

# Sentiments, Attitudes and Concerns of Primary School Mathematics Teachers towards Inclusive Education

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## Abstract

Inclusive education is an approach within the education system that enables students with special educational needs (SEN) to learn together with mainstream students in the same environment. This study aimed to identify the levels of sentiments, attitudes and concerns among primary school mathematics teachers towards inclusive education, as well as to examine differences based on their teaching experience. A quantitative approach with a survey design was employed, involving 77 mathematics teachers from three primary schools (SJKC) in the Pudu zone, Kuala Lumpur. The questionnaire used in this study was adapted from the Sentiments, Attitudes and Concerns about Inclusive Education Revised Scale (SACIE-R) and tailored to the context of mathematics teachers. The instrument consists of 15 items, evaluated on a 4-point Likert scale. The findings revealed that teachers' levels of sentiments and attitudes towards inclusive education were moderately low, while their level of concern was moderately high. One-way ANOVA results indicated no significant differences in sentiments and attitudes based on teaching experience; however, a significant difference was found in the level of concern. The findings highlight a requirement for interventions focusing on emotional development, professional training and specialised support to better prepare mathematics teachers for inclusive education.

**Keywords:** Inclusive Education, SACIE-R, Mathematics Teachers, SEN Students, Primary School

## Introduction

The Ministry of Education Malaysia (MOE) upholds the principle of "education for all", particularly for SEN students (Ministry of Education, 2017). All students have the same right to access quality education regardless of race, background or disability. To realize this principle, the Special Education Integrated Programme (SEIP) was introduced to provide SEN students with appropriate access to education tailored to their needs (Ministry of Education, 2020).

According to the Ministry of Education (2018), the Inclusive Education Programme (IEP) is an initiative that enables SEN students learn together with their peers in regular

classrooms of government or government-aided schools. The IEP aims to provide SEN students with a comprehensive education in a non-discriminatory environment, similar to mainstream students (Norramlah & Nurfaradilla, 2021). With the implementation of the IEP, SEN students also have the opportunity to interact and build friendships with their peers in a positive environment. The IEP is also emphasized in the Malaysia Education Blueprint (MEB) 2013–2025. In its implementation, between one to five SEN students may be placed in a mainstream classroom (Ministry of Education, 2013). This policy seeks to promote acceptance of diversity in education. It makes sure that every student is accepted and can learn in the same classroom.

However, the implementation of the IEP has greatly impacted mainstream teachers, as they face challenges in taking care of students' different learning needs in inclusive classrooms (Shamsiah Md Nasir, 2019). Teachers must understand different student abilities and adapt teaching methods to support each student's needs (Arias-Pastor et al., 2023). The MOE has introduced various guidelines to support the implementation of the IEP in primary schools. Nonetheless, teachers' readiness and attitudes play a crucial role in determining the effectiveness of inclusive education (Luis Gallego-Ortega & Rodriguez-Fuentes, 2021; Murdaca et al., 2018; Tuncay & Kizilaslan, 2022). Previous studies indicate that sentiments, attitudes and concerns are three main factors that greatly influence the effectiveness of inclusive education (Navarro-Mateu et al., 2019; Tuncay & Kizilaslan, 2022).

Moreover, there are SEN students who attend mainstream primary schools even though these schools do not officially implement inclusive education. This situation may arise due to factors such as the proximity of mainstream schools to students' homes, lack of parental awareness of special education schools, or failure of parents/guardians to register their children as persons with disabilities despite eligibility (Ahmad et al., 2024). Although not all schools officially implement the IEP, mathematics teachers are still expected to be prepared and capable of delivering lessons to SEN students placed in mainstream classrooms (Ahmad et al., 2024). This condition requires primary mathematics teachers not only to possess pedagogical skills but also to adopt positive sentiments and attitudes when handling classroom diversity. The current scenario in Malaysian primary schools has raised questions about the actual readiness of mathematics teachers regarding inclusive education.

The success of inclusive education in classroom settings requires teachers to maintain positive attitudes and sentiments while minimizing concerns. Teachers demonstrating such attitudes tend to be more proactive in adjusting their teaching practices to support SEN students (Hassanein et al., 2021; Tan & Poon, 2023). However, studies have shown that teachers in Malaysia exhibit mixed attitudes toward inclusive education, mainly due to concerns about inadequate training, limited experience, and insufficient resources, which lead to low confidence in teaching SEN students (Bailey et al., 2015). Furthermore, some teachers worry about time constraints and the additional workload associated with inclusive practices (Jury et al., 2023). In the context of mathematics teaching, mainstream students without special needs often face difficulties in mastering basic mathematical skills (Ku & Lim, 2018), SEN students encounter even greater challenges in learning mathematics (Kamarudin et al., 2022).

If mathematics teachers hold negative sentiments, SEN students may have poor learning experiences, and inclusive programs may be less effective. Conversely, teachers with

positive sentiments can provide more effective guidance and support in implementing inclusive education (AlMahdi & Bukamal, 2019). A study in Turkey found that teachers displayed varying sentiments depending on their confidence in teaching SEN students (Tuncay & Kizilaslan, 2022). Teachers' confidence greatly influences their sentiments, as those with more confidence usually have more positive attitudes toward inclusion. These findings reveal that teachers' sentiments are closely linked to their self-confidence and professional experience.

In addition, mathematics teachers' attitudes significantly impact the implementation of inclusive education in mathematics teaching and learning. Negative attitudes may lead to neglect of SEN students, resulting in weaker academic performance. Teachers who reject inclusive education risk failing to provide sufficient support, thereby hindering students' academic progress (Agavelyan et al., 2020; Prisiazhniuk et al., 2024; Saloviita, 2020). Conversely, mathematics teachers who hold positive attitudes contribute to a more supportive learning environment, enhance students' confidence, and promote active participation in mathematics lessons.

Teachers' concerns also remain a major issue in the implementation of inclusive education. Among the most common concerns are the lack of resources and increased workload in carrying out inclusive practices (Jury et al., 2023). These concerns can become barriers that undermine the effectiveness of inclusive education in mathematics. Other concerns include managing students with behavioral issues and ensuring a conducive learning environment for all students (Andleeb et al., 2025). For instance, teachers may worry about accommodating students with aggressive behavior or those requiring specialized communication devices.

Overall, it is clear that teachers' sentiments, attitudes and concerns play an important role in determining the success of inclusive education. However, analysis of existing studies reveals several research gaps. Although numerous studies have examined inclusive education in general (Hassanein et al., 2021; Mouchritsa et al., 2022; Shamsiah Md Nasir, 2019; Tan & Poon, 2023), research that specifically addresses inclusive practices in mathematics education remains limited. Second, the constructs of teachers' sentiments, attitudes and concerns, as measured by the SACIE-R scale, remain underexplored in the Malaysian context. Much of the past research has concentrated on teachers' general attitudes towards inclusive education, without giving specific attention to mathematics teachers or measuring all three SACIE-R constructs. Therefore, this study is conducted to address these gaps by identifying the levels of sentiments, attitudes and concerns of primary school mathematics teachers towards the implementation of inclusive education. The findings are expected to provide a clearer and more specific understanding of mathematics teachers' readiness for inclusive education and offer recommendations to strengthen its implementation in mathematics teaching in the future.

### **Conceptual Framework**

Figure 1 illustrates the conceptual framework for this study. The framework is developed based on the SACIE-R instrument introduced by Forlin et al. (2011). In the context of this study, the original SACIE-R instrument was adapted to assess the levels of sentiments,

attitudes and concerns of primary school mathematics teachers towards the implementation of inclusive education. The instrument consists of three main constructs.

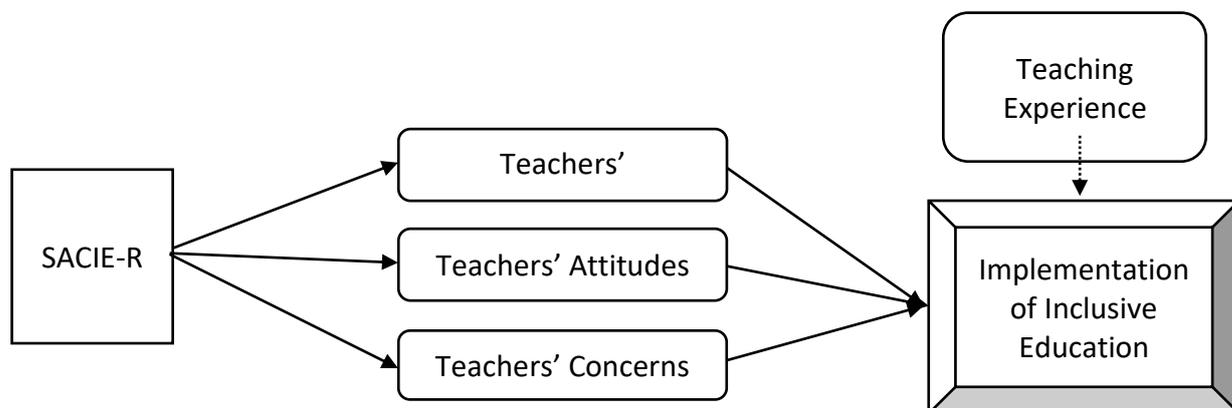


Figure 1 Framework of SACIE-R in Context of Mathematics Teachers

Sentiments refer to mathematics teachers' feelings and emotions when interacting with SEN students in mathematics classes. For example, if teachers possess negative sentiments such as discomfort or anxiety regarding the presence of SEN students, the implementation of inclusive education may be hindered. Conversely, positive sentiments such as empathy, support and openness can encourage inclusive acceptance in the classroom (Tuncay & Kizilaslan, 2022). Attitudes reflect teachers' perspectives on the effectiveness and value of inclusive education in mathematics. Previous studies indicate that teachers' positive attitudes are strongly associated with their readiness to implement inclusive practices (Guler & Turan, 2022; Vogiatzi et al., 2023). Concerns involve mathematics teachers' worries about their ability to manage inclusive classrooms, deliver effective instruction and cope with workload demands. High levels of concern can become a barrier to the successful implementation of inclusive practices. Together, these constructs provide a comprehensive basis for identifying the emotional, cognitive and practical factors influencing mathematics teachers' engagement with inclusive education.

In addition to the three main constructs, this study also considers mathematics teachers' teaching experience as a demographic variable that may influence differences in the levels of sentiments, attitudes and concerns of primary school teachers towards inclusive education. According to Alotaibi & Elbedour (2022), teaching experience plays a crucial role in shaping teachers' self-confidence, pedagogical skills and readiness to adapt instructional strategies within inclusive classroom environments. Experienced teachers are generally considered to be better prepared to face the challenges of teaching SEN students compared to novice teachers. This finding aligns with Mouchritsa et al. (2022), who reported a significant relationship between teaching experience and teachers' attitudes towards inclusive education, as well as its successful implementation.

### *Research Objectives*

This study was conducted to:

- Measure the levels of sentiments, attitudes and concerns of primary school mathematics teachers towards inclusive education.

- Determine the differences in the levels of sentiments, attitudes and concerns of mathematics teachers towards inclusive education based on teaching experience.

### *Research Questions*

Based on the research objectives, the following research questions were proposed:

- What are the levels of sentiments, attitudes and concerns of primary school mathematics teachers towards inclusive education?
- Are there significant differences in the levels of sentiments, attitudes and concerns of primary school mathematics teachers towards inclusive education based on teaching experience?

### *Research Hypotheses*

The null hypotheses were formulated based on the second research question:

*H<sub>0</sub>1*: There is no significant difference in the level of sentiments of primary school mathematics teachers towards inclusive education based on teaching experience.

*H<sub>0</sub>2*: There is no significant difference in the level of attitudes of primary school mathematics teachers towards inclusive education based on teaching experience.

*H<sub>0</sub>3*: There is no significant difference in the level of concerns of primary school mathematics teachers towards inclusive education based on teaching experience.

## **Methodology**

### *Research Design*

This study employed a quantitative approach using a survey design to obtain data regarding the levels of sentiments, attitudes and concerns of mathematics teachers towards the implementation of inclusive education. Surveys are widely used in quantitative research due to their efficiency, cost-effectiveness and ability to collect large amounts of data from diverse populations (Brewer, 2009).

### *Population and Sample*

The study population consisted of 89 mathematics teachers teaching in three SJKC in the Pudu zone, Kuala Lumpur. A sample of 77 teachers was selected using simple random sampling. These teachers were chosen as respondents because their schools have SEN students but have not yet formally implemented inclusive education. The sample selection criterion was that the respondents must currently be teaching mathematics. According to Krejcie & Morgan (1970) sampling table, the minimum recommended sample size for a population of 89 is 73 respondents. Therefore, the selection of 77 respondents in this study meets the minimum requirement and is considered sufficient for research purposes.

### *Research Instrument*

The instrument used in this study was SACIE-R developed by Forlin et al. (2011). This instrument was used to measure three main constructs: sentiments, attitudes and concerns of teachers towards the implementation of inclusive education. The SACIE-R is a widely used instrument and has been proven to have high validity and reliability in measuring teachers' attitudes towards inclusive education (Kamran et al., 2022; McCracken et al., 2023; Navarro-Mateu et al., 2019; Vogiatzi et al., 2023).

In the context of this study, the SACIE-R was adapted from Alotaibi & Elbedour (2022) and modified to suit the context of primary school mathematics teachers in Malaysia. The adaptation involved adjustments in language and a focus on the role of mathematics teachers in inclusive classrooms. For instance, the original English items in the SACIE-R were translated into Malay to enhance comprehension among local respondents. In addition, the items were contextualised by incorporating relevant teaching and learning situations in mathematics to ensure the instrument truly reflected the experiences and challenges faced by mathematics teachers in implementing inclusive education.

#### *Data Collection Procedure*

The study employed an online questionnaire distributed via Google Forms for data collection. The questionnaire consisted of two sections. Section A was designed to collect demographic information from the respondents, while Section B included 15 items based on the SACIE-R scale. The items in Section B were randomly arranged rather than grouped by construct to minimise patterned or repetitive responses (Bailey, 2004).

The instrument used a 4-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. The use of a 4-point scale without a neutral midpoint was intended to encourage respondents to provide clearer and more decisive responses to the given statements. This design pushes respondents to either agree or disagree, thus reducing the likelihood of neutral or non-committal answers (Nadler et al., 2015). The absence of a neutral option can yield more distinct and decisive data, as respondents are required to make a choice (Adelson & McCoach, 2010)

#### *Data Analysis*

The SACIE-R instrument includes items that are phrased in both positive and negative forms. For the negatively phrased statements, reverse coding was applied to ensure that all responses reflected a consistent positive direction of the scale, as suggested by Forlin et al. (2011). This reverse coding was conducted before the data analysis stage to ensure accurate interpretation of the findings, as shown in Table 1. The prepared data will be analysed using the Statistical Package for the Social Sciences (SPSS) version 30. Descriptive analysis will first be conducted to obtain a general overview of the data distribution, including mean, standard deviation, frequency and percentage for the respondents' demographic data.

Table 1

#### *Items in the SACIE-R*

Elements of the SACIE-R	Number of Items	Item Number	Negative Item
Sentiments	5	2, 5, 9, 11, 13	2, 5, 9, 11, 13
Attitudes	5	3, 6, 8, 12, 15	-
Concerns	5	1, 4, 7, 10, 14	-

Subsequently, a one-way ANOVA will be employed to test for significant differences in the levels of sentiments, attitudes and concerns of mathematics teachers towards inclusive education across different teaching experience categories. For the purpose of analysis, teaching experience is categorized into three main groups: 0 to 10 years (novice teachers), 11 to 20 years (mid-career teachers) and more than 20 years (senior teachers). This categorization aims to identify whether there are significant differences in the levels of

sentiments, attitudes and concerns of mathematics teachers according to their career stage. Post hoc testing will be carried out after a significant ANOVA result to examine differences among the groups.

#### *Interpretation of Mean Scores*

Mean scores for each construct were used to interpret the levels of teachers' sentiments, attitudes and concerns toward inclusive education, as outlined in Table 2.

Table 2

#### *Interpretation of Mean Score Levels (Alico dan Guimba 2015)*

Mean Range	Interpretation
1.00 – 1.74	Low
1.75 – 2.49	Moderately Low
2.50 – 3.24	Moderately High
3.25 – 4.00	High

### Results and Findings

This section presents the results and findings of the study based on the data collected from the respondents. The analysis describes respondents' demographics and evaluates the main variables of interest in relation to the research objectives and hypotheses. Both descriptive and inferential analyses were applied to address the research questions.

#### *Demographic Information of Respondents*

Table 3 summarises the demographic information of the respondents, including gender, age, highest academic qualification, teaching experience and participation in courses related to inclusive education.

Table 3

#### *Demographics of the Respondents*

Item		Frequency	Percentage
Gender	Male	17	22.1%
	Female	60	77.9%
Age	21 to 30 years	8	10.4%
	31 to 40 years	32	41.6%
	41 to 50 years	24	31.2%
	51 to 60 years	13	16.9%
Highest Academic Qualification	Diploma	6	7.8%
	Bachelor's Degree	64	83.1%
	Master's Degree	7	9.1%
Teaching Experience	0 to 10 years	28	36.4%
	11 to 20 years	30	39.0%
	More than 20 years	19	24.7%
Attended Course Related to Inclusive Education	Yes	11	14.3%
	No	66	85.7%

Based on Table 3, a total of 17 respondents (22.1%) were male, while 60 respondents (77.9%) were female. In terms of age, 8 respondents (10.4%) were between 21 and 30 years old, 32 respondents (41.6%) were between 31 and 40 years old, 24 respondents (31.2%) were between 41 and 50 years old, and 13 respondents (16.9%) were between 51 and 60 years old. Regarding the highest academic qualification, 6 respondents (7.8%) held a diploma, 64 respondents (83.1%) held a bachelor's degree, and 7 respondents (9.1%) had a master's degree. For teaching experience, 28 respondents (36.4%) had between 0 and 10 years of experience, 30 respondents (39.0%) had between 11 and 20 years of experience, while 19 respondents (24.7%) had more than 20 years of teaching experience. Meanwhile, with respect to participation in courses related to inclusive education, 11 respondents (14.3%) reported having attended such courses, whereas the majority, 66 respondents (85.7%), had never attended one.

#### *Cronbach's Alpha Values*

As presented in Table 4, the Cronbach's alpha value for the overall scale was 0.75, while the values for the sentiments, attitudes, and concerns constructs were 0.70, 0.70, and 0.73, respectively. All these values exceed the minimum level of reliability commonly accepted in research, and therefore are considered sufficient to proceed with further data analysis (Agbo, 2010).

Table 4

#### *Cronbach's Alpha Values by Construct*

<b>Construct</b>	<b>Number of Items</b>	<b>Alpha value</b>
Sentiments	5	0.70
Attitudes	5	0.70
Concerns	5	0.73
Overall	15	0.75

#### *Mathematics Teachers' Sentiments toward SEN Students*

Table 5 presents the mean scores for five items related to mathematics teachers' sentiments toward SEN students. The findings show that a large proportion of respondents, namely 39 teachers (50.6%), strongly agreed with the statement that they fear becoming disabled one day. In addition, 43 teachers (55.8%) agreed that they tend to interact only briefly with SEN students and end the interaction as quickly as possible. Furthermore, 47 teachers (61%) strongly agreed that they would feel very sad if they themselves were to become disabled. In contrast, only 1 teacher (1.3%) strongly disagreed with this statement. The mean scores for each item in the sentiment construct were analysed using reverse coding. Overall, the average mean score for the sentiment construct among mathematics teachers was 2.08, indicating a moderately low level of sentiment.

Table 5

*Mathematics Teachers' Sentiments toward SEN Students*

No.	Item	Strongly Disagree	Disagree	Agree	Strongly Agree
2	I dread the thought that I could eventually end up with a disability.	4 (5.2%)	12 (15.6%)	22 (28.6%)	39 (50.6%)
5	I tend to make contacts with student with disabilities brief and I finish them as quickly as possible.	5 (6.5%)	20 (26.0%)	43 (55.8%)	9 (11.7%)
9	I would feel terrible if I had a disability.	1 (1.3%)	3 (3.9%)	26 (33.8%)	47 (61.0%)
11	I am afraid to look directly at a person with a disability.	11 (14.3%)	30 (39.0%)	27 (35.1%)	9 (11.7%)
13	I find it difficult to overcome my initial shock when meeting student with severe physical disabilities.	7 (9.1%)	27 (35.1%)	29 (37.7%)	14 (18.2%)
<b>Overall Mean (reverse coding)</b>					<b>2.08</b>

*Mathematics Teachers' Attitudes toward Inclusive Education*

Table 6 shows the mean scores for five items related to mathematics teachers' attitudes toward inclusive education. In detail, 33 mathematics teachers (42.9%) strongly disagreed with the statement that students who require communication aids should be placed in mainstream classes. Furthermore, 32 teachers (41.6%) disagreed that SEN students should learn mathematics in mainstream classes. In addition, only 3 mathematics teachers (3.9%) strongly agreed that students who frequently fail mathematics tests should remain in mainstream classes. Overall, the average mean score for the attitude construct among mathematics teachers was 2.15, indicating a moderately low level of attitude toward inclusive education.

Table 6

*Mathematics Teachers' Attitudes toward Inclusive Education*

No.	Item	Strongly Disagree	Disagree	Agree	Strongly Agree
3	Students with special educational needs should learn mathematics in mainstream classes.	12 (15.6%)	32 (41.6%)	21 (27.3%)	12 (15.6%)
6	Students who are inattentive during mathematics learning activities should study in mainstream classes.	9 (11.7%)	29 (37.7%)	29 (37.7%)	10 (13.0%)
8	Students who require communicative technologies (e.g. Braille/sign language) should be in mainstream classes.	33 (42.9%)	24 (31.2%)	12 (15.6%)	8 (10.4%)
12	Students who frequently fail mathematics tests should be in mainstream classes.	29 (37.7%)	28 (36.4%)	17 (22.1%)	3 (3.9%)
15	Students who require an Individual Education Plan (IEP) should learn in mainstream classes.	30 (39.0%)	27 (35.1%)	16 (20.8%)	4 (5.2%)
<b>Overall Mean</b>					<b>2.15</b>

*Mathematics Teachers' Concerns about Inclusive Education*

Table 7 presents the mean scores for the 5 items related to mathematics teachers' concerns about inclusive education. The findings indicate that 41 mathematics teachers (53.2%) agreed with the statement that they were concerned SEN students would not be accepted by their classmates. In addition, 44 mathematics teachers (57.1%) also agreed that they found it difficult to provide sufficient attention to all students, including SEN students, in mainstream mathematics classes. Furthermore, 44 mathematics teachers (57.1%) strongly agreed that they lacked sufficient knowledge and skills to teach mathematics to SEN students. Overall, the average mean score for the concerns construct among mathematics teachers was 3.19, indicating a moderately high level of concern.

Table 7

*Mathematics Teachers' Concerns about Inclusive Education*

No.	Item	Strongly Disagree	Disagree	Agree	Strongly Agree
1	I am concerned that students with special needs will not be accepted by their classmates.	2 (2.6%)	13 (16.9%)	41 (53.2%)	21 (27.3%)
4	I am concerned that it will be difficult to give sufficient attention to all students, including students with special needs, in mainstream mathematics classes.	3 (3.9%)	4 (5.2%)	44 (57.1%)	26 (33.8%)
7	I am concerned that my workload will increase if I have students with special needs in my mathematics class.	3 (3.9%)	15 (19.5%)	33 (42.9%)	26 (33.8%)
11	I am concerned that I will experience stress if I teach students with special needs in my mathematics class.	3 (3.9%)	12 (15.6%)	36 (46.8%)	26 (33.8%)
14	I am concerned that I do not have sufficient knowledge and skills to teach students with special needs in mathematics.	0 (0.0%)	2 (2.6%)	31 (40.3%)	44 (57.1%)
<b>Overall Mean</b>					<b>3.19</b>

Descriptive statistical analysis for the three main constructs is presented in Table 8. The mean score for sentiments was 2.08 (SD = 0.55), indicating a moderately low level among mathematics teachers. Similarly, the mean score for attitudes was 2.15 (SD = 0.62), also suggesting a moderately low level. In contrast, the concerns construct recorded a higher mean of 3.19 (SD = 0.51), reflecting a moderately high level of concern.

Table 8

*Descriptive Analysis of the Constructs of Sentiments, Attitudes and Concerns*

Construct	Overall Mean	Standard Deviation (SD)	Interpretation Level
Sentiments	2.08	0.55	Moderately Low
Attitudes	2.15	0.62	Moderately Low
Concerns	3.19	0.51	Moderately High

*Levene's Test*

To determine the differences in the levels of the three main constructs among mathematics teachers based on teaching experience, a one-way ANOVA analysis was

employed. The teaching experience variable was categorized into three groups: 0–10 years, 11–20 years, and more than 20 years. Before conducting the one-way ANOVA test, Levene's test was conducted to assess the assumption of homogeneity of variance for the variables of sentiments, attitudes and concerns. The test results indicated that the significance values for all three variables exceeded 0.05, namely  $p = 0.701$  for sentiments,  $p = 0.829$  for attitudes, and  $p = 0.352$  for concerns. This demonstrates that the variances between groups for each variable were homogeneous, satisfying the assumption of homogeneity of variances. Therefore, the one-way ANOVA test could be conducted under the assumption of homogeneous variances.

#### *Differences in Mathematics Teachers' Sentiments Based on Teaching Experience*

Table 9 presents the analysis of differences in mathematics teachers' sentiments based on teaching experience. The findings indicate that mathematics teachers with 0–10 years of teaching experience recorded the highest mean sentiment score of 2.22, while those with 11–20 years of experience recorded the lowest mean of 1.99. The one-way ANOVA results showed no significant differences in mathematics teachers' sentiments based on teaching experience,  $F(2, 74) = 1.53$ ,  $p = 0.223$ . Therefore, the null hypothesis  $H_{o1}$ , which stated that there is no significant difference in teachers' sentiments based on teaching experience, was not rejected.

Table 9

#### *Differences in Mathematics Teachers' Sentiments based on Teaching Experience*

Teaching Experience	N	Mean	Standard Deviation (SD)	F	Significant (p)
0 to 10 years	28	2.22	0.52		
11 to 20 years	30	1.99	0.55	1.53	0.223
More than 20 years	19	2.01	0.58		

#### *Differences in Mathematics Teachers' Attitudes Based on Teaching Experience*

Table 10 shows that mathematics teachers with more than 20 years of teaching experience recorded the highest mean attitude score of 2.25, while those with 11–20 years of experience recorded the lowest mean of 2.08. The one-way ANOVA results showed no significant differences in mathematics teachers' attitudes based on teaching experience,  $F(2, 74) = 0.45$ ,  $p = 0.64$ . Therefore, the null hypothesis  $H_{o2}$ , which stated that there is no significant difference in teachers' attitudes based on teaching experience, was not rejected.

Table 10

#### *Differences in Mathematics Teachers' Attitudes based on Teaching Experience*

Teaching Experience	N	Mean	Standard Deviation (SD)	F	Significant (p)
0 to 10 years	28	2.14	0.58		
11 to 20 years	30	2.08	0.66	0.45	0.640
More than 20 years	19	2.25	0.62		

*Differences in Mathematics Teachers' Concerns Based on Teaching Experience*

As shown in Table 11, mathematics teachers with 11–20 years of teaching experience recorded the highest mean concern score of 3.32, while those with more than 20 years of experience recorded the lowest mean of 2.95. The one-way ANOVA results showed a significant difference in mathematics teachers' level of concern based on teaching experience,  $F(2, 74) = 3.39, p = 0.039$ . Therefore, the null hypothesis  $H_{o3}$  was rejected, indicating that there is a significant difference in primary school mathematics teachers' level of concern regarding the implementation of inclusive education based on teaching experience.

Table 11

*Differences in Mathematics Teachers' Concerns based on Teaching Experience*

Teaching Experience	N	Mean	Standard Deviation (SD)	F	Significant (p)
0 to 10 years	28	3.23	0.47		
11 to 20 years	30	3.32	0.43	3.39	0.039
More than 20 years	19	2.95	0.62		

Following the significant overall effect observed in the one-way ANOVA, a post hoc analysis using Tukey's HSD test was conducted to identify which specific groups differed significantly from one another. This procedure controls for Type I error across multiple comparisons. The results are presented in Table 12.

Table 12

*Post Hoc Test for Teachers' Concerns based on Teaching Experience*

Teaching Experience (I)	Teaching Experience (J)	Mean Differences I-J	Score	Sig. p
0 to 10 years	11 to 20 years	-0.914		0.763
	More than 20 years	0.281		0.143
11 to 20 years	0 to 10 years	0.914		0.763
	More than 20 years	0.373		0.033
More than 20 years	0 to 10 years	-0.281		0.143
	11 to 20 years	-0.373		0.033

The post hoc analysis presented in Table 12 indicates that only one significant mean score difference was found, namely between the group of teachers with 11–20 years of teaching experience and those with more than 20 years of experience. The mean score difference between these two groups was -0.373, with a significance value of  $p = 0.033$  ( $p < 0.05$ ), indicating that teachers in the 11–20 years' experience group exhibited a higher level of concern compared to teachers with more than 20 years of service. Therefore, the null hypothesis  $H_{o3}$ , which stated that there is no significant difference in teachers' concerns based on teaching experience, is rejected.

Meanwhile, for comparisons involving the 0–10 years' experience group against the other groups (11–20 years and more than 20 years), no significant mean score differences were found ( $p > 0.05$ ). For instance, the mean score difference between the 0–10 years and 11–20 years groups was  $-0.914$  with  $p = 0.763$ , while the difference between the 0–10 years and more than 20 years groups was  $0.281$  with  $p = 0.143$ .

## Discussion

The findings of the study indicate that the levels of sentiments and attitudes of primary school mathematics teachers towards the implementation of inclusive education are moderately low, while the level of concerns is moderately high. These results suggest that although mathematics teachers may generally accept the concept of inclusive education, they are not yet fully prepared emotionally or professionally to manage students with special needs in mainstream mathematics classes. The implementation of inclusive education still faces significant challenges in terms of teachers' emotional acceptance and professional capacity.

Overall, a mean score of 2.08 indicates that mathematics teachers tend to avoid situations involving students with special needs. The moderately low sentiment reflects the presence of negative feelings such as discomfort, low empathy, and anxiety when interacting with students with special needs. Such negative sentiments can hinder the effective implementation of inclusive practices. These findings align with Tuncay dan Kizilaslan (2022), who reported that negative sentiments can be a major barrier to effective inclusive teaching. Feelings of fear of disability or discomfort in interacting with students with special needs indicate a lack of deep understanding of the realities of individuals with disabilities. This highlights the need for interventions focused on awareness, empathy development, and professional training to cultivate more positive mathematics teacher sentiments that support inclusive education effectively.

The attitudes of mathematics teachers are also at a moderately low level (mean = 2.15), indicating constraints in accepting the concept of inclusive education, particularly in mathematics instruction. Most teachers disagreed that students requiring communication aids or Individual Education Plans (IEP) should be taught in mainstream classrooms. This suggests that mathematics teachers still believe that the needs of students with special needs cannot be fully met in mainstream classes. According to Dignath et al. (2022), teachers' attitudes are influenced by professional training and exposure to effective teaching strategies for students with special needs. A lack of training and guidance specifically for mathematics causes teachers to feel less confident and unprepared. This underscores the need for mandatory in-service courses and professional development specifically focused on inclusive mathematics teaching (Gal et al., 2025).

The concerns construct recorded the highest mean (3.19), indicating that mathematics teachers have a significant level of concern regarding the implementation of inclusive education. This including concerns about workload, time constraints, lack of skills, and emotional and psychological stress (Topal & Özsoy, 2024). Most teachers are concerned that they may not be able to give adequate attention to all students or that students with special needs may not be accepted by peers. High teacher concern indicates low confidence, which may affect the implementation of inclusive education in mathematics classes. This finding

aligns with studies showing that teachers' concern levels directly influence the effectiveness of inclusive education (Edith & Aida Hanim, 2022). Such concerns can be mitigated by providing support resources, classroom assistants, and a balanced student-teacher ratio in inclusive classrooms (Muhamad Khairul Anuar, 2017).

One-way ANOVA analysis showed no significant difference in teachers' sentiments based on teaching experience. These findings are consistent with previous research showing that teaching experience is not a primary determinant of teachers' sentiments toward inclusive education (Carvalho et al., 2024). However, experience interacts with factors such as training, self-efficacy and support resources in shaping these attitudes. Experienced teachers may develop less positive attitudes if they have not received adequate training, while teachers with sufficient professional training demonstrate more positive attitudes (Carvalho et al. 2024; Varcoe & Boyle 2014). Overall, negative sentiments related to inclusive education may arise from factors such as time constraints, lack of resources or insufficient professional training rather than years of teaching experience alone.

Similarly, one-way ANOVA showed no significant difference in teachers' attitudes based on teaching experience. This indicates that mathematics teachers' attitudes towards inclusive education are consistent regardless of teaching experience. The lack of significant difference suggests that teaching experience does not necessarily shape a positive or negative attitude toward policy implementation. This may also imply that professional values, teacher training and policy understanding play a greater role in shaping attitudes than teaching experience (Chow, 2024). Furthermore, positive or negative attitudes may be more influenced by the content of professional training and involvement in professional learning communities (PLC) than by teaching experience alone. Previous studies also indicate that teachers who receive inclusive training demonstrate more positive attitudes, regardless of their years of experience (Deng et al., 2024; Hassanein et al., 2021).

The one-way ANOVA further showed a significant difference in the level of concerns. Post Hoc analysis revealed that the significant difference occurred only between the mid-career teachers (11–20 years of experience) and senior teachers (more than 20 years of experience). No significant difference was observed between the novice group (0–10 years) and other groups. Mathematics teachers with 11–20 years of experience exhibited the highest level of concerns (mean = 3.32). This suggests that the mid-career phase is a critical period where teachers face multiple pressures, including administrative workload, curriculum demands and academic performance expectations (Cawte, 2020; van der Want et al., 2018). Mid-career teachers may no longer receive intensive support like novice teachers but have not yet achieved the high confidence of senior teachers. In this context, novice teachers (0–10 years), despite limited experience, may still receive support and encouragement from administrators and peers, and possess high intrinsic motivation to prove their competence. Therefore, their concerns may be more manageable compared to mid-career teachers. In contrast, senior teachers have experienced multiple phases of policy, curriculum and pedagogical changes throughout their careers. This extensive experience allows them to manage classroom challenges and policy changes more effectively (Kolandan et al., 2025), helping to reduce their concerns regarding the implementation of new policies like inclusive education. Accordingly, there is a need for the Ministry of Education to provide relevant training and courses on inclusive education, especially for mid-career and novice mathematics

teachers. Teachers who receive specialized training in inclusive education tend to demonstrate more positive attitudes and implement inclusive education more effectively (Carvalho et al., 2024).

## Conclusion

Overall, the findings indicate that primary school mathematics teachers from the three SJKC in the Pudu zone exhibit low levels of sentiments and attitudes, while concerns are at a moderate level regarding inclusive education. These findings suggest that although inclusive education policies and guidelines have been introduced by the Ministry of Education, significant challenges remain regarding teachers' acceptance and confidence in effectively implementing this approach. The key implication of this study is the need to design targeted training and professional development programs focused on the needs of mathematics teachers in the context of inclusive education. Such training should include effective pedagogical strategies, inclusive classroom management and differentiated approaches in mathematics teaching. This will ensure teachers are more prepared, confident and capable of meeting the needs of students with special needs. Furthermore, this study provides a deeper understanding of the dimensions of sentiments, attitudes and concerns of mathematics teachers towards inclusive education. For future research, it is recommended to expand the study to include national schools and Tamil national-type schools in the Pudu zone, Kuala Lumpur, to obtain a more comprehensive overview of primary school mathematics teachers' sentiments, attitudes and concerns regarding inclusive education. Additionally, a qualitative approach through interviews is suggested to gain deeper insights into teachers' genuine perceptions and experiences regarding inclusive education.

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