

Research Study¹**What perceptions do individuals, involved in mathematics teaching and learning, hold of the use of mathematics specialist teachers in Grades 6-8?**

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This research study, taking place in the province of Saskatchewan (Canada), was conducted with five different stakeholder groups: 1) elementary (K-8) school administrators, 2) Grade 6-8 teachers, 3) Grade 6-8 students, 4) their parents, and 5) university pre-service middle years teachers. Since these five groups of individuals are connected with mathematics education at the middle years/intermediate level, they each offer important perspectives on the benefits (perceived and/or observed) of educating mathematics specialist teachers for Saskatchewan elementary schools, specifically at the Grade 6-8 level. The research study was funded by a *Social Sciences and Humanities Research Council of Canada* (SSHRC) Insight Grant and was approved on ethical grounds by the University of Regina Research Ethics Board (REB). In addition, each of the four Saskatchewan school divisions involved in the study granted approval for schools within the division to participate in the research study.

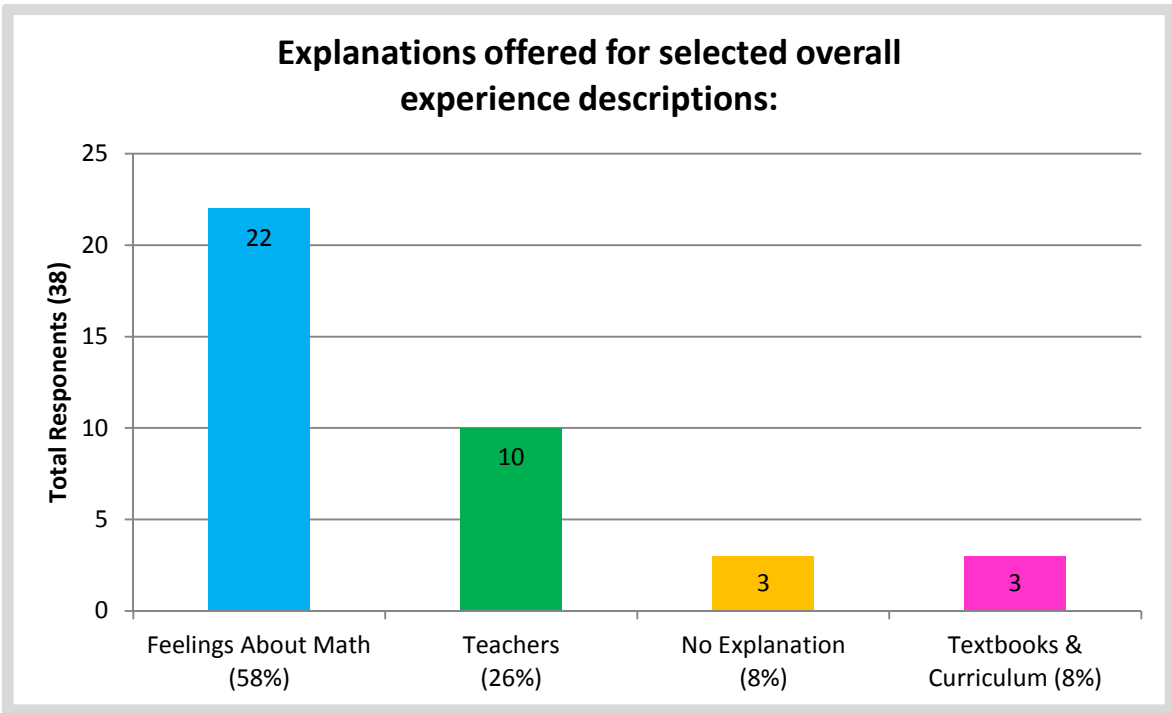
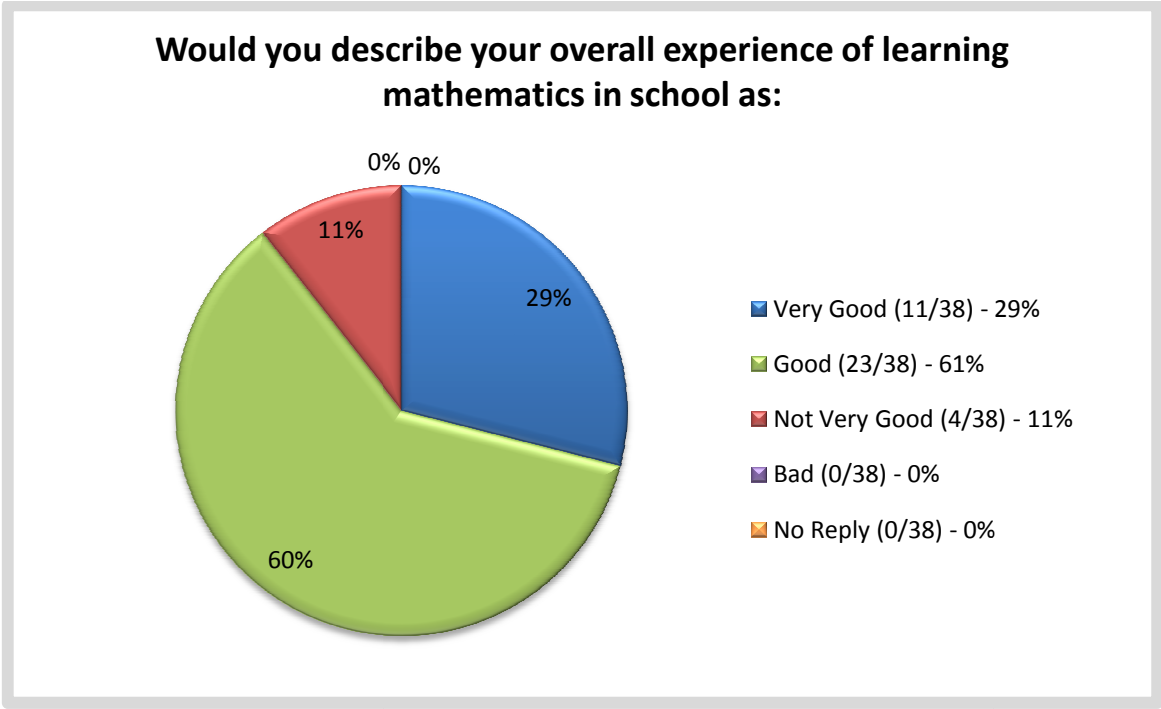
Special Report on**Grade 6-8 STUDENT QUESTIONNAIRES: The 15th School**

The key aim of this part of the research study was to understand how Grade 6-8 students think about learning mathematics, and what they think about the role of mathematics specialist teachers in Grades 6-8 classrooms. This report represents a summary of responses to select questions from 38 completed student questionnaires at one specific school where questionnaires were completed by students during class time and delivered by the principal to the researcher (Dr. Kathleen Nolan). As with all other questionnaires, these student questionnaires were completed anonymously by students; however, due to the different approach to completion and return of the questionnaires, the data analysis and report have been kept separate from the report on the other 14 schools involved in the study.

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PART A: Current Attitudes and Practices

1. Would you describe your overall experience of learning mathematics in school as
- a. very good b. good c. not very good d. bad

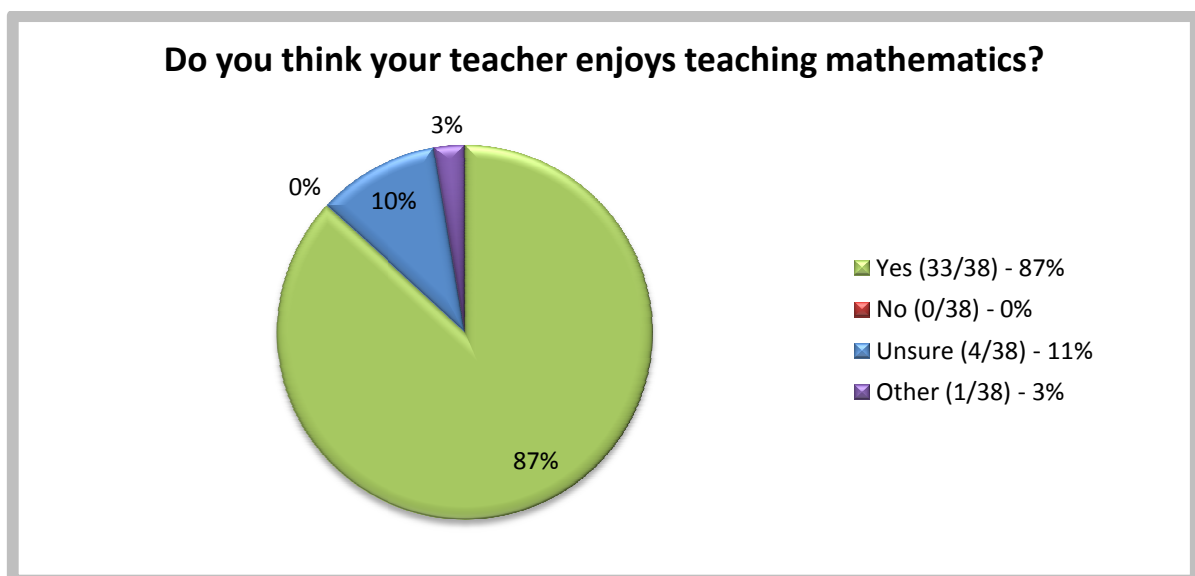


Explanation Themes	Example Questionnaire Responses
Feelings About Math (22/38) – 58%	<p>I can't pay attention well and I think the fact I don't like the subject I loose [sic] interest in completing and understand it.</p> <p>I had a very good experience of learning mathematics because I have a 90% average.</p> <p>I learned a lot, probably more than I should have so it is good.</p>
Teachers (10/38) – 26%	<p>Because whenever they teach us in math, they're going to teach us in different ways so that we can understand the topic.</p> <p>I think my learning experience of math is very good because the learning never just stops after a math class. The teachers always let us extend our learning by ourselves so we can teach ourselves too. [sic]</p>
No explanation 3/38) – 8%	
Textbooks & Curriculum (3/38) - 8%	<p>My school has a good math program and I feel like it's less stressful than from my old school's lessons.</p>

2. Do you find mathematics easy to learn or hard to learn? Why?

Question 2 has not been analysed at this time.

3. Do you think your teacher enjoys teaching mathematics? Explain your thinking.



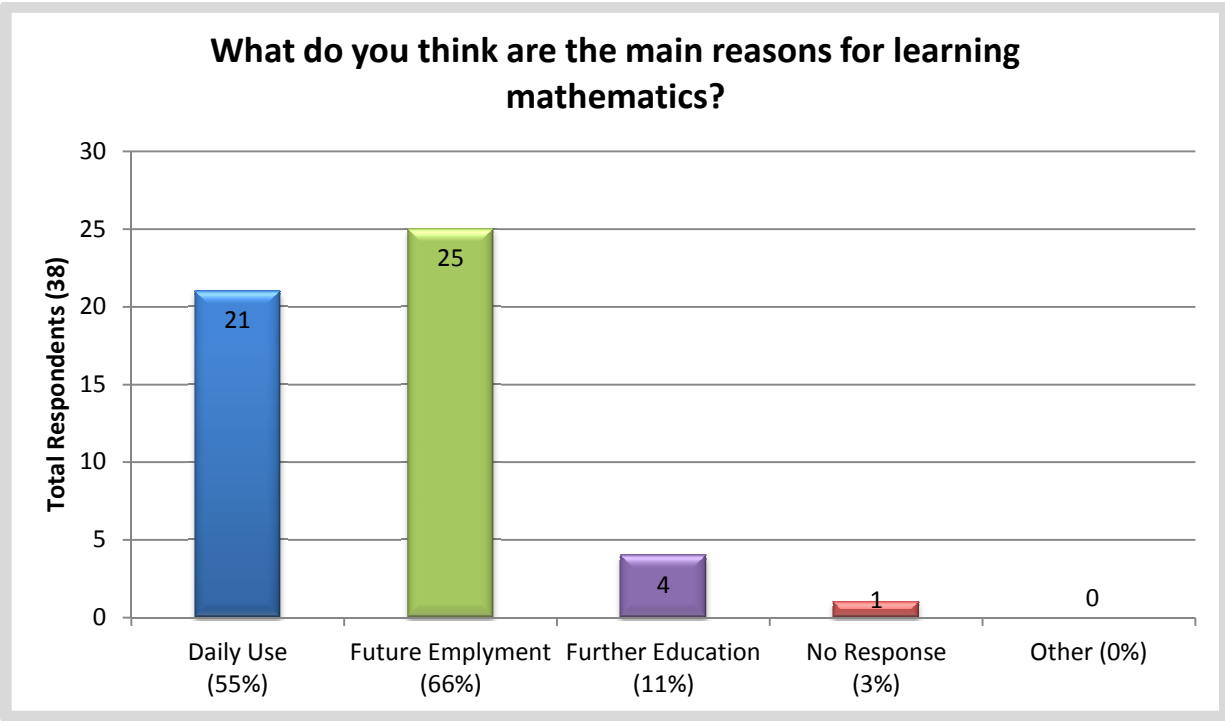
Response Themes	Example Questionnaire Responses
Yes (33/38) – 87%	<p>Yes, I do think my teacher enjoys teaching math because [he/she] always seems to be in a good mood.</p> <p>Yes. Because [the teacher] always has new and creative way on how to teach the concept.</p> <p>Yes as long as the students are participating and paying attention. When [the teacher]'s normally teaching [she/he] finds ways to make math fun by playing math songs and stuff, but when [she/he]'s mad at people because they don't care the room gets really quiet and awkward.</p> <p>Yes because they always have ways to help.</p>
No (0/38) – 0%	
Unsure (4/38) – 11%	Not sure
Other (1/38) – 3%	My Principle teaches us math while she is the Principle.

4. How do you think your parents feel about mathematics?

Question 4 has not been analysed at this time.

5. What do you think are the main reasons for learning mathematics?

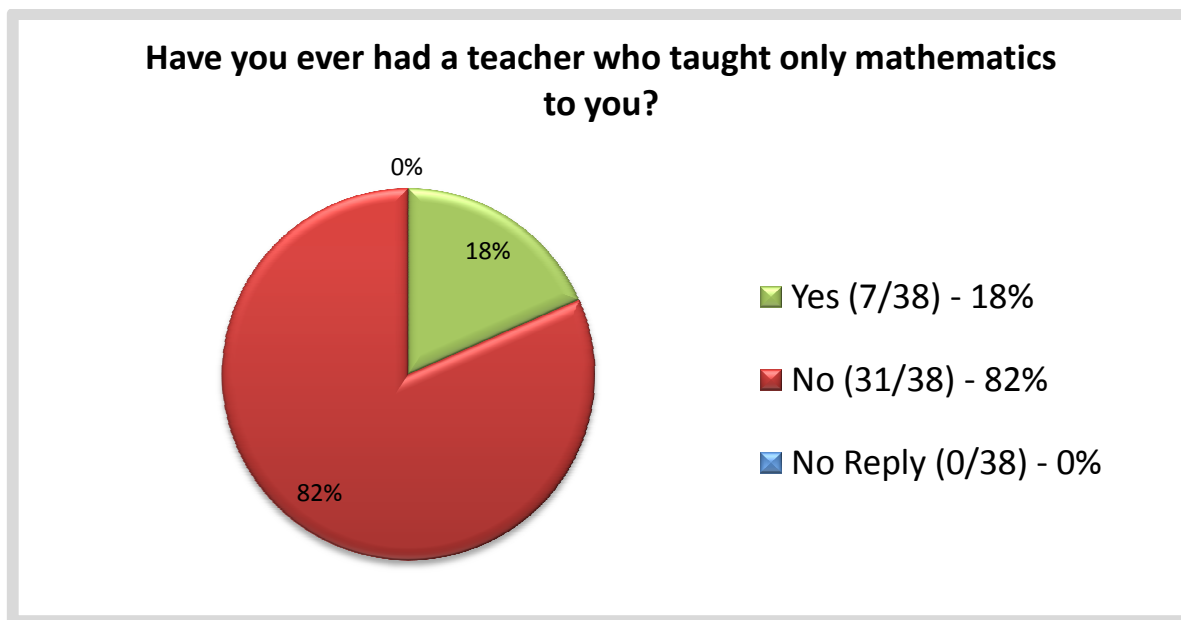
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Reason Themes	Example Questionnaire Responses
Daily Use (21/38) – 55%	<p>You use math in every day life.</p> <p>Because math is required for certain jobs or things in your daily life like shopping (prices, taxes, etc.)</p>
Future Employment (25/38) – 66%	<p>Could need it in your career.</p> <p>To help get a job to go and get your dreams</p>
Further Education (4/38) – 11%	<p>Codes, techniques to simple everyday problems.</p>
No Response (1/38) – 3%	
Other (0/38) – 0%	

PART B: Mathematics Teaching Specialists

1. Have you ever had a teacher who taught only mathematics to you (no other subjects)? If yes, what was it like?



Example 'Yes' responses of what it was like to have a teacher who taught only mathematics:

Yes, It didn't really change or affect me in any way – it was pretty average and normal; just like any other math class with a normal teacher.

In grade 4, I was in a split $\frac{3}{4}$ class, but there was another grade 4 class that we would go to learn math. It kind of sucked because my section of the class had to sit in the very back of the room without desks, and we were really crammed together because there was practically 35 people in the room. We also couldn't see the board or hear the teacher very well.

Yes. She always lets us look up meanings of math words and doing experiments.

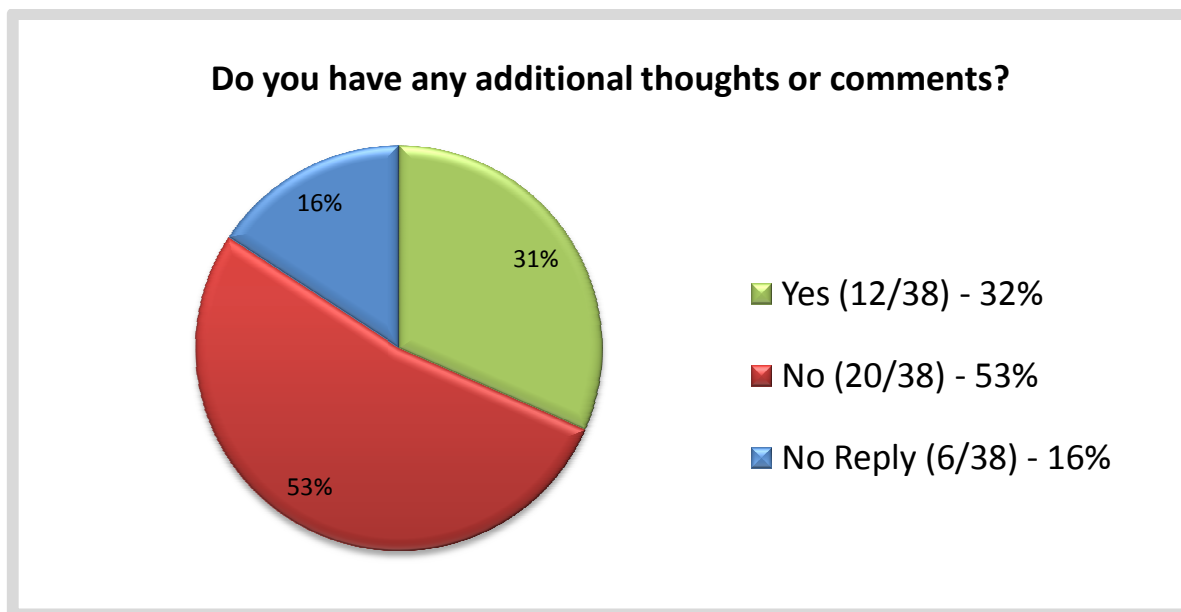
Yes. It was like any other teacher I guess; a little strict but nice.

Yes, in [other country]. It was really fun learning math, and I found my teacher nice, and she's happy teaching math.

2. How do you think your classroom would change if there was a different teacher for each subject?

Question 2 has not been analysed at this time.

3. Do you have any additional thoughts or comments to offer on the topic of being taught mathematics by a teacher who teaches ONLY mathematics at your school?



Examples of additional thoughts or comments offered on the topic of being taught mathematics by a teacher who teaches ONLY mathematics

I don't think it would change that just more moving around.

I think the teacher would be more pushing on assignments.

I think it would be pretty nice I guess but I like [the teacher] teaching us.

Can you (hopefully) get us to do more experiments?

I want to have like a math professor.

Yes because you would get to know that teacher better.

I don't know, other than the fact that I'll be going to high school next year and have to get used to it anyway.

I think that'd be pretty cool, because we're exposed to different figures in education with different ways of teaching and different opinions and personalities.

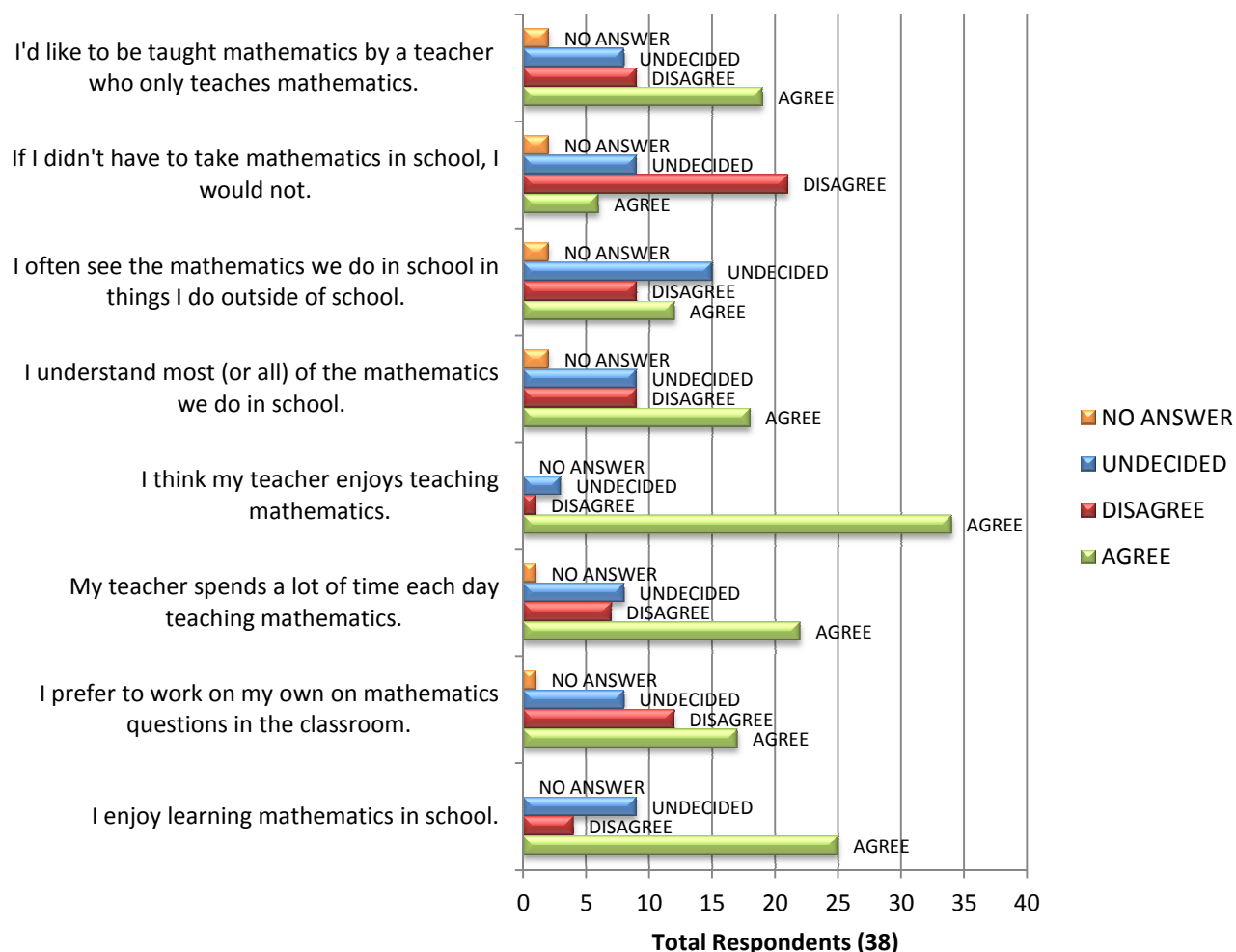
I think it will be busy and confusing.

Agree/disagree statements:

For each statement below, decide whether you agree (A), disagree (D) or are undecided (U) and circle the letter corresponding to that decision.

- | | | | |
|---|---|---|---|
| ♦ I enjoy learning mathematics in school. | A | D | U |
| ♦ I prefer to work on my own on mathematics questions in the classroom. | A | D | U |
| ♦ My teacher spends a lot of time each day teaching mathematics. | A | D | U |
| ♦ I think my teacher enjoys teaching mathematics. | A | D | U |
| ♦ I understand most (or all) of the mathematics we do in school. | A | D | U |
| ♦ I often see the mathematics we do in school in things I do outside of school. | A | D | U |
| ♦ If I didn't <i>have</i> to take mathematics in school, I would not. | A | D | U |
| ♦ I'd like to be taught mathematics by a teacher who only teaches mathematics. | A | D | U |

Student Replies to Agree/Disagree Statements



Please use the space below to explain your answers to any of the above statements, on the previous page.

Agree/disagree Statements	Example Questionnaire Responses
I enjoy learning mathematics in school.	<p>I say undecided because I like some of the stuff we learn but not all.</p> <p>I enjoy mathematics so I would enjoy a specialist.</p> <p>I love doing math.</p> <p>My school makes our math fun.</p> <p>Sometimes I enjoy math and sometimes I don't.</p> <p>[The teacher] makes it fun so we all enjoy it</p>
I prefer to work on my own on mathematics questions in the classroom.	<p>I sometimes like to work by myself but sometimes I would like to work in partners or groups.</p> <p>I like working alone, however I sometimes need help from my friends on a question.</p> <p>I prefer working on my own because nobody has to blame me for wrong answers in group works.</p> <p>I like working independently.</p>
My teacher spends a lot of time each day teaching mathematics.	<p>[The teacher] teaches grade __ and grade __ math.</p> <p>[The teacher] has long lessons. One hole [sic] hour.</p> <p>[The teacher] teaches us in the morning and ... [another] grade ... in the afternoon.</p> <p>My math teacher teaches two math classes.</p>
I think my teacher enjoys teaching mathematics.	<p>I think math teachers love teaching math.</p> <p>[The teacher] seems pretty excited to do it.</p>
I understand most (or all) of the mathematics we do in school.	<p>I understand some of the math concepts.</p> <p>I understand it most of the time, but I can forget things easily.</p>

Agree/disagree Statements	Example Questionnaire Responses
<p>I often see the mathematics we do in school in things I do outside of school.</p>	<p>It just happens.</p>
<p>If I didn't <i>have</i> to take mathematics in school, I would not.</p>	<p>If I didn't have to take math and I didn't I wouldn't be able to solve a lot of problems concerning math.</p> <p>I want to because it'll help me, but sometimes it get boring.</p> <p>I feel I won't need to use math in the future.</p> <p>I know math makes me a better person, but it's not my favourite subject.</p> <p>If I didn't have to take mathematics in school, I would anyway because it's beneficial and a huge part of the world. Some math may seem unnecessary, but the basic calculations (addition, subtraction, multiplication, etc.) is crucial to so many every day tasks in life. I <u>need</u> mathematics to literally live, because when I grow up and I don't know how to calculate taxes or how to find the weight of food for dinner, then I would feel pretty...worthless and incapable. [sic]</p> <p>I would take math even if we didn't have to because I really enjoy math.</p>
<p>I'd like to be taught mathematics by a teacher who only teaches mathematics.</p>	<p>I like to be around people that have a lot of personality and more than one interest.</p> <p>I would like to be taught by a math professional then we might have better understaing [sic].</p> <p>I think it will be cool having a teacher who teaches all math.</p> <p>I think a teacher who does mathimatics [sic] only will be cool and would know more about math and better expirences [sic].</p>