

READINESS OF ELEMENTARY TEACHERS IN INCLUSIVE EDUCATION

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ABSTRACT

Inclusive education is an education program for students with special education needs (SEN) who can learn alongside mainstream students. It is important for elementary school teachers to master the aspects of knowledge and skills in implementing inclusive education. The level of teachers' readiness in implementing inclusive education, especially elementary school teachers is the main indicator that will determine the success of inclusive education. Therefore, this study aims to investigate the readiness level of elementary school teachers in implementing inclusive education. The readiness level involves aspects of knowledge, skills and attitude towards inclusive education. This study was conducted in quantitative survey research form. It was used to collect responses from 103 elementary school mathematics teachers in one of the districts in Negeri Sembilan. The data collected was analysed using the Statistical Packages for Social Science (SPSS) version 27 to obtain the mean score and standard deviation for the three variables and the ANOVA test to identify the effect size among the aspects studied. The test analysis showed significant differences between the aspects of knowledge, skills and attitude. Post hoc test had showed aspect of attitude have more impact towards inclusive education. The implication of this study suggests that the elementary school teachers' readiness level in inclusive education in the aspects of attitude is important to provide an obstacle-free learning environment for students with special needs.

Keywords: knowledge, skills, attitude, inclusive education

INTRODUCTION

According to Malaysia Education Blueprint (*PPPM*) 2013-2025, inclusive education is an education program for students with special education needs (SEN) who can learn alongside mainstream students (MOE, 2013b). Inclusive education programs started from the 1960s (Maizatul, 2015). In Malaysia, students with SEN who are transitioning into an inclusive classroom are registered as one of two types of inclusion (MOE, 2013a). The first is partial inclusion, which means the SENs need to move from segregated classrooms to inclusive classrooms for only certain subjects. Whereas the second type of inclusion, named full inclusion, places students with SEN fully in an inclusive classroom. Inclusive education is a hot topic in modern society and it is focused as it allows all students to access a quality education while considering their diverse needs (Aldabas, 2020). The main objective of inclusive education includes the placement of students with diverse abilities in mainstream classrooms as well as addressing barriers of the participation of all students in mainstream classrooms. In the context of this study, inclusive education carries the meaning that students with special education needs are placed in full-time mainstream classrooms and study together with typical students. This study aims to examine the level of elementary school teachers' readiness to implement inclusive education in subject Mathematics that involves aspects of knowledge, skills and attitude towards inclusive education.

LITERATURE REVIEW

According to Special Education Division (2018b), it is the policy of the inclusive education program (IEP) to provide an accessible learning environment for students with special educational needs, ensuring that they have the same opportunities as other students to learn and develop their skills, while increasing the readiness of the school community and the wider community for the diverse abilities of the SEN and acceptance. This statement can effectively solve what Abdul Aziz and Siti (2018) mentioned, that students with SEN have yet to fully experience the true meaning of education democratisation in a comprehensive and equitable manner. In this situation, teachers, especially elementary school teachers play a vital role in implementing IEP since primary school teachers are a major resource in the education system (Ali & Nurfaradilla, 2021; Nurul Farahah & Suziyani, 2018). Mazidah (2020) and Nurul Hidayah et al. (2021) stated that the readiness of teachers in mainstream classrooms plays a significant role in the academic achievement of students with SEN to ensure that knowledge transfer to SENs is maximized as the way of educating and teaching SENs is different from mainstream students. However, most elementary school teachers do not have confidence in their ability, skills, and knowledge to teach students with SEN. Rosmalily and Woollard (2019) indicates that most of the elementary school teachers do not feel that it is their responsibility to teach students with SEN, while acknowledging that the competencies, skills, knowledge and expertise required to teach SEN are beyond their scope.

Knowledge, skills and positive attitudes are essential for general education teachers to implement inclusive teaching processes successfully in their classrooms (Norfishah et al., 2018; Štemberger & Kiswarday, 2018; Baguisa & Ang-Manaig, 2019). In Malaysia, the IEP has long been implemented. However, the research regarding knowledge, skills and attitude towards inclusive education only fewer. Among them, most researchers found that elementary school teachers possess a high level of knowledge, skills and attitudes but some studies' results are not consistent with them. This condition also shows for the researches related in foreign countries. The studies conducted in foreign countries have revealed that only a small proportion of teachers have a high level of proficiency in implementing inclusive education.

Some researchers state that teachers possess a high level of knowledge in inclusive education in Malaysia (Guan & Intan Marfarrina, 2022; Manogharan et al., 2018; Mazidah, 2020; Nur Syafiqah et al., 2020). The implementation of IEP in our country's education system has faced difficulties and challenges, which require us to devise strategies and solutions to overcome them.

However, the studies in foreign countries discovered that the teachers have a low or moderate level of knowledge in implementing inclusive education (Ekstam et al., 2018; Saloviita, 2018; Štemberger & Kiswarday, 2018; Baguisa & Ang-Manaig, 2019; Martynchuk et al., 2021). They mentioned that elementary school teachers are required to demonstrate adaptable and inventive thinking to accommodate the students with SEN under their supervision.

In Malaysia, the studies found that the teachers' skill level is low and moderate (Noor Syahira & Mohd Mokhtar, 2022; Norfishah et al., 2018; Nur Syafiqah et al., 2020). This may cause unsuccessful implementation of inclusive education when teachers are unable to create a suitable lesson plan. Some researchers in foreign countries also found that teachers possess a low level of skills in implementing inclusive education (Baguisa & Ang-Manaig, 2019; Martynchuk et al., 2021). It states that more training in inclusive education should be provided to help teachers gain more experience. In contrast, Nirmala and Mohd Hanafi (2021) also discovered that teachers' skills in implementing inclusive education are at a high level in Malaysia. The study of Tina and Vanja Riccarda (2018) has shown the skills of teachers are at a high level in foreign countries. Every teacher would encounter the difficulty of teaching SENs. Therefore, teachers' responsibilities become solidified when their acquired skills and knowledge in inclusive education from formal teacher training programs and their personal attributes align with their comprehension of the varied learning needs of children with special needs.

Next, some researches in Malaysia showed the high level of teachers' attitude towards inclusive education (Guan & Intan Marfarrina, 2022; Manogharan et al., 2018; Nur Syafiqah et al., 2020; Palaniandy & Mohd Hanafi, 2021; Pau & Mohd Hanafi, 2021; Syed Ismail et al., 2021). A positive attitude gives parents and guardians confidence that their child will be well cared for by the teacher. Mazidah (2020) have shown the attitude level of teachers are at moderate level which aligned with Mohd Mokhtar and Farhana (2019) finding. They suggest improved training and knowledge regarding inclusive education could enhance the understanding of elementary school teachers, fostering a positive attitude to implement inclusive education in schools. In other countries, elementary school teachers possess a high level of attitude towards inclusive education (Ekstam et al., 2018; Krischler et al., 2019; Štemberger & Kiswarday, 2018). However, some researchers also found that teachers' attitudes towards inclusive education are at low and moderate levels (Timo, 2018; Leonila & Karen, 2019). They believe that promoting inclusive education will be a challenge. It is challenging to prevent the IEP from failing if the teacher declines to teach the SENs. They think that the success of inclusive education heavily relies on the teachers' attitudes and their level of preparedness in implementing inclusive education.

Besides, the studies in Malaysia had shown that there is a significant difference between the aspects of knowledge, skills and attitude in implementing inclusive education (Manogharan and Karuppannan, 2018; Moosa et. al., 2020; Palaniandy & Mohd Yasin, 2021). On the contrary, the study by Mazidah (2020) had found that the knowledge, skills and attitude do not differ significantly. Apart from that, there are lacking findings to substantiate the significant difference between the aspects of knowledge, skills and attitude in inclusive education especially in Negeri Sembilan. Therefore, this study has important significance for understanding the knowledge, skills and attitude of elementary school teachers in inclusive education.

METHODOLOGY

The purpose of this research is to determine the level of readiness in implementing inclusive education among elementary school teachers in teaching mathematics. Therefore, the study population consisted of elementary school teachers who specialised in mathematics as their core course at Institute of Teachers Education (*IPG*). The Chinese National School (*SJKC*) in Seremban district, Negeri Sembilan is chosen randomly as the population in this study, totaling 186 teachers. Quantitative survey model is used in this study and the population surveyed consists of elementary school teachers in Seremban district, Negeri Sembilan in teaching Mathematics. The sample of 103 elementary school teachers was determined using G*Power analysis. All the items in the instrument are adapted from the related literature (Monagharan et al., 2018; Pau & Mohd Hanafi, 2021; Palaniandy & Mohd Hanafi, 2021) and it contains 4 sections, namely demographic profile, elementary school teachers' knowledge, skills and attitude in implementing inclusive education with a total of 32 items. The data of the study will be analysed using descriptive and inferential analysis to answer the research questions in this study. The first, second and third research questions will be analysed using descriptive analysis by finding mean scores and the standard deviation. One-way ANOVA will be used to determine whether the null hypothesis is accepted or rejected.

Table 1: Data Analysis

Research Questions	Statistic Test
1. What is the level of elementary school teachers' knowledge about inclusive education?	
2. What is the level of elementary school teachers' skills in inclusive education?	Descriptive analysis Mean, standard deviation
3. What is the level of elementary school teachers' attitude towards inclusive education?	
4. Is there significant differences between the aspects of knowledge, skills and attitude of elementary school teachers in implementing inclusive education?	Inferential analysis One-way ANOVA

RESULT AND FINDING

Table 2: Descriptive analysis

Aspect	N	Mean	Std. Deviation
Knowledge	103	2.7583	.38945
Skills	103	2.7738	.29204
Attitudes	103	2.8903	.18551
Total	309	2.8074	.30554

Table 2 shows the descriptive data of three aspects for the elementary teachers' readiness in inclusive education. The aspect of attitudes has the highest mean score ($M=2.8903$, $SD=.18551$) follow by the aspect of skills ($M=2.7738$, $SD=.29204$) and the lowest mean score is the aspect of knowledge ($M=2.7583$, $SD=.38945$). A total of 103 respondents had participated in this study. Referring to the interpretation of mean scores by Abdullah and Darusalam (2018), the result shows that elementary teachers have average knowledge, skills and attitudes in inclusive education. The three aspects in this study have an overall mean score at 2.8074. This result shows that elementary teachers' readiness is average towards inclusive education in primary schools.

Table 3: Results of One-way ANOVA

Sum of Squares		df	Mean Square	F	Sig.
Between Groups	1.073	2	.536	5.930	.003
Within Groups	27.680	306	.090		
Total	28.753	308			

Table 3 above shows the sum of squares and degrees of freedom between groups and within groups. There is a statistically significant between aspects as demonstrated by One-way ANOVA through SPSS software [$F(2, 306) = .536 = .003 < .05$, $\eta^2 = 0.02$]. The actual difference in mean scores between the groups was small (Cohen, 1988). The significant value is less than .05, indicating there are significant differences across these three aspects. Thus, the null hypothesis (H_{01}) will be rejected. There is a significant difference between the aspects of knowledge, skill and attitudes of elementary school teachers in implementing inclusive education.

Table 4: Multiple Comparisons of Three Aspects

(I) Aspects	(J) Aspects	Mean Difference (I-J)	Std. Error	Sig.
Knowledge	Skill	-.01553	.04191	.927
	Attitude	-.13204*	.04191	.005
Skill	Knowledge	.01553	.04191	.927
	Attitude	-.11650*	.04191	.016
Attitude	Knowledge	.13204*	.04191	.005
	Skill	.11650*	.04191	.016

According to Lee and Lee (2018), post hoc tests must be conducted to determine which data sets are significantly different. Based on Table 4, the Tukey HSD test has been used and the result indicates that the mean score for knowledge ($M=2.7583$, $SD=.38945$) and skill ($M=2.7738$, $SD=.29204$) were significantly different from the attitude aspects ($M=2.8903$, $SD=.18551$). While the aspect of knowledge did not differ significantly from the skill aspect. Post hoc tests indicate that there were differences in the knowledge and attitude, skill and attitude in implementing inclusive education among elementary school teachers with effect size $\eta^2= 0.02$. This means that only 2% of the respondents with lower knowledge or skill still can have a high level of attitude in implementing inclusive education. From the result, those elementary school teachers that have either a high level of knowledge or skills, will have a high level of attitude. From this study result, this probably might be because the knowledge and skills of elementary teachers are not prepared to meet the special educational needs.

DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

The main objective of this study was to identify the significant differences between the knowledge, skills and attitudes in inclusive education among elementary school teachers. The results of this study found that the elementary school teachers have moderate readiness with moderate level of knowledge, skills and attitude in implementing inclusive education in Mathematics teaching and learning.

From the aspect of knowledge, the result is parallel to the findings by Nurul Hidayah et al. (2021) who found that teachers are required to improve their knowledge on the implementation of teaching and learning for special needs students. Mohd Mokhtar and Farhana (2019) found that teachers were not adequately prepared with the knowledge of students with special needs in their classes. Besides, the average skills in the elementary school teachers of the study is supported by local studies by Nur Syafiqah et al. (2020) and Noor Syahira and Mohd Mokhtar (2022), which indicate that teachers only achieve a moderate level of skills towards inclusive education. In contrast, the study found that teachers show a high level in their ability to identify the appropriate learning style and also cultivate SENs to work collaboratively in mainstream class. Palaniandy and Mohd Hanafi (2021) stated that teachers' teaching experience will affect their skills for inclusive education programs. From the aspect of attitudes, the finding of the study was supported by Mohd Mokhtar and Farhana (2019) and Mazidah (2020), in which the elementary school teachers only showed moderate attitudes on their interest and action in inclusive education. However, Mohd Mokhtar and Farhana (2019) also found about teachers in mainstream schools do not want and were not ready to implement inclusive education had discrepancy with the data collected because the study found that they are not willing to attend courses related inclusive education and they feel stressed on teaching mathematics to SENs.

The findings of the study show that although *IPG* has a course for inclusive education, the knowledge and skills of elementary teachers are still lacking. This may be caused by the teachers' lack of practice experiences in implementing inclusive education. When implementing inclusive education, they fail to fulfill the needs of SEN based on their existing knowledge and experiences. Not only that, teachers are not willing to attend the seminar or discussion forum of inclusive education which causes them to fail in strengthening their knowledge or improving their skills to meet the needs of SENs. The lack of willingness and readiness among teachers in implementing inclusive education

may be causing the moderate level of readiness (Mohd Mokhtar & Farhana, 2019; Mazidah et al., 2020). The results are contradict with much of the researches (Štemberger & Kiswarday, 2018; Banguisa & Ang-Manaig ,2019; Palaniandy & Mohd Hanafi, 2021; Guan & Intan Marfarrina, 2022) especially Guan and Intan Marffarrina (2022) which claims that elementary school teachers in Chinese National School in Ampang, Selangor have high level of knowledge, skills and attitude.

According to Dzulkifly (2021), the Selangor Children's Heritage Foundation hopes for the allocation to empower special needs children to cover the existing programmes, intervention programmes and development seminars. Therefore, the elementary school in Chinese National School in Negeri Sembilan might lack the funding compared to schools in Selangor, which can lead to a shortage of teachers willing to participate in inclusive programs. In addition, the lack of funding will also cause the teachers not to receive the specialized training to effectively meet the diverse learning needs of students with disabilities. Without sufficient funding, schools may not be able to provide the necessary training programs of professional development opportunities for teachers to acquire the knowledge and skills needed for inclusive instruction. Therefore, teachers might lack opportunities to improve their knowledge and skills in implementing inclusive education, resulting in a level of knowledge, skills, and attitude towards inclusive education that is only moderate. Overall, the results indicate that there are significant differences between the aspects of knowledge, skills and attitude. These findings are consistent with previous research in the field. Banguisa and Ang-Manaig (2019) similarly reported that knowledge, skills and attitude are important aspects in implementation of inclusive education. Apart from that, research studies by Moosa et al (2020) also obtained a similar result which supported the overall mean score of the readiness for inclusive education is very vital to assess teachers' readiness for inclusive education. However, this finding was contrary to the previous study by Mazidah (2020) which found that there was no significant difference between the aspects of knowledge, skills and attitude in implementation of inclusive education. This means that the elementary teachers who have either a high level of knowledge, skills or attitudes are not necessarily ready to implement inclusive education in the mainstream classroom. To increase the readiness of elementary school teachers, the Ministry of Education (MOE) can inform the development and implementation of policies and guidelines for elementary school teachers to support inclusive education practices in schools. Monitoring mechanisms can also be established to ensure that elementary school teachers receive ongoing support and supervision in implementing effective inclusive education strategies. Not only that, MOE can also improve the content of pedagogy strategies courses for elementary school teachers about the way to communicate with students with special needs. This can help elementary teachers to be more mentally and physically prepared in order to be positive towards students with SEN in the mainstream classroom which is in line with the goal of *PPPM 2013-2025* that stated that placing 75% students with special needs following mainstream learning in 2025 later (MOE, 2012).

Conclusions

Overall, the results of the study found that the elementary school teachers in the study have positive perceptions with a moderate readiness with moderate level of knowledge, skills and attitude in implementing inclusive education in Mathematics teaching and learning. The main reason for this result is the teachers are limited in training and professional development. Nurul Hidayah et al. (2021) stated that the level of preparation and knowledge of the Malaysian inclusive education system and teachers' skills need to be emphasized as they play a very important role in achieving the educational goals of a country. To achieve the goals, the MOE needs to inform the formulation and application of policies and instructions for elementary school teachers that will support inclusive education practices in classrooms. The collaboration of government and non-government is essential in implementing inclusive education and coordinating efforts to provide comprehensive support for students with special needs. They need to emphasise the inclusive education programme because this programme not only can provide the quality education to all students, while also helps develop a skilled and diverse workforce lastly contributing economic growth and social cohesion. In conclusion, the success of a program is always based on the support and cooperation from various parties, especially IEP.

Recommendations

Since this study has its own limitations, further research recommendations can be implemented by :

1. Further studies can increase the population size and target various types of schools beyond Chinese National School (SJKC).
2. Further studies can include pre-service teachers, secondary school teachers and excellent teachers to compare the differences between readiness in implementing inclusive education.
3. The type of study can be changed to a qualitative method such as case study or experimental study by observing the real situations in implementing inclusive education.

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