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Teaching Through the Fear: A Phenomenological Study of Teachers' Lived Experiences with Mathematics Anxious Students

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Abstract:

Mathematics anxiety is a prevalent issue that significantly impacts students' learning experiences and outcomes. While extensive research has focused on students' perspectives, there is a lack of studies exploring teachers' experiences in addressing mathematics anxiety in the classroom. This phenomenological study discovers the lived experiences of secondary school mathematics teachers who work with students exhibiting mathematics anxiety. The study discovers the emotional, pedagogical, and professional challenges teachers face through in-depth interviews with ten secondary school mathematics teachers from diverse educational settings. The findings reveal three teachers' tral themes: emotional labour and empathy, adaptive strategies, and the need for institutional support. Teachers often experience emotional strain as they empathize with anxious students, necessitating the development of adaptive teaching methods to alleviate anxiety and foster a supportive learning environment. However, a lack of institutional resources and professional development opportunities hampers their efforts. The study underscores the importance of comprehensive teacher training programs and institutional policies that equip educators with the necessary tools to effectively support mathematics-anxious students. By illuminating teachers' perspectives, this research contributes to a more holistic understanding of mathematics anxiety and informs strategies to enhance teaching practices and student well-being.

Keywords: *Mathematics Anxiety, Phenomenology, Teacher Experiences, Secondary Education, Instructional Strategies, Emotional Labour.*

Introduction:

Mathematics anxiety, characterized by tension, apprehension, or fear interfering with math performance, is a well-documented phenomenon affecting learners across various educational levels (Ashcraft & Ridley, 2005). This anxiety can lead to avoidance of mathematics-related tasks, reduced achievement, and diminished self-efficacy (Beilock & Maloney, 2015). While considerable research has examined the causes and effects of mathematics anxiety from the student's perspective, a notable gap exists in understanding how teachers perceive and respond to this issue within the classroom context.

Teachers show a pivotal role in shaping students' attitudes toward mathematics. Their instructional approaches, emotional responses, and classroom management strategies can either mitigate or exacerbate

students' anxiety levels (Furner & Duffy, 2002). However, educators often encounter challenges when addressing mathematics anxiety, including identifying anxious students, adapting teaching methods, and managing their own emotional responses (Hembree, 1990). Despite these challenges, there is limited qualitative research exploring teachers' lived experiences in dealing with mathematics-anxious students.

Understanding teachers' perspectives is crucial for developing effective interventions and support systems that address mathematics anxiety holistically. By exploring teachers' emotional and pedagogical experiences, this study aims to provide insights into the complexities of teaching mathematics to anxious learners and identify strategies educators employ to support these students. Such insights can inform teacher training programs, curriculum development, and institutional policies to reduce mathematics anxiety and promote positive learning.

This study pays a phenomenological approach to delve into the lived experiences of secondary school mathematics teachers who work with students exhibiting mathematics anxiety. Through in-depth interviews, the research seeks to uncover the emotional labour, instructional adaptations, and institutional challenges that teachers encounter. By highlighting these experiences, the study contributes a more comprehensive understanding of mathematics anxiety and offers practical implications for educators, administrators, and policymakers.

Reviews of Related pieces of literature:

Table: 1. Reviews of Related Literatures

Author & Year	Title	Objectives	Findings
Hembree (1990)	The landscape, effects, and release of mathematics anxiety	Analyzing math anxiety's causes, effects, and remedies through meta-analysis.	Math anxiety significantly reduces student achievement; effective interventions are necessary.
Furner & Duffy (2002)	Equity for all students in the novel millennium: Disabling math anxiety	To advocate for inclusive education practices that address math anxiety.	Teachers need to identify math anxiety and apply inclusive strategies proactively.
Beilock & Maloney (2015)	Math anxiety: A factor in math success not to be ignored	To study the effects of math anxiety on performance and achievement.	Teachers' math anxiety can negatively influence students' performance.
Chang (2009)	An appraisal perspective of teacher burnout	To examine emotional labour and burnout among teachers.	Emotional labour contributes to burnout; emotional support for teachers is crucial.
Geist (2010)	The anti-anxiety curriculum: Opposing math anxiety in the classroom	To propose classroom strategies that reduce math anxiety.	Creating supportive, low-stakes environments reduces student anxiety.

Objectives

1. To explore secondary school mathematics teachers' perceptions and emotional experiences when teaching students with mathematics anxiety.
2. To identify instructional strategies and classroom practices teachers employ to support mathematics-anxious students.
3. Examine the institutional support and professional development opportunities available to teachers to address mathematics anxiety.

Methods and Procedures

This study applied a qualitative phenomenological research design to explore the lived experiences of secondary school mathematics teachers working with mathematics-anxious students. The following table outlines the methodological framework:

Table: 2. Methods and Procedures

Component	Description
Research Design	A qualitative phenomenological method to capture the essence of teachers' lived experiences.
Participants	Ten secondary school mathematics teachers (5 males, 5 females) with a minimum of five years of teaching experience were selected through purposive sampling from diverse educational settings.
Data Collection	Semi-structured, in-depth interviews conducted face-to-face, each lasting approximately 60 minutes. Interviews were audio-recorded and transcribed precisely for analysis.
Data Analysis	Thematic analysis follows Braun and Clarke's (2006) six-phase framework: familiarization, coding, theme development, reviewing themes, defining and naming themes, and producing the report.
Ethical Considerations	Informed consent was found from all participants; confidentiality was assured through pseudonyms; the institutional review board granted ethical approval.

Findings of the Study

Table: 3. Summary of Key Results Based on Research Objectives

Research Objective	Emerging Theme	Key Findings
To explore secondary school mathematics teachers' perceptions and emotional experiences when teaching	Emotional Labour and Empathy	- Teachers reported emotional exhaustion while supporting anxious students. - High levels of empathy often result in compassion fatigue and burnout.

students with mathematics anxiety.		- Internalization of student struggles created a sense of helplessness.
To identify instructional strategies and classroom practices teachers employ to support mathematics-anxious students.	Adaptive Instructional Strategies	- Real-life math applications helped reduce fear. - Group work encouraged peer support. - Positive reinforcement and flexible assessments built student confidence. - Teachers created low-stakes environments to promote risk-taking.
Examine the institutional support and professional development opportunities available to teachers to address mathematics anxiety.	Institutional Support and Professional Development	- Teachers reported a lack of targeted training. - Limited access to specific classroom resources. - Expressed need for peer collabouration and shared learning. - Requested more recognition of math anxiety from school leadership.

1. Emotional Labour and Empathy

A central theme identified through the phenomenological interviews was the significant **emotional labour** teachers experienced when teaching mathematics-anxious students. Emotional labour refers to the emotional management required to perform their teaching role effectively, particularly in handling students' emotional and psychological needs (Chang, 2009). Participants frequently described feelings of empathy, compassion, frustration, and even helplessness when attempting to assist students experiencing mathematics anxiety.

Many teachers reported a strong emotional connection to their students, which intensified when witnessing visible signs of anxiety, such as withdrawal, avoidance behaviours, or distress during mathematics lessons. As one teacher poignantly stated:

"It's heartbreaking to see a student shut down at the mere mention of math. You want to help, but sometimes you feel powerless."

This sense of powerlessness was commonly shared, underscoring teachers' empathetic engagement with their students' struggles. Teachers explained that while empathy allowed them to understand and support their students better, it also increased their emotional vulnerability. Several participants described how they internalized their students' fears, sometimes leading to significant emotional exhaustion or burnout.

Moreover, teachers often experienced frustration when their efforts to reduce anxiety seemed ineffective, which further amplified their emotional strain. They expressed concerns about whether their interventions were truly beneficial, especially given the complexity of mathematics anxiety, which can be extremely rooted in past educational experiences or societal expectations. Additionally, teachers highlighted a lack of emotional support within their institutions to manage this emotional labour. They articulated the need for professional development and institutional resources to help them cope with the emotional demands of teaching anxious students.

The emotional labour described by participants aligns with existing research, indicating that teachers' emotional well-being is closely intertwined with their students' experiences, significantly influencing their teaching effectiveness and overall job satisfaction (Chang, 2009; Hargreaves, 2000).

Thus, the findings underline the necessity of recognizing and addressing the emotional aspects of teaching mathematics. Schools must support teachers pedagogically and emotionally, equipping them with coping strategies, emotional resilience training, and institutional backing. Recognizing teachers' emotional labour as an integral component of effective mathematics teaching can improve outcomes for educators and their students.

2. Adaptive Instructional Strategies

The second prominent theme from this study relates to the adaptive instructional strategies teachers employ to support mathematics-anxious students. Teachers described various methods they adopted to ease students' anxiety and create a more inclusive, supportive learning environment. These strategies aim to reduce stress, build students' confidence, and facilitate active engagement in mathematics classes.

Participants frequently highlighted several specific instructional strategies:

a. Contextualizing Mathematics

Teachers emphasized making math relevant to students' everyday lives by using real-world examples and practical applications. They explained that linking mathematical concepts to relatable scenarios significantly reduced students' anxiety and helped them see mathematics's value beyond the classroom context. One teacher shared:

"I try to show how math is used in daily activities, like budgeting or cooking. It makes students see math as something practical rather than intimidating."

b. Collabourative Learning

Teachers often integrated collaborative group activities, such as small-group discussions, cooperative problem-solving tasks, and peer tutoring. Teachers noted that this approach reduced the pressure on individual students, allowing them to benefit from peer support. One participant explained:

"Working in groups helps students realize they're not alone in feeling anxious. They support each other, and it lowers the stress."

c. Positive Reinforcement and Encouragement

Teachers regularly employed praise and recognition to build students' self-esteem and confidence. They celebrated small successes and emphasized effort over perfection. One teacher commented:

"I celebrate every small step. Even if the answer is wrong, if the method was correct or the student tried hard, I praise that."

d. Flexible and Differentiated Assessments

Teachers acknowledged the need to vary assessment approaches to accommodate diverse learning styles and reduce anxiety during formal evaluations. Alternative assessments included oral explanations, project-based tasks, and open-book or low-stakes quizzes. One teacher elabourated:

"Offering different types of assessments helps students who panic during traditional tests. It gives them a fairer chance to show their understanding."

These adaptive strategies reflect best practices identified in previous literature, reinforcing the importance of student-centred learning and supportive classroom environments in addressing mathematics anxiety (Furner & Duffy, 2002; Geist, 2010). However, teachers noted that effectively implementing these approaches required additional preparation time and professional knowledge, highlighting the importance of institutional support for sustained success.

3. Institutional Support and Professional Development

The third central theme pertained to **institutional support and professional development opportunities** for teachers to manage mathematics anxiety. Teachers consistently reported that institutional backing was insufficient, emphasizing significant gaps in professional development, resources, and collaborative structures within their schools.

a. Need for Targeted Professional Development

Participants highlighted an evident lack of professional development geared explicitly toward recognizing and addressing mathematics anxiety. Teachers strongly desire training programs or workshops that provide strategies and practical methods for supporting anxious students. A teacher stated:

"We get training on general teaching methods but nothing specific to math anxiety. Without proper training, it's challenging to help students effectively."

b. Limited Availability of Resources

Teachers pointed out a significant gap in the availability of specialized resources, including educational materials and interventions explicitly designed to address mathematics anxiety. Participants reported relying heavily on self-sourced materials or internet-based resources, noting that institutional provisions were sparse or non-existent. One participant shared:

"Most materials I use to help anxious students are mine. The school doesn't provide tools specifically for math anxiety."

c. Importance of Collaborative Platforms

Teachers also expressed the need for collaborative platforms or forums within their institutions to exchange best practices, strategies, and experiences regarding mathematics anxiety. Such collaboration, they believed, could significantly reduce feelings of isolation and foster collective professional growth. A participant explained:

"I wish we had regular meetings or groups to share ideas. Just knowing others face similar challenges would be helpful."

d. Role of School Leadership and Administration

Teachers emphasized that institutional leaders and administrators must prioritize mathematics anxiety as an educational concern. Participants suggested that administrators could support teachers by offering resources, facilitating training, and fostering a school-wide awareness of mathematics anxiety. One teacher pointed out:

"The school administration needs to see math anxiety as a real issue. Without their acknowledgement, it's difficult to get meaningful support or resources."

These findings align with research by Furner and Duffy (2002) and Hembree (1990), who emphasized the crucial role of institutional frameworks and administrative support in addressing mathematics anxiety. Schools can empower teachers to help mathematics-anxious students more effectively by acknowledging these gaps and responding with targeted support.

The thematic analysis of interview transcripts revealed three overarching themes that encapsulate the lived experiences of secondary school mathematics teachers working with mathematics-anxious students: emotional labour and empathy, adaptive instructional strategies, and the need for institutional support.

Discussion

Table: 4. Discussion Summary: Key Interpretations and Implications

Theme	Interpretation	Implications
Emotional Labour and Teacher Wellbeing	Teachers experience emotional exhaustion due to deep empathy for mathematics-anxious students, often leading to stress and burnout.	Institutions must implement teacher well-being programs and provide emotional support systems (e.g., counselling, reflective practices).
Adaptive Instructional Strategies	Teachers use student-centred, low-pressure strategies aligned with constructivist learning principles to reduce anxiety and build confidence.	These strategies are effective but require time, creativity, and professional training to implement consistently.
Lack of Professional Development	Teachers report insufficient training in recognizing and addressing math anxiety during teacher preparation and in-service training.	Curriculum planners should include targeted modules on math anxiety in teacher education; schools must offer continuous PD workshops.
Need for Collabouration and Peer Support	Teachers feel isolated in addressing math anxiety and seek platforms to share strategies and experiences.	School leadership should create collabourative professional learning communities (PLCs) to encourage knowledge-sharing and reduce isolation.
Role of School Leadership and Systemic Support	Lack of administrative recognition and support for addressing math anxiety hampers teachers' ability to respond effectively.	School leaders must prioritize math anxiety as a legitimate issue and allocate resources (staff, time, materials) to address it institutionally.
Holistic Educational Approach	Addressing only academic needs is insufficient emotional dimensions of teaching and learning must be considered.	A whole-school approach supporting student and teacher emotional wellbeing will enhance learning outcomes and instructional quality.

Conclusion

This phenomenological study offers critical insights into the lived experiences of secondary school mathematics teachers who work closely with students experiencing mathematics anxiety. The findings highlight three interconnected themes: the emotional labour teachers endure, the adaptive instructional strategies they employ, and the significant lack of institutional support they often face. These challenges underline the emotional and professional complexities of teaching mathematics in anxiety-prone environments. Teachers in this study demonstrated deep empathy and dedication, often internalizing students' struggles, which, over time, contributed to emotional fatigue and professional stress. Despite this, many adopted creative, student-centred approaches such as collaborative learning, contextualized instruction, and positive reinforcement—to mitigate anxiety and build student confidence. However, the success and sustainability of such practices were consistently hindered by the absence of formal training, specialized resources, and collaborative support systems.

To effectively address mathematics anxiety in classrooms, it is essential that educational institutions move beyond focusing solely on student outcomes and also invest in supporting teachers' well-being and professional growth. This includes integrating training on math anxiety into teacher education programs, providing ongoing professional development, fostering peer collaboration, and ensuring access to school-based mental health services. Schools can empower teachers to create emotionally supportive, inclusive learning environments by adopting a holistic, systemic approach. In turn, this helps students overcome their fear of mathematics and promotes teacher resilience, instructional quality, and long-term educational success.

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