

Student Instructional Experiences

Project STAIR

Technical Report 07

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Student Instructional Experiences

Purpose

The purpose of this technical report is to describe the data collection process and initial findings from teacher interviews about the variety of student instructional experiences throughout Year 2 (2019-20) of the Supporting Teaching of Algebra with Individual Readiness (STAIR) project. We added structured interviews after Year 1 of the study to better understand the variability that the teacher and students experienced in their classrooms. The team wanted to understand dosage and intensity differences for students. As teachers reported the intensity of support for specific students, knowing the intensity might help explain some of the results.

Method

We collected student instructional experience information from the participating control and treatment (i.e., STAIR) teachers as each individual coach conducted a structured interview. We collected the information during a virtual one-on-one interview or through email correspondence. Interviews and email correspondence occurred at the end of Year 2 implementation in May and June of 2020. When we conducted the interviews virtually through a Zoom call, we recorded the call with the permission of the teacher.

Measures

The research team created a structured interview protocol titled the *Student Mathematics Instruction Experience*. We used this protocol for each interview conducted between coach from the research team and teacher. We asked both STAIR and control teachers to answer the first 12 questions about their teaching environment (see Appendix A).

1. Are you a general education teacher, special education teacher, or other?

2. How many total students (either general or special education) are in the mathematics class of the participating student (research participants and non-research participants)?
3. How many teachers interact with the participating student during their mathematics class?
4. How many co-teachers interact with the participating student during their mathematics class?
5. How many support teachers/paraprofessionals interact with the participating student during their mathematics class?
6. How many minutes of mathematics instruction does the student receive per week?
7. How often does the student work in small groups?
8. How many minutes per week does the student work in small groups?
9. How many days per week does the student receive mathematics instruction?
10. What mathematics curriculum and/or textbook does the student use?
11. Please describe the ways the students experience mathematics instructional practices, such as direct teaching, grouping, flipped classes, use of technology, etc.
12. Does the student receive instruction/intervention outside of the general education environment (including special education classes, breakouts outside the classroom, in-school tutoring, etc.)?

After completing the initial questions for all teachers, only the treatment teachers continued to answer the five focus group questions.

1. To what extent did you find the STAIR tailored videos helpful? What additional topics would you like to see moving forward?

2. How did STAIR Core PD and STAIR Tailored PD impact your instructional practices (i.e., Explicit Instruction and/or Multiple Representations)?
3. How did your students respond to the instructional practices (i.e., Explicit Instruction and/or Multiple Representations)?
4. Overall, what would help you to sustain the STAIR DBI practices after the project is complete?
5. What support would you need from a coach if you were to continue using DBI in the future?

Results

We collected data from 15 total teachers: 10 general education teachers and 5 special education teachers.

Table 1

Student Mathematics Instructional Experience

Question	<i>M</i>	<i>SD</i>
Total students in mathematics class environment	23.23	7.57
# of teachers interacting with student	1.38	0.48
# of co-teachers interacting with student	0.52	0.59
# of support teachers / paraprofessionals interacting with student	0.09	0.30
Minutes of mathematics instruction per week	309.64	84.68
# of small group work times per week	3.00	1.15
Minutes per week of small group work	89.31	55.66
Days per week of mathematics instruction	4.95	0.15

In their interviews, teachers indicated they used a variety of resources and curriculums in their classrooms. This depended on specific students and the small groups they are working with.

Table 2 reports on generally what curriculums teachers most commonly utilized in their classroom during Year 2 (2019-20).

Table 2

Curriculums Used

Curriculum	# of teachers used
McGraw Hill	4
Glencoe Course 2	2
Open Up	1
Trans Math	1
Agile Minds	5
Imagine Math	1
Algebra Readiness Builders	1
Teacher Created/Variety of Resources	2

Lastly, we asked teachers to describe commonly used instructional practices used in their classroom during mathematics instruction. The most common instructional practice described by 87% of the teachers was a form of direct or explicit instruction. The second most commonly described practice was the use of technology by 57% of the teachers. This could include utilizing technology apps, assessment tools, fluency practice, or mathematics stations. Teachers described a variety of work dynamics, such as the use of whole group, small group/partner work, and individual work. Overall, 12% of teachers indicated they use a flipped classroom model or stations as a means of instruction in their classroom. Of the student environments described by teachers, 45% of students received instruction or intervention outside of the general education environment. Multiple teachers indicated in their interviews they offered tutoring at lunches or during flex periods that students could choose to attend for additional support.

APPENDIX A

Student Math Instruction Experience Interview

Teacher Name _____ Coach _____

Date _____ Location _____

(Please audio record for later transcription). We would like to collect information on how your students receive math instruction. The purpose of this survey is to understand what "typical" instruction looks like for your students participating in the study. Please consider only your students participating in the study when thinking about the questions.

Questions	Student 1	Student 2	Student 3
Are you a general education teacher, special education teacher, or other?			
How many total students (either general or special education) are in the math class of the participating student (research participants and non-research participants)?			
How many teachers interact with the participating student during their mathematics class?			
How many co-teachers interact with the participating student during their mathematics class?			
How many support teachers/paraprofessionals interact with the participating student during their mathematics class?			
How many minutes of mathematics instruction does the student receive per week?			
How often does the student work in small groups?			
How many minutes per week does the student work in small groups?			
How many days per week does the student receive math instruction?			
What math curriculum and/or textbook does the student use?			
Please describe the ways the students experience mathematics instructional practices, such as direct teaching, grouping, flipped classes, use of technology, etc.			
Does the student receive instruction/intervention outside of the general education environment (including special education classes, breakouts outside the classroom, in-school tutoring, etc.)?			
a. If yes: <ol style="list-style-type: none"> i. In what format does the student receives this intervention (school-based tutor, community-based tutor, subscription to tutoring service, etc.)? ii. How frequently and for how long does the student receive this intervention? 			

Student Math Instruction Experience Interview

Focus group questions (for treatment teachers only)

1. To what extent did you find the STAIR tailored videos helpful? What additional topics would you like to see moving forward?
2. How did STAIR Core PD and STAIR Tailored PD impact your instructional practices (i.e., Explicit Instruction and/or Multiple Representations)?
3. How did your students respond to the instructional practices (i.e., Explicit Instruction and/or Multiple Representations)?
4. Overall, what would help you to sustain the STAIR DBI practices after the project is complete?
5. What support would you need from a coach if you were to continue using DBI in the future?

Themes

Time

We will be looking at the amount of time students are receiving math instruction. We will also consider performance versus how often students are working in small groups.

Instructional Materials

We will be considering the types of learning materials students use in school during instruction that include textbooks, math packages, programs and curriculums.

Pedagogical Methods

We will be looking at how often are students being grouped, using technology, co-teaching, other evidence-based teaching methods. Also, what ways are students receiving their interventions (before, during, or after school; with teacher or co-teacher; a separately scheduled math course, etc).