ASSESSING TEACHERS' PROFESSIONAL SKILLS AND PRACTICES TOWARDS REMEDIATING MATHE-PHOBIA AMONG PRIMARY SCHOOL CHILDREN IN ILORIN SOUTH LGA

By

Rafiu ABDULWAHAB, PhD
Department of Adult and Primary Education Studies,
Faculty of Education, University of Ilorin, Ilorin, Nigeria
Abdulwahab.r@unilorin.edu.ng
+2347034952944
&
Kehinde Adeyemi ADETEJU
Department of Adult and Primary Education,
Faculty of Education, University of Ilorin, Ilorin, Nigeria.
adetejuadeyemi16@gmail.com
+2348169015630
&
Akeem Omowumi RAHEEM
Department of Primary and Early Childhood Education
Faculty of Specialised and Professional Education
Emmanuel Alayande University of Education, Oyo
raheemao@eauedoyo.edu.ng
08062438024
&
Mutiu I. Jimoh
Department of Adult and Primary Education,
Faculty of Education, University of Ilorin, Ilorin, Nigeria
jimohmo@unilorin.edu.ng

Abstract

This study assessed teachers' professional skills and practices towards remediating Mathe-Phobia among school children in Ilorin South. Pupils perform poorly in mathematics not because it is hard, but because they fear it. Therefore, the study aimed to determine whether teachers possessed relevant professional skills and practices, and how effective they were in reducing pupils' anxiety levels. The study formulated 3 research questions and 1 hypothesis. The study selected 120 respondents using a multi-stage sampling technique. The researcher administered a researcher-designed questionnaire to the respondents. The collected data were analysed using descriptive and inferential statistics, including mean, standard deviation, and one-way ANOVA. Findings from research questions 1 and 2 showed that the mathematics teachers affirmed that they have the professional skills (3.03) and practice strategies such as using teaching aids, encouraging group work, providing additional support, using games, and real-life situations during mathematics lessons (3.05). Research question 3 also revealed that these strategies were effective in remediating Mathe-Phobia (3.03). This implied that interactive strategies, combined with proper classroom management, can help remediate Mathe-Phobia among pupils in Ilorin South.

Furthermore, the hypothesis analysis showed a significant difference in teachers' professional skills for reducing mathematics phobia based on teaching experience (0.002<0.05). The results

showed that teachers with more experience have stronger professional skills than those with fewer years of experience. Therefore, the study recommended that teachers receive regular training to build their expertise in these skills, thereby improving pupils' performance in mathematics.

Keywords: Mathe-Phobia, Mathematics anxiety, professional skills, professional practices, remediation

Introduction

Mathematics supports logical reasoning, analytical thinking and problem-solving. Regular engagement with mathematical tasks can also develop learners' investigative skills, resourcefulness and creativity. These abilities are useful across many careers, including architecture, accounting, and science, as well as in everyday activities such as financial planning.

Despite its importance, some pupils experience mathematics anxiety, sometimes called mathematics phobia. This anxiety involves feelings of fear, tension or worry when pupils encounter mathematical tasks, lessons or examinations. Zhang (2022) describes it as nervousness about numbers or calculations that can interfere with learning and performance. Repeated difficulty or negative experiences in mathematics may contribute to the development of this anxiety over time.

Several educational and environmental factors may contribute to mathematics anxiety. Fear of failure can make pupils worry about giving incorrect answers, while impatient or unsupportive teacher responses may increase their discomfort. Teaching that relies heavily on memorisation and repetitive procedures may also leave pupils without a clear understanding of mathematical concepts. When pupils struggle to understand the material, they may become frustrated and anxious. Similarly, classroom environments in which pupils are embarrassed or criticised for making mistakes can discourage participation (Zhang, 2022; Salazar, 2025). Previous experiences of poor performance may further weaken pupils' confidence and lead them to avoid mathematics.

Parents' attitudes and expectations can also influence children's feelings about mathematics. Negative comments about the subject or frequent comparisons with other children may heighten anxiety during mathematics lessons (Salazar, 2025). These influences matter because pupils who feel anxious may lose interest in mathematical activities, practise less and participate less often. Studies have linked higher mathematics anxiety with lower achievement and reduced engagement in mathematics learning (Daker et al., 2021; Nurwijayanti, 2024). Mathematics anxiety can affect pupils' confidence and performance even when they can understand the subject (Mahapatra, 2020).

Teachers' professional skills and classroom practices may help address this challenge. Pedagogical content knowledge enables teachers to explain mathematical ideas in ways pupils can understand and to support meaningful learning (Syuhada & Retnawati, 2020). Effective classroom management can create an orderly,

supportive environment where pupils feel safe asking questions and learning from mistakes. Teaching aids, such as visual materials, manipulatives and digital resources, can make abstract concepts more accessible. Child-centred approaches-including collaborative problem-solving and inquiry-based learning-can also encourage active participation and build pupils' confidence.

Several strategies have been proposed to make mathematics learning more engaging and reduce pupils' anxiety. Activity-based learning provides opportunities for practical, experiential learning. Game-based instruction can make lessons more participatory and enjoyable (Attah et al., 2024), while cooperative learning enables pupils to solve problems, share ideas and support one another (Nwigboji & Nwoke, 2025). Educational software and other digital tools can provide visual demonstrations and step-by-step explanations of challenging concepts; research suggests that technology-supported instruction may increase engagement and reduce anxiety (Algani, 2024). These strategies are most likely to help when teachers can select and use them effectively in response to pupils' learning needs.

Although previous studies have examined mathematics anxiety and its relationship with pupils' performance (Ogundokun & Yinyinola, 2021; Atoyebi, Atoyebi, & Ajao, 2023), less attention has been given to the professional skills and practices teachers use to address it. This gap points to the need to examine how teachers' skills and classroom practices may support pupils experiencing mathematics anxiety. Therefore, this study assessed teachers' professional skills and practices for addressing mathematics anxiety among schoolchildren in Ilorin South.

Research Questions

1. What professional skills do teachers possess for addressing mathematics phobia among school children?
2. What teaching practices are used to reduce mathematics anxiety among school children?
3. How effective are these practices in remediating mathematics phobia among school children in Ilorin South?

Hypothesis

H_{01}: There is no significant difference in Teachers' professional skills for remediating Mathe-Phobia among school children in Ilorin South based on years of teaching experience

Methodology

The study adopted a descriptive survey design. The population comprised primary-school mathematics teachers in Ilorin South, Kwara State. The study used a multistage sampling procedure: 20 primary schools were selected randomly, and six mathematics teachers were selected by convenience from each school, for a total sample of 120 teachers.

Data were collected using the *Teachers' Professional Skills and Practices Questionnaire* (TPSPQ). The questionnaire comprised four sections. Section A collected demographic information, including respondents' years of teaching experience. Section B addressed teachers' professional skills, Section C their teaching practices, and Section D their efforts to address mathematics anxiety. Sections B–D used a four-point Likert scale and contained five items each, for a total of 15 substantive items.

Three experts in the researcher's field and in Measurement and Evaluation reviewed the questionnaire for clarity, relevance and appropriateness, to establish face and content validity. The instrument was piloted with 20 respondents outside the study area. Cronbach's alpha was used to assess reliability, yielding a coefficient of 0.82.

Data were analysed using descriptive and inferential statistics. Means and standard deviations were used to answer Research Questions 1–3. A mean score of 2.50 was used as the decision threshold: scores above 2.50 were accepted, while scores below 2.50 were rejected. The hypothesis was tested using one-way analysis of variance (ANOVA) at the 0.05 level of significance.

Results of the findings

Research question 1: What professional skills do teachers possess for addressing Mathematics phobia among school children?

Table 1: Teachers' Professional Skills for Addressing Mathematics Phobia

Item	Mean	SD	Decision
I have adequate subject knowledge to teach mathematics effectively.	3.27	0.82	Agree
I can explain difficult mathematical concepts in simple ways.	2.66	0.95	Agree
I can identify students who experience fear or anxiety in mathematics.	3.40	0.52	Agree
I have received training that helps me address mathematics anxiety among students.	2.89	0.88	Agree
I possess effective classroom management skills for teaching mathematics.	2.96	0.84	Agree

Weighted Mean	**3.03**	**Agree**

The results indicate that teachers generally possess the professional skills needed to address mathematics anxiety among pupils. The weighted mean of 3.03 suggests that respondents agreed they had adequate subject knowledge, could explain mathematical concepts clearly, and could identify pupils experiencing fear or anxiety about mathematics.

Research question 2: What teaching practices are used to reduce mathematics anxiety among school children?

Table 2: Teaching Practices Used to Reduce Mathematics Phobia

Item	Mean	SD	Decision
I use teaching aids or visual materials when teaching Mathematics.	2.46	1.01	Disagree
I encourage group work when solving mathematical problems.	3.25	0.97	Agree
I relate mathematics lessons to real-life situations.	3.49	0.60	Agree
I use interactive activities or games in Mathematics lessons.	2.88	0.94	Agree
I give additional support to students who find Mathematics difficult.	3.17	0.86	Agree
Weighted Mean	**3.05**		**Agree**

The findings suggest that teachers generally use practices intended to reduce mathematics anxiety. The weighted mean of 3.05 indicates agreement that they commonly use group work, real-life applications and additional support for pupils who are struggling. However, teaching aids appear to be used less frequently.

Research question 3: How effective are these practices in remediating mathematics phobia among school children in Ilorin South?

Table 3: Effectiveness of Teachers' Efforts in Remediating Mathematics Phobia

Item	Mean	SD	Decision
My teaching methods reduce students' fear of mathematics.	2.93	1.00	Agree
Students participate actively during mathematics lessons.	3.25	0.96	Agree
Students show improved confidence in solving mathematics problems.	3.13	0.73	Agree
Students show more positive attitudes towards mathematics.	3.14	0.72	Agree
Students are less anxious during mathematics tests.	2.70	0.97	Agree
Weighted Mean	**3.03**		**Agree**

The results further show that teachers' instructional efforts effectively reduce students' mathematics phobia. The weighted mean of 3.03 indicates agreement that pupils demonstrate improved participation, confidence, and attitudes toward mathematics.

Testing of the Hypothesis

H_{01}: There is no significant difference in Teachers' professional skills for remediating Mathe-Phobia among school children in Ilorin South based on years of teaching experience

Table 4: One-Way ANOVA Summary Table Showing Differences in Teachers' Professional Skills Based on Teaching Experience

Source of Variation	Sum of Squares (SS)	Df	Mean Square (MS)	F	Sig.	Decision
Between Groups	52.84	3	17.61	5.27	.002	
Within Groups	385.76	116	3.33			Rejected
Total	438.60	119				

The one-way ANOVA showed a statistically significant difference in teachers' professional skills for addressing mathematics anxiety across teaching-experience groups, $F(3, 116) = 5.27$, $p = .002$. Since the p-value is below .05, the null hypothesis was rejected. This indicates that professional-skills scores differed by teaching experience; further analysis would be needed to identify which groups differed.

Table 5: Duncan post-Hoc

Teaching Experience	N	Mean	Subset 1	Subset 2	Subset 3
0–5 years	40	3.10	✓		
6–10 years	45	3.35	✓	✓	
11–15 years	24	3.55		✓	✓
16 years & above	11	3.72			✓

The Duncan post-hoc table indicates that teachers within the same subset do not differ significantly, while those in different subsets do. Teachers with 0–5 years of experience differ significantly from those with 11–15 years and 16 years and above. This suggests that professional skills improve with increased teaching experience.

Discussion of the Findings

The findings indicate that teachers generally reported having the professional skills needed to teach mathematics and address pupils' mathematics anxiety. They reported adequate subject knowledge, the ability to explain concepts clearly, classroom-management skills and the ability to identify pupils experiencing anxiety. These findings may be related to teachers' training, as discussed by Abimbade and Afolabi (2012) and Ameem et al. (2024). However, the study's questionnaire data describe teachers' reported skills and do not independently establish their classroom competence.

Teachers also reported using strategies such as group work, real-life applications and additional support for pupils who struggle with mathematics. In contrast, teachers reportedly used teaching aids less often. This may reflect limited access to instructional resources, although the study did not directly assess their availability. The finding suggests considering access to teaching aids alongside teachers' reported knowledge and practices.

The results underscore the potential value of professional development and effective teaching strategies in supporting mathematics learning. Maloney et al. (2020) discuss how child-centred approaches-including inquiry, problem-solving and real-world applications-can make mathematics more relevant and help reduce pupils' fear of the subject. Soyoung et al. (2025) likewise reported an association between professional development and pupils' mathematics performance. These studies provide context for the present findings, although this study did not directly measure the effect of particular teaching strategies on pupils' anxiety or performance.

Finally, teachers' professional-skills scores differed significantly across teaching-experience groups. This finding is consistent with research suggesting that teaching experience may relate to the development of professional competencies, including subject knowledge, classroom management and the capacity to respond to pupils' learning needs (Sammallahti et al., 2023). Because the analysis reported here does not identify which experience groups differed, do not infer the specific pattern of those differences without further analysis.

Conclusion

This study assessed teachers' reported professional skills and practices for addressing mathematics anxiety among pupils in Ilorin South. The findings indicate that teachers generally reported having relevant skills and using practices they considered helpful in supporting pupils

with mathematics anxiety. However, the study did not directly measure pupils' anxiety or performance, so it cannot establish the actual effects of these skills and practices on pupils. The analysis also found a significant difference in teachers' professional-skills scores across teaching-experience groups, although further analysis is needed to determine which groups differed. Since the study was limited to teachers in Ilorin South, future research could use classroom observations or a quasi-experimental design to examine how teaching practices relate to pupils' anxiety and performance.

Recommendations

1. Teachers, including both more and less experienced teachers, should participate in regular workshops and seminars to strengthen their professional skills.
2. Teachers should use interactive and engaging strategies that encourage all pupils to participate in Mathematics lessons.
3. Schools should provide adequate teaching and learning materials. Teachers should also be encouraged to improvise locally available materials as teaching aids.

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