 2011-2012 school year are currently being processed and will be ready for analysis within the next month. All data will be collected and analyses will be completed in time for presentation at the SREE Spring 2013 conference.

Conclusions

The conclusions in the current paper will be based on the results of the analyses. In short, we will be able to provide a detailed picture of who attends summer school algebra credit recovery classes, who passes them, and how classroom contexts impact the likelihood that various types of students recover credits.