International Journal of Mathematics and Mathematics Education
https://journals.eduped.org/index.php/ijmme
Volume 03, No. 3, 2025

e-ISSN 2986-4534
p-ISSN 2988-0734

Decoding the Ideal Mathematics Classroom: A Qualitative Study on Secondary School Students' Perceptions in Iran

Farkhondeh Hosseini Shekarabi[1*]

[1]Shahid Rajaee Teacher Training University, Islamic Republic of Iran

*Corresponding author: f_hosseini@sru.ac.ir

Received: 07/07/2025 Revised: 26/08/2025 Accepted: 11/09/2025

ABSTRACT

Purpose – This study explores secondary school students' perspectives on the factors that create an ideal mathematics classroom. While prior research has emphasized curriculum and content delivery, fewer studies have systematically examined students' own voices regarding classroom dynamics, teacher influence, and learning environments.

Methodology – A qualitative design was employed, involving free-form reflective essays written by 390 students from three public secondary schools. Students were prompted to describe their classroom experiences and identify elements they found most impactful for their learning. The essays were analyzed thematically to uncover key categories and emerging themes.

Findings – The analysis revealed that relatively few students emphasized content knowledge as a central element. Instead, the majority highlighted engaging instructional methods, teacher personality and behavior, and positive teacher–student relationships as most critical to their learning. A joyful, interactive classroom environment was consistently described as essential for motivation and understanding. Students also indicated that class length and scheduling significantly shaped their learning experiences. These findings suggest the need to balance pedagogy and content delivery while ensuring classroom environments remain supportive and engaging.

Novelty – By foregrounding students' narratives, this study contributes original insights into learner-centered perspectives in mathematics education. It highlights the importance of affective and relational factors, often underrepresented in policy-oriented curriculum reforms.

Significance – The findings provide valuable guidance for mathematics teachers, curriculum developers, and policymakers. Incorporating students' perspectives into curriculum design and teaching practices can foster more inclusive, responsive, and effective mathematics classrooms.

Keywords: Atmosphere, Content; Pedagogy; Personality; Prefer.

How to cite: Shekarabi, F. H. (2025). Decoding the Ideal Mathematics Classroom: A Qualitative Study on Secondary School Students' Perceptions in Iran. *International Journal of Mathematics and Mathematics Education*, 03(3), pp, 212-226, doi: https://doi.org/10.56855/ijmme.v3i3.1589

This is an open-access article under the CC BY license.

1. Introduction

To effectively teach and understand mathematics, both theoretical and practical viewpoints must be cultivated. These days, more than ever, many professions require mathematical knowledge and proficiency. Mathematics plays a critical role in a wide range of fields, including social studies, engineering, architecture, genetics, politics, and economics. Additionally, possessing mathematical abilities gives them greater career-shaping options. As a result, among school subjects, mathematics is given extra emphasis in the curricula of many nations. Additionally, the quality of students' learning is heavily influenced by how mathematics is taught in the classroom. To ensure effective teaching, the classroom environment should be engaging and enjoyable for the students. This ensures students remain engaged and motivated, avoiding fatigue and disengagement throughout class. Its goal is to recognize each student's unique qualities and provide exercises tailored to their physical, environmental, and academic circumstances. This study seeks to identify, from the students' perspective, the elements that make an ideal math class and what elements support them in becoming better math teachers and learners. Instead of focusing on the teacher-rated aspects of the course, it is hoped that we learn more about how students articulate the qualities they would want to see and use their insight to enhance the caliber of instruction.

In today's world of rapidly advancing technology and growing knowledge, the focus has shifted from teaching information directly to raising a generation who knows how and what to learn and efficiently access the right information (Umay, 2004). In the modern era, students enjoy mathematics less as they move through their schooling, possibly reflecting more negative attitudes towards learning mathematics in general (Russo 2023). A previous study identified a structural relationship between students' conceptions of mathematics and their approaches to learning, with most students viewing mathematics as a rigid set of rules and procedures to be memorized (Crawford et al. 1994). The focus in today's mathematics classroom is increasingly on the individual learner, with culture emerging as a key in understanding how learners make meaning of mathematical concepts. The classroom itself serves as both the source of investigation and the site of potential change and development (Lerman 1994). In this context, expanding educational activities based on students' preferences for their ideal mathematics classes is crucial for improving the current situation.

The purpose of this study is to gather students' perspectives on the current state of mathematics classes. This research also supplements previous studies that have examined national norms and standards for student academic achievement and teaching practices in Australia, Germany, Japan, and the US (Clarke, Keitel & Shimizu, 2006). Studies examining how students define "good teaching," "good teacher," "good class," "model class," or "effective teaching" have explored the views of both students and teachers regarding mathematics classes (Kaur, 2008, 2009; Li, 2011; Seah & Wong, 2012; Shimizu, 2006, 2009; Hill, Kern, & van Driel 2021; Beyer et al. 2022; Ozen & Yıldırım, 2020). Research across various educational levels and countries has documented both similarities and differences in the perspectives of educators and learners.

Martinez-Sierra (2014) investigated effective math instruction from the perspective of high school students in Mexico. Similarly, Sullivan et al. (2013) investigated the qualities students desire in mathematics class. Using open-ended answers to specific questions on the general survey and free-format essays written by students in their project schools, they aimed to understand how students articulated the qualities they wish to see in their classes.

According to students in Murray (2011), the qualities of an effective math teacher include "clear explanations, one-on-one support, positive traits, a safe learning environment, an understanding of students as individuals, strong classroom management, relevance of

mathematics to real life, a measured teaching pace, and expertise in teaching mathematics". The aim of this study was to explore secondary school students' thoughts on what makes a good math teacher. A descriptive model was used to conduct a qualitative investigation. Analysis of the results revealed that the requirements for a mathematics teacher could be classified into four primary groups: personal traits, communication skills, class management and teaching methods, and assessment and evaluation. (Ertem Akbas, Cancan & Kılıc, 2019). Research on students' perspectives on successful mathematics pedagogy was conducted by Kaur (April 2009). According to their recommendations, teachers should:

> *1. Explain clearly the concepts and steps of procedures; 2. make complex knowledge easily assimilated through demonstrations, use of manipulatives and real-life examples; 3. review past knowledge; 4. introduce new knowledge; 5. use student work/group presentations to give feedback to individuals or the whole class; 6. give clear instructions related to mathematical activities for in class and after class work; 7. provide interesting activities for students to work on individually or in small groups; and 8. provide sufficient practice tasks for preparation towards examinations.*

Other studies have examined students' opinions and attitudes towards specific aspects of mathematics education. Önal & Demir (2017) investigated middle school students' attitudes and beliefs about mathematics, as well as an analysis of their views on the use of interactive whiteboards in math lessons. The study found that participants had generally positive attitudes toward both mathematics and the use of interactive whiteboards.". According to this research, participants enjoyed math and felt that the interactive whiteboard was a useful tool in math classes. Similarly, Özdemir & Üzel (2012) examined the perspectives of students on teaching through mathematical modeling.

Van Der Kleij & Adie (2020) studied teachers' and students' impressions of verbal feedback in the classroom. Their research indicated that perceptions' of feedback vary depending on the context, subject, and individual, which influences the effectiveness of feedback. Student perceptions of using Geogebra software in math classes are investigated by Celen (2020). Çekirdekci (2020) explored how fourth-grade primary students perceive "mathematics lessons" through metaphors and whether there are gender differences in the main categories. The perceptions of primary school students on scaffolding in digital game-based mathematics learning were reviewed by Sun et al. (2020). The findings revealed that both whole-class and one-to-one scaffolding tactics had a significant impact on students' learning activities and views of mathematics.

Orav-Puurand et al. (2024) investigated the intersection between distance learning and digital tools in modern education, focusing on Estonian high school students' views on learning mathematics during the pandemic compared to the pre-pandemic, and compared learning in the classroom to distance learning. Additionally, Vidergor & Ben-Amram (2020) explored the secondary math students' perceptions of the efficacy of Khan Academy in conjunction with traditional instruction. According to Liu et al. (2024), there appears to be a discrepancy in the ways that teachers and students perceive the quality of mathematics instruction across various aspects. These variations appear to exist both inside and between nations. This suggests that caution should be exercised when using such perceptions as a universal measure of instructional quality in international studies of mathematics education effectiveness.

This study is distinguished by several significant features. It employs a qualitative approach grounded in student narratives, a methodology rarely applied in international

mathematics education research. By giving voice to learners' personal experiences, the study provides access to dimensions of mathematical learning that often remain obscured in quantitative analyses. Conducted in Iran, a country with a distinctive educational structure, the research enriches the field with cross-cultural perspectives and allows for meaningful comparison with other educational systems worldwide. Furthermore, the findings extend beyond theoretical insights, offering direct implications for curriculum development and mathematics teacher education. In particular, the study highlights practical pathways for enhancing instructional practices, strengthening teacher preparation, and rethinking curricular design in mathematics education.

Moreover, most prior studies in this field have focused predominantly on teachers' perspectives, leaving students' voices underrepresented. In addition, there is a noticeable lack of qualitative research utilizing free-form essays as a means of capturing students' authentic reflections. This gap is particularly evident in the Iranian context, where few studies have examined students' experiences of mathematics learning through qualitative approaches. Therefore, this study aims to address these shortcomings by exploring students' perspectives through qualitative analysis of their written essays. The central research questions guiding this investigation are:

- How do students articulate their experiences and challenges in learning mathematics?
- What themes emerge from students' narratives that highlight the gap between intended educational standards and actual classroom practice?

2. Methods

This study focuses on the following issues (1) Students' views on the teacher's personality; (2) Students' perception of the atmosphere required in an ideal math classroom; (3) Students' opinions on their favorite content in the ideal math classroom; (4) Students' opinion on the teaching style of an ideal math teacher; and (5) Students' attitude towards their own performance and competency in relation to the ideal math classroom

The student survey sought open-ended responses. Students were asked to write a free-format essay on the following prompts:

> *What would your ideal math class look like? What questions and problems would you like to solve? What activities would you like to engage in? What would you like the teacher to do in your ideal math class to support your learning and help you understand math?*

This study employed a qualitative descriptive design to explore students' perceptions of an ideal mathematics classroom, with the goal of identifying factors that influence student behavior and engagement. The participants included 390 students from Grades 7–9 (typically aged 12–14) across three public schools in Iran during the 2023–2024 academic year. Following the approach suggested by Zan and De Martino (2010), which emphasizes describing students' attitudes before attempting to measure them, we used free-format essays to capture rich, authentic narratives reflecting students' feelings, opinions, and perspectives on the study's topic.

The essays were assigned by literature teachers as part of their coursework. This arrangement was intentionally designed to prevent students from personalizing their responses or targeting their specific mathematics teachers. Before the activity, students were informed that their essays would be used for research purposes. School principals and literature teachers were fully briefed and provided consent for participation. Throughout the data collection process, confidentiality and anonymity were strictly maintained, and students completed their essays during regular class time following clear instructions.

After collecting the essays, the responses were initially reviewed to establish preliminary categories for coding. Distinct responses were then systematically coded, and categories were refined iteratively to reflect patterns and recurring themes. Thematic analysis, as outlined by Braun & Clarke (2006), guided the coding and interpretation process. This method allowed the identification of meaningful themes related to classroom expectations, teacher-student interactions, and factors shaping students' behavior.

To ensure validity and reliability, several strategies were employed. A second coder independently reviewed a subset of essays to calculate inter-coder agreement. Selected themes were shared with students for member checking, and findings were triangulated with relevant literature to enhance credibility and interpretative accuracy. The researcher's role was limited to facilitating the essay collection and conducting the analysis. The researcher did not participate in classroom instruction or influence students' responses, ensuring neutrality and unbiased interpretation of the data. This methodology allowed for a comprehensive exploration of students' perspectives, providing insights that are both contextually grounded in Iranian secondary education and theoretically informed, with implications for classroom practice, teacher professional development, and curriculum planning. Below are some examples of student responses, starting with Zainab's essay:

> *Math class is my favorite class, and I love it from the bottom of my heart, but there are flaws in the traditional way math is taught. If we fix them, we will have a better class. I think the attractiveness of each lesson depends on the teacher. The ideal math teacher is a teacher who can manage the class well, allow enough time for breaks, and explain concepts in a simple and easy-to-understand way. Sometimes, I enjoy solving difficult puzzles or intelligence questions. I think it would be fun if students tried to solve them in groups first, and then the teacher explained the answer with the right guidance. In my opinion, students' passion and excitement for solving problems and learning is really important and should be considered. When asked how to improve learning in our class, I believe it's helpful to involve students more. For example, we could hold conferences where students teach some topics. Math class has always been ideal and interesting for me because I understand the lessons fully. However, there are some teachers who don't allow students to ask questions, and they just keep talking. I don't think this is the right approach. When a question forms in someone's mind and isn't answered, it only grows bigger and stops them from learning. I hope teachers will be kind and pleasant, teach with fun and kindness, and allow students to ask their questions during class. In conclusion, I believe all teachers are kind. (Zainab, thirteen years old, seventh grade)*

Parisa wrote this essay:

> *According to many people in my class, math is boring and hard, but I don't think so. If the teacher explains the lessons sweeter and better, maybe it wouldn't seem so hard and boring for all of us. The ideal class makes students work harder in math and makes students interested in it. I think we should have a 5-10-minute break during the class and may be even eating a small sweet. I remember very well that I was solving an exercise or a test in the math classroom when I got weak and tired and my mind was not able to solve more problems; that's where I needed to eat something sweet to be able to solve things better but in most math classes we are not allowed to eat food. I think it would help if the teacher said something funny or joked a little, so the class wouldn't feel so dry and lifeless, and we could enjoy math more. Of course, it doesn't mean we joke and laugh the whole time, but a little laughter with the teacher or friends could help us feel better. I also wish my math teacher would let me solve problems in the way that works best for me instead of*

making me use only one method. I think the beauty of math is that there are different ways to reach the same answer. I don't like it when we're told to just use one method. I would like a math teacher who is kind, patient, and funny because math requires patience. If the teacher isn't patient, the whole class will start to dislike math. I also believe that students who make an effort to find a solution, even if they don't get it right, should get a grade because they are trying harder than those who give up easily and don't try at all. (Parisa, fourteen years old, eighth grade)

The variety of lesson elements that students chose to mention is evident. What stands out the most is the range of different types of responses. While we expected that engaging teaching methods like games, real-world scenarios, and the use of models would be popular among students, we were surprised by the large number of responses focused on the teacher's character. Words that appeared more than ten times have been included in the tables. After reading each response, a preliminary set of codes was created. The first set of codes was then applied, with additional codes added as needed. If a statement or phrase could fit into more than one category, it was classified in both.

3. Results and Discussion

3.1. Results

One notable aspect of the comments is the range of topics that individual students discussed, demonstrating once more that there is no "perfect" lesson. This diversity highlights that multiple approaches can be equally effective in teaching. Below are some recurring themes or trends based on the responses.

3.1.1. Personal characteristics of the ideal math class teacher

Healthy teacher-student relationships can be considered one of the most important aspects for supporting teacher professional development, as they are a key component of classroom management (Doyle, 1986). Given that educational environments include communication processes between teachers and students, it is also relevant to mention the presence of mathematical communication processes in math class. In this communication process, mathematics is considered as a lingua franca that facilitates mutual understanding, where the communicator is expected to construct models, make logical inferences, and use mathematical symbols and abstraction. (Sür & Delice 2016)

In their essays, students frequently mention that, in an ideal mathematics classroom, the teacher's human qualities, kindness, patience, and calmness are more important than their specific mathematical knowledge. That is to say, the students sampled had no concerns regarding the teachers' mathematics understanding. Many students expressed a desire for a close relationship with their mathematics teacher, and they value the teacher's calm demeanor and non- judgmental approach when correcting their work (36). The term "good manner" was mentioned in 72 essays, with students specifically highlighting words of kindness (99), patience (42), and good expression (21). Several expressive sentences and phrases, categorized to show the variety of responses by students and the way the codes have been applied.

Table 1 - Student Perspectives on the Personal Characteristics of an Ideal Mathematics Teacher

Category of response	Total Mentions	Percentage (%)
Good manners	72	18
Be friendly and be friends with students	62	16
Kind	99	25
Patience	42	10

Category of response	Total Mentions	Percentage (%)
Art of expression	21	5
Calm	15	4
Artist and creative	20	5
Appearance and beauty	11	3
Beautiful handwriting	10	3
Does not get angry	36	9
Does not blame	31	8
Non-discrimination	35	9
Mutual respect	20	5
Strict and serious	22	6

Non-discrimination: 35 students admitted that teachers do not differentiate between their students and treat everyone equally. With expressions such as "bring everyone to the board, not a special few ", " treat everyone equally" and "don't make a difference between Iranians and non-Iranian immigrants." Appearance beauty: expressions such as "youth" and "apparent neatness" were also in the students' essays (11). Be friendly: 62 students mentioned that they like to have a friendly relationship with the math teacher, with expressions like "to be friendly with them and be able to easily discuss our problems with them ", "to be our friend" and "to be comfortable with our teacher.". Meanwhile, 20 students preferred a strict and serious teacher as the ideal math teacher. The results are shown in Table 1.

The fact that the term "the teacher should not yell" appeared multiple times in one class's essay but not in the others suggested that the students had dealt with a teacher who frequently yelled in the classroom.

3.1.2. Ideal Math Class Atmosphere

A perfect classroom setting encourages participation, inclusivity, and a conductive learning environment. Key components with regard to students' attitudes are as follows:

> *Class time: This study was carried out in public schools, where students attend two days a week for three hours of required mathematics education. Many students commented on class time in their writings. They suggested that students should take breaks during the one and a half hours of class each day rather than studying mathematics continuously (92). A few students proposed adding more instructional days to the schedule (9). Additionally, some discussed the timing of the class, recommending it not be scheduled too early in the morning nor too close to midday.*
>
> *Class location: Students expressed that an ideal math classroom should be well-organized and feature mathematical symbols. They also described a preference for a "vibrant classroom with windows" and suggested the importance of "adequate ventilation and lighting."*
>
> *Joy and laughter: Statements such as "there should be humor in the math class", "the environment shouldn't be stuffy or formal" and "teachers should be able to crack jokes."*
>
> *Peace and quiet: Several students noted that the classroom should remain quiet and calm during instruction, with minimal disruptions.*
>
> *No stress: Students mentioned the need for a stress-free class, referencing past experiences of tension and anxiety in their math classes.*

Good classmate: Sentences such as "my friends should be quiet and listen to the lesson so I can concentrate" and "students who understand the lesson assist their less proficient peers" appeared in students' writings, highlighting the importance of supportive classmates.

Findings are summarized in Table 2.

Table 2 - Student Perspectives on the Ideal Mathematics Classroom Environment

Category of response	Total mentions	Percentage (%)
Class time	108	28
Class location	75	19
Joy and laughter	90	23
Good classmate	49	13
Eat food & drink water	17	4
Peace and quiet	52	13
Encouragement and gift	12	3
Non-mathematical talk	15	4
Open space/outdoor or camp	10	3
No stress	40	10

3.1.3. Content in an Ideal Math Classroom

The content provided in an ideal math class should be comprehensive, well-organized, and tailored to each student's unique requirements as well as the standards of the curriculum. The following are some essential components of the ideal math curriculum, according to students. Table 3. summarizes the findings.

Table 3. Number of Student Comments in Various Categories of Ideal Math Content

Category of response	Total mentions	Percentage (%)
Specific content	72	18
Easy lesson	13	3
Entertaining	21	5
Related to real life	51	13
Game	109	28
Technology	37	10
Educational tools and materials	65	16
Films, plays, stories and poems	34	9
Math puzzle and quiz	27	7
Challenging	20	5
Fewer topic	11	3
Excitement and enjoyment	24	6

Game: Students mentioned games as an effective tool for learning math, with statements like*, "Teachers should try to teach us through games since they are engaging and enjoyable for us and our friends", and statements such as "I learned addition and subtraction of integer numbers by playing snakes and ladders."*

Specific topic: Students shared statements such as "I like the decimals lesson because I learned it very well" and, "I love geometry."

Related to real life: Students also suggested the importance of real-life connections, saying "teach us math through physics", "the lesson should be explained with practical, applied examples and animations instead of just dry formula."

Math puzzles: Math puzzles were highlighted by students with comments such as "I like to be asked puzzle questions in class that I can answer quickly", "let's hold a math competition in the class to make it more exciting." The number of comments coded in the various categories is summarized in Table 3.

3.1.4. *Pedagogy* in ideal math classroom

According to Perales et al. (2023), students perceived the learning environment to:

1. be user-friendly, 2. provide an enjoyable experience, 3. support their learning, 4. offer multiple ways to learn, 5. allow them to "see" the concepts, 6. make previous interactions accessible, and 7. provide passive feedback.

The analysis of the students' responses to this question about pedagogy led to the development of a set of categories describing their conceptions of mathematics. It is not surprising that most students focused on their teacher's actions in their ideal math class, as they were prompted to comment on this. Students' statements regarding their teacher's actions included a good explanation of mathematics (125), allowing breaks during class (92), preparing the students for passing exams (35), simplifying the course materials (57), and teaching with enthusiasm (48). Table 4 displays the findings of the students' attitude toward the action and style of instruction of the teacher.

Students appreciated the inclusion of sample problems with solutions (38), felt comfortable and not scared to ask questions (50), and valued the teacher explaining the material multiple times (67), were all things that the students found appealing. It was also crucial to students that they could ask questions without fear of being evaluated and judged. Group work was the preferred way for students to complete tasks (58), and in some settings, students take on the role of the teacher (30). However, it was interesting to note that some students opposed this practice, with phrases like "when students explain a subject, they may make a mistake and the teacher has to correct it, which takes up class time" and "when a classmate explains something, I don't pay attention and might not learn the lesson; however, when the teacher teaches a lesson, I use all of my senses." The homework category drew both praise and criticism. While some students enjoyed being assigned homework in the evening (18), some found it annoying and preferred less homework (21).

Furthermore, some students enjoyed going to the board (59), stating "I learn more when I go to the board, "while others admitted going voluntarily (16) but expressed feelings such as " when I go to the board, I get stressed and forget the lesson." or "I get embarrassed when I don't know the answer at the blackboard."

Table 5 - Number of Student Comments in Various Categories Pedagogy in Ideal Math Classroom

Category of response	Total Mentions	Percentage (%)
Allow students to rest	92	23
Simplify the lesson	57	14
Provide clear explanation	125	32
Prepare student to pass the exam	35	13

Category of response	Total Mentions	Percentage (%)
Manage the class with the cooperation of the children	26	16
Teach with enthusiasm	48	12
Build self-confidence	12	3
Encourage group work"	58	15
Call students up to the board	59	15
Allow students to go voluntarily to the board	16	4
Avoid giving too much homework	21	5
Ensure students feel comfortable / not scared asking questions"	50	13
Assign homework	18	3
Repeat explanations when necessary	67	17
Prioritize learning over grades	10	3
Maintain prior planning and discipline	10	3
Take a quiz	31	8
Solve many sample questions	38	10
Demonstrate strong subject knowledge	15	4
Teaching by the student	30	8

3.1.5. Good students in an ideal classroom

In their essays, sixty-four students stated that they should be excellent learners who actively engage in both teaching and learning in their dream math class, with statements such as

- Pay close attention when the teacher is teaching.
- Assist other students in the course.
- Complete my assignments accurately.
- Respect my instructor and their instructions.

Additionally, eighteen respondents indicated that they believed being prepared for the lesson in advance would help them learn it more quickly or that it would enable them to respond to the teacher better than other students during instruction.

Table 5 - Number of Student Comments in Various Categories of Good Students in Ideal Math Classroom

Category of response	Total mentions	Percentage (%)
I have to be a decent student as well.	64	17
Get ready for class.	18	5

It is admirable that students recognize the significance of their role in the perfect math classroom and take responsibility for contributing to a positive learning environment. The students' opinions of how well they performed in the ideal math class are stated in Table 5.

3.2. Discussions

Using the aggregated responses from the schools, the following discussion examines key themes identified in the data.

3.2.1 Time management in the Classroom

One of the most crucial resources a teacher has is time, a universally shared resource among all educators. It is evident that when teachers allocate sufficient time to a specific activity, they are more likely to achieve positive outcomes. Carroll (1963, 1989) highlighted the importance of management time, resources, and activities to ensure student learning. Consequently, the

behavior of the teacher and their approach to managing activities directly influence the efficiency and effectiveness of learning.

Time management is a critical issue in our classes. According to their essays, some students believed that the curriculum should be reduced (11), while others suggested that class duration should be extended (8). This indicated that in the students' view, the scope of the curriculum and instructional material does not align with the time available in public school classrooms. One manageable factor that is thought to have a strong and possibly causal relationship to student learning is the amount of time spent in the classroom. The idea of academic learning time influences the level of student engagement. Developing instructional practices that optimize student engagement in large classes and mastering time management are key components of effective classroom instruction (Ahmad Uzir et al. 2020, Lathifah 2020)

Furthermore, our teachers have very limited extra time to give breaks between the sessions, which is why they rarely incorporate non-academic topics or pauses during class. According to students, there are a number of elements that can significantly affect how well students learn, and one of those factors is the optimal management of time during mathematic lessons. The following are key considerations: In public schools in Iran, math lessons typically last 90 minutes. Some students suggested shortening the lesson period (7). While others requested a thorough schedule for the lesson. They recommended dividing the class into shorter segments. For instance, they proposed first reviewing the previous lesson (7), then instruction, followed by Q&A (88), a break (92), and a group exercise (58). Lastly, at the end of the course, students recommended a brief quiz (31) with quick feedback, allowing them to assess their strengths and flaws. They recommended allocating a specific amount of time for each exercise or activity and reminding students that this time is limited working through more exercises and sample problems (6).

Certain students also highlighted the importance of the time of day. Two students reported feeling drowsy in the morning, while other students thought the morning was optimal for focusing (4). Conversely, some students mentioned that they were less productive in the afternoon due to hunger and fatigue from earlier classes (6). Understanding students' learning styles could help in selecting the ideal time for instruction. Many students suggested that short breaks during math class improve focus and reduce fatigue. Additionally, diversity in teaching methods, such as group discussions (58), hands-on activities (40), and incorporating technology (25), were recommended to maintain engagement and make the learning process more dynamic. They also wanted the class to be structured in a way that better addressed their needs (26).

Time is a variable that can be managed, and organizing, adjusting, and allocating it will lead to improving the quality of education. In this context, time refers to "pure time", or the time students are exposed to learning without distractions. However, the relationship between time and learning outcomes is not necessarily linear; an increase in time does not always result in increased efficiency. Some researchers, based on observational data, argue that after a certain point, extended school hours can lead to diminishing returns, with fatigue and behavioral issues emerging as a result (Cooper 2007, Trautwein 2007). By implementing these recommendations, teachers can manage math classroom time more efficiently and help students learn more effectively.

3.2.2 *Questions* and answers

Engaging students in conversation and using the question-answer format in the classroom are essential strategies. Below are some of the students' reflections on this approach, as noted in their essays. Many students wrote in their essays that they should not feel afraid to ask

questions in class (50), the teacher should not judge or criticize them for making mistakes (31), and they should feel free to ask any question that comes to mind (8). Some students avoided participating in discussions due to anxiety and concern about their classmates' reactions (5). In their ideal classroom, some students wished to feel confident and able to voice their own thoughts. Additionally, some students read the lesson ahead of time in order to participate in class, as was described in the essays (18). which helped boost their confidence. One student commented:

> *"The teacher shouldn't get irritated or say, "I've explained this several times," if a student answers a question incorrectly.*

In other words, students refrain from participating because of negative past experiences. As a result, they feel insecure and fearful when a teacher engages with them in a severe or judgmental manner. Furthermore, many students noted that being afraid to ask questions or make mistakes in class is undesirable. This issue is often tied to the previously mentioned time constraints in the math classroom. Addressing the time issue may help create a more supportive environment in which students feel more comfortable participating.

To alleviate these fears, teachers can encourage more confident participation (12) by fostering a positive and supportive learning atmosphere, acknowledging mistakes without judgment, and employing varied teaching methods. Providing constructive feedback, focusing on individual needs, and organizing counseling sessions or informal discussions (15) can help students express their opinions without feeling pressure and stress (40). In summary, using a question-and-answer format not only improves learning but also has a significant impact on students' social and emotional development, as well as their communication skills.

4. Conclusions

The data reported in this study reflects students' perspectives on their ideal mathematics classroom. Students placed strong emphasis on the teacher's ethics, behavior, and interpersonal interactions, underscoring the importance of respect, patience, and positive communication. A fun and engaging classroom environment was among the most frequently mentioned aspects in student narratives. Additionally, students highlighted the significance of classroom organization, the allocation of class time and breaks, and the visual and aesthetic appeal of the learning environment. Their essays also revealed a consistent concern for the role of their own behavior and engagement in shaping the classroom atmosphere**.**

The findings suggest clear recommendations for teachers and curriculum planners. Teachers should cultivate kindness, patience, and professionalism, ensuring that classroom interactions are supportive and stress-free. Lessons should be structured, with appropriate breaks and a well-organized physical environment that is conducive to learning mathematics. Instructional content should balance simplicity and challenge, be enjoyable, and connect to everyday life through games, puzzles, tests, and multimedia resources. Teachers are encouraged to provide clear explanations, attend to individual student needs, and foster active participation through group work and interactive questioning. Assignments should be progressively challenging, designed to sustain motivation, and promote a long-term appreciation for mathematics. This study contributes to the theoretical understanding of mathematics education by highlighting the centrality of student perspectives in defining effective teaching and learning environments. Furthermore, it expands cross-cultural perspectives by situating these findings within the unique educational context of Iran, providing insights that may inform international discourse on mathematics pedagogy.

In addition, the study emphasizes contributions to curriculum policy and teacher professional development, underscoring how students' voices can guide both educational reforms and the enhancement of teacher preparation programs. While the study offers valuable insights, it is limited by its reliance on qualitative data from student essays, which may not capture the full range of experiences across diverse student populations. Future research could incorporate mixed-method approaches, including classroom observations and teacher perspectives, to triangulate findings. Longitudinal studies would also be beneficial in examining how students' perceptions evolve over time and how these perceptions influence actual learning outcomes. Comparative research across different cultural or educational contexts could further enhance the generalizability of the results and refine theoretical models of effective mathematics teaching and learning.

Conflict of Interest

The authors declare no conflicts of interest.

References

Ahmad Uzir, N. A., Gašević, D., Matcha, W., Jovanović, J., & Pardo, A. (2020). Analytics of time management strategies in a flipped classroom. Journal of Computer Assisted Learning, 36(1), 70-88.

Beyer, L., Zhai, X., Royer, A., Markeeva, L., Anil, R., & Kolesnikov, A. (2022). Knowledge distillation: A good teacher is patient and consistent. In Proceedings of the IEEE/CVF conference on computer vision and pattern recognition (pp. 10925-10934).

Braun, V., Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology. 3. 77-101. 10.1191/1478088706qp0630a.

Carroll, J.B. (1963). A model of school learning. Teachers College Record, 64, 722-733.

Carroll, J.B. (1989). The Carroll Model, a 25-year retrospective and prospective view. Educational Researcher, 18, 26-31.

Çekirdekci, S. (2020). Metaphorical Perceptions of Fourth-Grade Primary Students towards Mathematics Lesson. International Journal of Psychology and Educational Studies, 7(4), 114-131.

Celen, Y., (2020) Student Opinions on the Use of Geogebra Software in Mathematics Teaching. The Turkish Online Journal of Educational Technology –19 (4).

Clarke, D., Keitel, C. & Shimizu, Y. (2006a). The learner's perspective study. In D. Clarke, C. Keitel & Y. Shimizu (Eds.), Mathematics classrooms in twelve countries: The insider's perspective (pp. 1–14). Rotterdam: Sense.

Cooper, H. (2007). The battle over homework: Common ground for administrators, teachers, and parents (3rd ed.). Corwin.

Doyle, W. (1986). Classroom organization and management. In M. C. Wittrock (Ed.), Handbook o f research on teaching. Third edition. New York: Macmillan.

Ertem Akbaş, E., & Cancan, M., & Kılıç, E. (2019). Qualifications of an Effective Mathematics Teacher from the Perspectives of 5th to 8th Grade Secondary School Students. Universal Journal of Educational Research. 7. 536-549. 10.13189/ujer.2019.070226

Hill, J. L., Kern, M. L., Seah, W. T., & van Driel, J. (2021). Feeling Good and Functioning Well in Mathematics Education: Exploring Students' Conceptions of Mathematical Well-Being and Values. ECNU Review of Education, 4(2), 349-375. https://doi.org/10.1177/2096531120928084.

Kaur, B. (2009). Characteristics of good mathematics teaching in Singapore grade 8 classrooms: A juxtaposition of teachers' practice and students' perception. ZDM—The International Journal on Mathematics Education, 41(3), 333–347.

Kaur, B., & Low, H. K. (2009, April). Student perspective on effective mathematics pedagogy: Stimulated recall approach study (Report No. CRP 3/04 BK). National Institute of Education (Singapore), Centre for Research in Pedagogy and Practice.

Lathifah, Z. K., Helmanto, F., & Maryani, N. (2020). The practice of effective classroom management in COVID-19 time. International Journal of Advanced Science and Technology, 29(7), 3263-3271.

Lerman, S. Cultural Perspectives on the Mathematics Classroom (1994) Springer,

Kaur, B. (2008). Teaching and learning of mathematics: What really matters to teachers and students? ZDM—The International Journal on Mathematics Education, 40(6), 951– 962. https://doi.org/10.1007/978-94-017-1199-9.

Li, Y. (2011). Elementary teachers' thinking about a good mathematics lesson. International Journal of Science and Mathematics Education, 9(4), 949–973.

Liu, X., Yang Hansen, K., De Neve, J., & Valcke, M. (2024). Teacher versus student perspectives on instructional quality in mathematics education across countries. Instructional Science, 52(3), 477-513.

Martinez-Sierra, G. Good mathematics teaching from Mexican high school students perspective. (2014), Int J of Sci and Math Educ 12, 1547–1573. https://doi.org/10.1007/s10763-013-9480-2.

Murray, S. (2011). Secondary students' descriptions of "good" mathematics teachers. Australian Mathematics Teacher, 67(4), 14–21.

Önal, N., & Demir, C. (2017). The Use of the Interactive Whiteboard in Mathematics and Mathematics Lessons from the Perspective of Turkish Middle School Students. International Journal of Higher Education. 6. 195. 10.5430/ijhe.v6n3p195.

Orav-Puurand, K., Jukk, H., Kraav, T., Oras, K., & Pihlap, S. (2024). A Study of Estonian high school students' views on learning mathematics and the integration of digital tools in distance learning. Acta Didactica Napocensia, 17(1).

Özdemir, E., & Üzel, D. (2012). Student opinions on teaching based on mathematical modelling. Procedia-Social and Behavioral Sciences, 55, 1207-1214.

Ozen, H., & Yıldırım, R. (2020). Teacher Perspectives on Classroom Management. International Journal of Contemporary Educational Research, 7(1), 99-113. https://doi.org/10.33200/ijcer.645818.

Perales, O. A., Uribe-Flórez, L. J., Trespalacios, J., & Hsu, Y. C. (2023). High School Students' Perceptions of 1:1 CSCL Environment in a Mathematics Classroom. Computers in the Schools, 41(1), 94–114. https://doi.org/10.1080/07380569.2023.2233953.

Russo, J., Kalogeropoulos, P., & Roche, A. (2023). Exploring underachieving students' views of, and attitudes towards, mathematics across stage of schooling. *Asian Journal for Mathematics Education*, *2*(2), 240-257. https://doi.org/10.1177/27527263231177435.

Seah, W. T. & Wong, N. Y. (2012). What students value in effective mathematics learning: A 'Third Wave Project' research study. ZDM—The International Journal on Mathematics Education, 44(1), 33–43.

Shimizu, Y. (2006). Discrepancies in perceptions of mathematics lessons between the teacher and the students in a Japanese classroom. In D. Clarke, C. Keitel & Y. Shimizu (Eds.), Mathematics classrooms in 12 countries: The insider's perspective (pp. 183– 194). Rotterdam: Sense.

Shimizu, Y. (2009). Characterizing exemplary mathematics instruction in Japanese classrooms from the learner's perspective. ZDM—The International Journal on Mathematics Education, 41(3), 311–318.

Sullivan, P., Clarke, D., Clarke, B., (2013) Teaching with Tasks for Effective Mathematics Learning, DOI 10.1007/978-1-4614-4681-1 Springer New York Heidelberg Dordrecht London.

Sun, L. & Ruokamo, H. & Siklander, P. & Li, B. & Devlin, K. (2020). Primary school students'

perceptions of scaffolding in digital game-based learning in mathematics. Learning Culture and Social Interaction. 28. 10.1016/j.lcsi.2020.100457.

Sür, B., & Delice, A. (2016). The examination of teacher student communication process in the classroom: mathematical communication process model. SHS Web of Conferences. 26. 01059. 10.1051/shsconf/20162601059.

Trautwein, U. (2007). The homework-achievement relation reconsidered: Differentiating homework time, homework frequency, and homework effort. Learning and Instruction, 17(3), 372-388. https://doi.org/10.1016/j.learninstruc.2007.02.009.

Umay, A. (2004). Primary mathematics teachers' and prospective teachers' perspectives towards ICT use. Hacettepe University Journal of Education, 26, 176-181. http://www.efdergi.hacettepe.edu.tr/yonetim/icerik/makaleler/1105-published.pdf

Van Der Kleij, F., & Adie, L. (2020). Towards effective feedback: an investigation of teachers' and students' perceptions of oral feedback in classroom practice. Assessment in Education: Principles, Policy & Practice, 27(3), 252–270. https://doi.org/10.1080/0969594X.2020.1748871.

Vidergor, H.E., Ben-Amram, P., (2020), Khan academy effectiveness: The case of math secondary students' perceptions, Computers & Education, Volume 157, https://doi.org/10.1016/j.compedu. 103985.

Zan, R., & di Martino, P. (2010). "Me and maths": Toward a definition of attitude grounded on students' narrative. Journal of Mathematics Teacher Education, 13 (1), 27–48.