CERTIFIED MIDDLE SCHOOL EDUCATORS' PERCEPTIONS OF RESPONSE TO INTERVENTION AND INSTRUCTION IN RURAL TENNESSEE SCHOOLS

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THE PROBLEM

- Limited information available on math RTI^2, with even less research focused on middle schools
- Rural school districts faced many problems in recruiting and retaining highly effective teachers, which led to the failure of implementing evidence-based instruction with fidelity
- The number of non-math teachers assigned to teaching math groups during core extension

RESEARCH DESIGN

DESIGN

- Basic
- Qualitative
- Interpretative

RATIONALE

- Interested in learning the thoughts and perceptions of participants
- Literature stated lack of qualitative studies focused on RTI^2

PARTICIPANTS OF THE STUDY

Purposeful Sampling

Snowball Sampling

Criteria for Participation

- Being a certified educator in a rural Tennessee school district who delivered instruction during math core extension to students in grades 6-8

Questionnaire link was emailed to 50 potential participants

27 of the 50 participants completed the survey. Two of the participant responses were discarded. 25 of the 50 potential participants met criteria and completed the questionnaire

Participation rate: 50%

PARTICIPANTS OF THE STUDY

- Nine different rural districts across Tennessee
- Twelve of the 25 participants were certified to teach math in grades 6-8 (48%)
- Thirteen of the 25 participants were certified in other areas beyond math (52%)

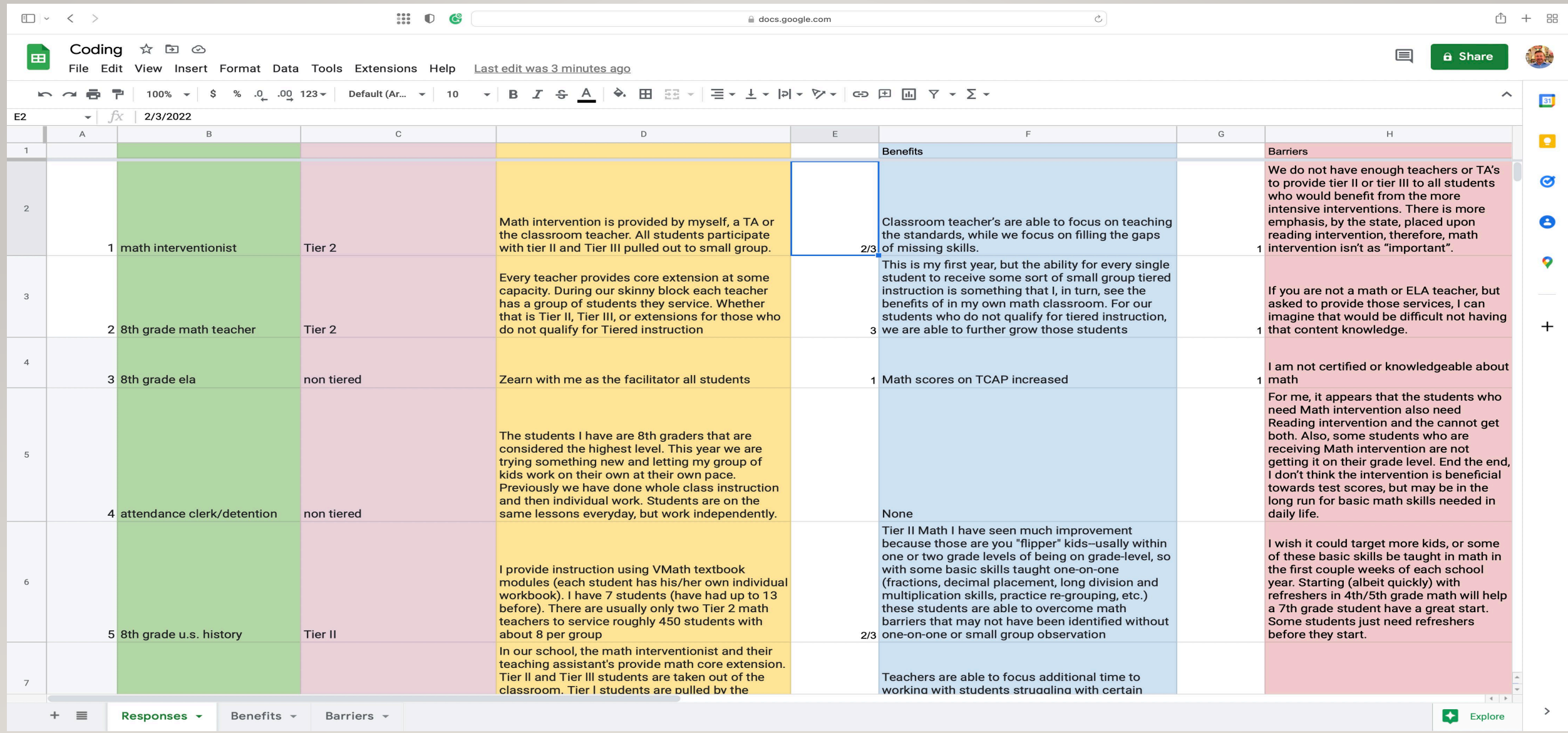
ONLINE QUESTIONNAIRE

• Design

- 8 Questions developed using existing research and literature
- Utilized online platform Google Forms
- Allowed for asynchronous data collection
- Closed and open-ended questions

• Distribution

- Participation Request and statement of Implied Consent was emailed individually to potential participants
- Statement of Implied Consent contained a link the questionnaire
- Upon accessing the link, participants agreed to participate in the study



Coding

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E2 2/3/2022

	A	B	C	D	E	F	G	H
1						Benefits		Barriers
2	1	math interventionist	Tier 2	Math intervention is provided by myself, a TA or the classroom teacher. All students participate with tier II and Tier III pulled out to small group.	2/3	Classroom teacher's are able to focus on teaching the standards, while we focus on filling the gaps of missing skills.	1	We do not have enough teachers or TA's to provide tier II or tier III to all students who would benefit from the more intensive interventions. There is more emphasis, by the state, placed upon reading intervention, therefore, math intervention isn't as "important".
3	2	8th grade math teacher	Tier 2	Every teacher provides core extension at some capacity. During our skinny block each teacher has a group of students they service. Whether that is Tier II, Tier III, or extensions for those who do not qualify for Tiered instruction	3	This is my first year, but the ability for every single student to receive some sort of small group tiered instruction is something that I, in turn, see the benefits of in my own math classroom. For our students who do not qualify for tiered instruction, we are able to further grow those students	1	If you are not a math or ELA teacher, but asked to provide those services, I can imagine that would be difficult not having that content knowledge.
4	3	8th grade ela	non tiered	Zearn with me as the facilitator all students	1	Math scores on TCAP increased	1	I am not certified or knowledgeable about math
5	4	attendance clerk/detention	non tiered	The students I have are 8th graders that are considered the highest level. This year we are trying something new and letting my group of kids work on their own at their own pace. Previously we have done whole class instruction and then individual work. Students are on the same lessons everyday, but work independently.		None		For me, it appears that the students who need Math intervention also need Reading intervention and the cannot get both. Also, some students who are receiving Math intervention are not getting it on their grade level. End the end, I don't think the intervention is beneficial towards test scores, but may be in the long run for basic math skills needed in daily life.
6	5	8th grade u.s. history	Tier II	I provide instruction using VMath textbook modules (each student has his/her own individual workbook). I have 7 students (have had up to 13 before). There are usually only two Tier 2 math teachers to service roughly 450 students with about 8 per group	2/3	Tier II Math I have seen much improvement because those are you "flipper" kids--usally within one or two grade levels of being on grade-level, so with some basic skills taught one-on-one (fractions, decimal placement, long division and multiplication skills, practice re-grouping, etc.) these students are able to overcome math barriers that may not have been identified without one-on-one or small group observation		I wish it could target more kids, or some of these basic skills be taught in math in the first couple weeks of each school year. Starting (albeit quickly) with refreshers in 4th/5th grade math will help a 7th grade student have a great start. Some students just need refreshers before they start.
7				In our school, the math interventionist and their teaching assistant's provide math core extension. Tier II and Tier III students are taken out of the classroom. Tier I students are pulled by the		Teachers are able to focus additional time to working with students struggling with certain		

Responses Benefits Barriers Explore

RESEARCH QUESTION 1

- What were perceptions of certified educators, who taught math intervention or instruction during core extension time, about the benefits, if any, of math Response to Intervention and Instruction (RTI^2) in rural Tennessee middle school districts?

Data Coding for Certified Educators' Perceptions about the Benefits of Math Core Extension in Rural Tennessee Middle Schools

Open Codes	Axial Codes	Selective Codes
TCAP scores increased Improved TCAP scores Math scores have gone up Students growing and making gains	Increase in end of year assessments	***Educators perceived the benefit of math core extension time was increased scores on year end assessments.***
Additional time for struggling students	Closing the gap	
Further grow the students in small groups Builds confidence gaining confidence in their math abilities and comprehension Built better skills Helps basic skills Focus on areas that need additional practice Fills the gaps of missing skills	Building confidence	***Educators perceived the benefits of math core extension time were closing the achievement gap between tiers and students gaining confidence in math abilities.***
Small groups One on one with students	Small groups	***Educators perceived a benefit of math core extension time was additional time in small groups to meet the needs of all students.***

A BENEFIT OF CORE EXTENSION WAS INCREASED SCORES

- Seven of the 25 participants (28%) responded with statements focused on increased scores on TCAP or end of year assessments.
- Participant 11: “Our scores have increased back to what they were prior to COVID-19.”
- Participant 19: “Average scores have been higher on summative assessments.”
- Participant 25: “Higher math scores on testing”

BENEFITS OF CORE EXTENSION WERE CLOSING THE ACHIEVEMENT GAP BETWEEN TIERS AND STUDENTS GAINING CONFIDENCE IN MATH ABILITIES.

- Nine of the 25 participants (36%) believed students were able to close the achievement gap between tiers and gain confidence in their math abilities.
- Participant 1: “Classroom teachers are able to focus on teaching the standards, while we focus on filling the gaps of missing skills.”
- Participant 24: “Core extension is a perfect time to close the gap. By identifying underperforming skills, teachers now have the ability to reteach concepts, give more practice, or review the lesson entirely.”
- Participant 22: “I have seen students’ number sense get stronger and foundational concepts improve.”

A BENEFIT OF CORE EXTENSION WAS ADDITIONAL TIME IN SMALL GROUPS TO MEET THE NEEDS OF ALL STUDENTS.

- Six of the 25 participants (24%) stated small groups or one on one instruction was a benefit to core extension.
- Participant 2: “The ability for every single student to receive some sort of small group tiered instruction is something that I, in turn, see the benefits of in my own math classroom.”
- Participant 12: “It helps to work with students in a one-on-one basis.”

RESEARCH QUESTION 2

- What were perceptions of certified educators, who taught math intervention or instruction during core extension time about the barriers, if any, of math Response to Intervention and Instruction (RTI^2) in rural Tennessee middle school districts?

Data Coding for Certified Educators' Perceptions about the Barriers of Math Core Extension in Rural Tennessee Middle Schools

Open Codes	Axial Codes	Selective Coding
Not enough teachers Not certified in math Not all teachers are good at math Teachers should be focused on one subject Asked to plan for math Target more kids More emphasis on reading so math is not as "important"	Not enough personnel Not certified to teach math	**Educators perceived barriers of math core extension time were the lack of personnel and non-math certified educators being asked to lead groups.**
Time required for core extension is time taken away from class instruction Taking class time Less time in core classes More planning expected of teachers	Takes time from core class Extra planning	**Educators perceived barriers of math core extension time were time taken from core classes and extra planning for core extension groups.**
Students do not like the program Students get bored doing the same program over and over Little participation by students with the computer program Students who do not want to be in group can be disruptive	Student Participation	**Educators perceived a barrier of math core extension time was student participation.**

BARRIERS OF MATH CORE EXTENSION WAS THE LACK OF PERSONNEL AND NON-MATH CERTIFIED EDUCATORS BEING ASKED TO LEAD GROUPS.

- Ten of the 25 participants (40%) responded with statements focused on the lack of personnel to fully implement RTI^2 as intended, and non-math certified teachers asked to lead a math group.
- Participant 1: “We do not have enough teachers or teachers’ assistants to provide Tier II or Tier III [services] to all students who would benefit from the more intensive interventions. There is more emphasis, by the state, placed upon reading intervention, therefore, math intervention isn’t as important.”
- Participant 2 noted every teacher provided instruction for core extension at some capacity, “If you are not a math or ELA teacher, but asked to provide those services, I can imagine that would be difficult not having that content knowledge.”

BARRIERS OF MATH CORE EXTENSION WAS THE LACK OF PERSONNEL AND NON-MATH CERTIFIED EDUCATORS BEING ASKED TO LEAD GROUPS.

- Participant 17: “Not all teachers are good at math so being able to help students could be a problem. I have heard other teachers complain about not understanding math enough to help.”
- Participant 16: “Our 6th grade science teacher is pulled to teach Tier II math, three times a day. She takes her job seriously and loves her students, but I am sure this takes away from her science lessons in core and adds stress to her because she is not a math teacher.”
- Participant 5: “I have 7 students (have had up to 13 before). There are usually only two Tier II math teachers to service roughly 450 students with about 8 per group.”
- Five participants all stated non-certified teacher assistants providing instruction to students, sometimes the lowest performing students in their respective schools, was a barrier of core extension.

BARRIERS OF MATH CORE EXTENSION WERE TIME TAKEN FROM CORE CLASSES AND EXTRA PLANNING FOR CORE EXTENSION GROUPS.

- Five of the 25 participants (20%) believed a barrier to core extension was time taken from core classes and the additional planning required to teach core extension classes.
- Participant 24: “Teachers are faced with extra planning difficulties. Since core extension is so student centered, it means essentially the teacher must plan for every student. Teachers have already got too much to plan for, so this becomes problematic.”

A BARRIER OF MATH CORE EXTENSION TIME WAS STUDENT PARTICIPATION

- Six of the 25 participants (24%) believed participation was a barrier to core extension in rural middle schools.
- Participant 7: “Students are aware that no grade is given in RTI, therefore students put in no effort.”
- Participant 23: “A large percentage of students in Tier II are there based on lack of effort, not a learning barrier. The pattern is clearly seen by grades 7 and 8. These students make it difficult to provide the help that students who actually need the extra support require.”

IMPLICATIONS FOR PRACTICE

- District collaboration between educators delivering core extension could benefit educators in planning and implementation of the program.
- Additional planning time for educators leading core extension groups should be provided by district leaders.
- Potential general educators would benefit from additional coursework related to strategies and techniques for implementing RTI^2 in middle schools.
- Rural schools districts should invest in math coaches and intervention teachers.

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