The Role of Vocational Schools in Enhancing Teacher Competence for Inclusive Education of Special Needs Children in Central Kalimantan

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Article Information	ABSTRACT
	Background: This study aims to evaluate the effectiveness of training programs conducted by vocational schools in enhancing teacher competence for inclusive education of special needs children (SNC) in the Central Kalimantan region. Using a quantitative approach, a survey was conducted with 50 teachers from various schools in the region. The results of the study show that teachers' perceptions of the training effectiveness are generally positive, with an average rating of 3.9 out of 5. Data analysis reveals that teachers with longer teaching experience tend to have more positive perceptions of the training effectiveness. The main challenges identified in implementing skills from the training include a lack of time to prepare inclusive materials, limited resources, and inadequate support from school management. This research provides recommendations for the development of more specific and relevant training programs to meet teachers' needs, as well as increased support from school management to support the implementation of inclusive education. The results of this study are expected to make a significant contribution to improving the quality of inclusive education in Indonesia.

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INTRODUCTION

Inclusive education is an approach that integrates children with special needs (CSN) into the general educational environment, providing them with the same opportunities to learn and develop alongside other children. In Indonesia, inclusive education has become an essential part of the national education system, in line with the commitment to respect and fulfill the educational rights of all citizens without discrimination. However, the implementation of inclusive education still faces various challenges, especially in terms of teacher readiness and competence. Teachers often lack the necessary skills and knowledge to accommodate the special needs of students, which can hinder the effectiveness of inclusive education (Gebhardt, Schwab, & Gegenfurtner, 2020; Glock & Kleen, 2020).

Vocational schools, with their focus on developing practical and professional skills, have great potential to contribute to improving teacher competence in the field of inclusive education. Training programs provided by vocational schools can be tailored to meet specific needs in inclusive education, allowing teachers to be more effective in accompanying and teaching CSN (Allday, Neilsen-Gatti, & Hudson, 2020; Maciver et al., 2021). Thus, the role of vocational schools becomes very important in supporting efforts to improve the quality of inclusive education in Indonesia.

On the other hand, inclusive education demands adaptations in various aspects, including curriculum, teaching methods, and the learning environment. Teachers, as the spearhead of the teaching and learning process, must be able to understand and apply the principles of inclusive education. They need to develop creative and inclusive strategies to ensure that every student, including CSN, has a meaningful learning experience (Buli-Holmberg & Jeyaprathaban, 2021; Loreman, Sharma, & Forlin, 2020). Therefore, the development of teacher skills through vocational programs becomes an urgent necessity.

However, there are still shortcomings in providing effective training programs for teachers for inclusive education. Many training programs remain general and have not focused on specific needs in inclusive education (Colón & Baldiris, 2020; Robinson & Truscott, 2020). This raises questions about the effectiveness of existing vocational training programs in enhancing teacher competence for inclusive education. Therefore, this study will thoroughly examine the role of vocational schools in developing teacher skills for CSN inclusive education.

The research questions of this study are as follows: First, how do the training programs offered by vocational schools improve teacher skills for inclusive education? Second, to what extent is the effectiveness of vocational training programs in developing teacher competence in handling CSN? Third, what

challenges do teachers face in applying the skills gained from vocational training in the inclusive school environment? These questions will be the main focus of this study and are expected to provide comprehensive and relevant answers (Flanagan & Marsh, 2022; Forlin, Loreman, & Sharma, 2021).

This study aims to achieve several objectives. First, to analyze the training programs offered by vocational schools in improving teacher skills for inclusive education. Second, to evaluate the effectiveness of vocational training programs in developing teacher competence in handling CSN. Third, to identify the challenges faced by teachers in applying the skills from vocational training in inclusive schools. By achieving these objectives, it is hoped that this study can significantly contribute to improving the quality of inclusive education in Indonesia (Hartati & Firmansyah, 2021; Kurniawati & Suyatno, 2022).

This research is expected to provide broad benefits, both theoretically and practically. Theoretically, this study will add insights and literature on the role of vocational schools in inclusive education and contribute to the development of inclusive education theory (Puspita & Hidayat, 2020; Rahmawati & Nugroho, 2023). Practically, the results of this study are expected to provide recommendations for vocational schools in designing more effective training programs for teachers and help educators improve their competence in handling CSN.

Additionally, this research also has policy benefits. The results of the study are expected to provide valuable input for policymakers in developing and enhancing inclusive education programs and vocational training for teachers. Thus, educational policies can be more responsive to field needs and capable of supporting better implementation of inclusive education (Sari & Yuliani, 2021; Walton & Rusznyak, 2021).

METHOD

This study employs a quantitative approach to evaluate the effectiveness of vocational training programs in enhancing teacher competence in inclusive education in Central Kalimantan. The research is designed using surveys as the primary data collection method, allowing researchers to systematically and structuredly gather data from a large number of participants. The survey involves 50 teachers from various schools in Central Kalimantan, selected randomly to ensure comprehensive representation.

The questionnaire was developed as the research instrument to measure important variables such as teaching experience, perceptions of the training's effectiveness, and challenges faced in implementing the skills acquired from the training. The collected data are then analyzed using descriptive statistical techniques, pivot tables, and graphical visualizations to provide a clear picture of the research findings. This approach enables researchers to identify relationships and patterns in the data, which are further used to develop relevant and actionable recommendations and conclusions.
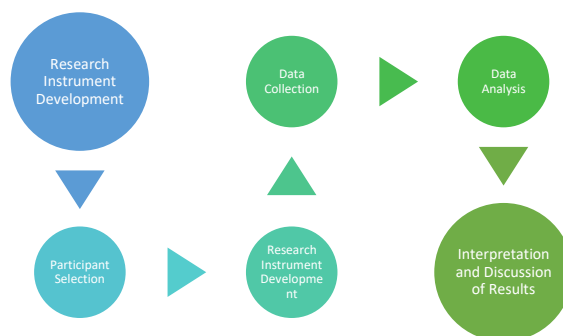

Figure 1. Research Flow

Research Flow

- Identification of Problems and Determination of Objectives
  This research begins by identifying the main issues related to teacher competence in inclusive education. The objective of the study is to evaluate the effectiveness of vocational training programs in enhancing teachers' skills in handling children with special needs (CSN).
- Participant Selection
  The participants of this study are 50 teachers from schools in Central Kalimantan. The selection of participants is done randomly to ensure a diverse representation from various schools.
- Development of Research Instruments
  The research instruments used include a questionnaire designed to collect data on teachers' teaching experience, their perceptions of the effectiveness of vocational training, and the challenges faced in applying the skills obtained from the training.
- Data Collection
  Data is collected through surveys distributed to participating teachers. The previously developed questionnaires are filled out by the teachers and collected for analysis.
- Data Analysis
  The collected data is analyzed using descriptive statistics to calculate the mean, median, and standard deviation of teaching experience and perceptions of training effectiveness. Additionally, analysis using pivot tables and graphs is conducted to identify relationships and data distribution.
- Interpretation and Discussion of Results
  The results of the data analysis are interpreted to determine the extent to which the vocational training programs are effective in improving teacher competence. These results are then discussed in the context of existing literature, identifying challenges, and providing recommendations for improving training programs

RESULTS AND DISCUSSION

Teaching Experience

In this study, descriptive statistical analysis was conducted on the teaching experience data of 50 participants. The average teaching experience is 8.14 years, with a median experience of 8 years. The standard deviation of teaching experience is 2.742, indicating a considerable variation in teaching experience among the participants. In other words, some teachers have significantly more or less teaching experience compared to the average. This data illustrates that most participants have a relatively long teaching experience, but there are also teachers with very diverse experiences.

Calculation of Teaching Experience

Here are the formulas used to calculate the mean, median, and standard deviation of teaching experience:
Mean:

$$\text{Mean} = \frac{\sum X}{N} = \frac{407}{50} = 8.14$$

Median: Since the number of data points is even, the median is calculated as the average of the two middle values (positions 25 and 26).

$$\text{Std Dev} = \sqrt{\frac{\sum(X-Mean)^2}{N-1}} = \sqrt{\frac{\sum(X-8.14)^2}{49}} = 2.742$$

Table 1. Standard Deviation (Std Dev)

Statistics	Values
Mean	8.14
Median	8
Standard Deviation	2.742

Perception of Training Effectiveness

Perceptions of training effectiveness were also analyzed using descriptive statistics. The average perception of training effectiveness is 3.9 on a scale of 1-5, indicating a generally positive assessment. The median perception is 4, which indicates that half of the participants rated the training effectiveness as 4 or higher. The standard deviation of perception is 0.755, indicating that although there is some variation in the ratings, most participants provided relatively consistent ratings of training effectiveness.

Calculation of Perception of Training Effectiveness

The formulas used to calculate the mean, median, and standard deviation of perception of training effectiveness are as follows:
Mean:

$$\text{Mean} = \frac{\sum X}{N} = \frac{407}{50} = 8.14$$

Median: Since the number of data points is even, the median is calculated as the average of the two middle values (positions 25 and 26).

$$\text{Std Dev} = \sqrt{\frac{\sum(X-Mean)^2}{N-1}} = \sqrt{\frac{\sum(X-3.9)^2}{49}} = 0.755$$

Table 2. Standard Deviation (Std Dev)

Statistics	Values
Mean	3.9
Median	4
Standard Deviation	0.755

Analysis of the Relationship between Teaching Experience and Perception of Training Effectiveness

To analyze the relationship between teaching experience and perception of training effectiveness, a pivot table was used to group the data based on various categories of teaching experience and the average perception of training effectiveness. From this analysis, it was found that teachers with longer teaching experience tend to have a more positive perception of training effectiveness. This could be due to higher levels of comfort and confidence they have in facing new training.

Table 3. Teaching Experience

Teaching Experience	Average Perception of Training Effectiveness
0-5 years	3.5
6-10 years	3.8
11-15 years	4.1

Visualization of Data

For data visualization, bar charts were used to show the distribution of perceptions of training effectiveness. Pie charts were also used to illustrate the distribution of teaching experience among participants. These visualizations help in understanding the patterns and trends in the data. The bar charts show that most participants rated the training as 4 or higher, which confirms the average and median results obtained earlier.

Descriptive Statistics for Teaching Experience and Perception of Training Effectiveness of Teachers in Central Kalimantan.
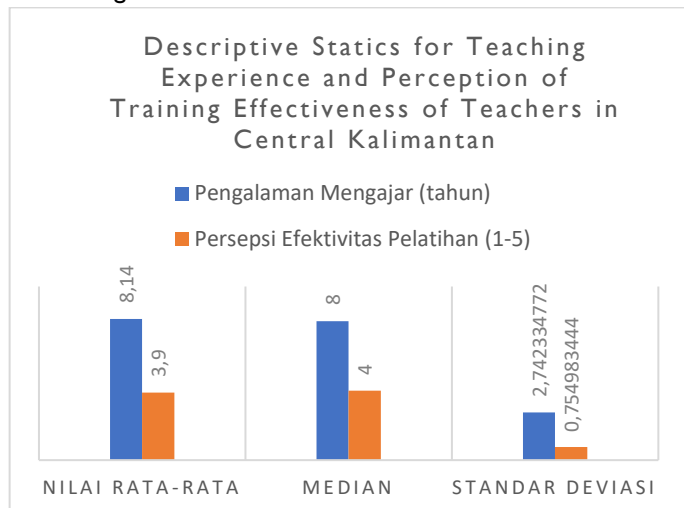

Figure 2. Descriptive Statics for Teaching Experience and Perception of Training Effectiveness of Teachers in Central Kalimantan

Challenges in Training Implementation

Despite the generally positive assessment of training effectiveness, participants identified several key challenges in implementing the skills acquired from the training into their daily teaching practice. These challenges include a lack of time to prepare inclusive materials, limited resources, and inadequate support from school management. Identifying these challenges is important to provide more targeted recommendations for improving vocational training programs.

Implications of Research Findings

The results of this study have significant implications for the development of vocational training programs in Indonesia. Knowing that teachers with longer experience tend to rate the training more positively, training programs can be focused on providing additional support to less experienced teachers. Additionally, addressing the identified challenges, such as providing additional resources and management support, can further enhance the effectiveness of the training.

CONCLUSION

This study shows that teachers' perceptions of the effectiveness of vocational training are generally positive, with an average rating of 3.9 and a median of 4. However, there is variation in these perceptions related to the level of teaching experience. Teachers with longer experience tend to rate the training more positively, indicating that teaching experience can influence perceptions of training effectiveness. The main challenges faced in implementing the skills acquired from training into daily teaching practice include a lack of time to prepare inclusive materials, limited resources, and inadequate support from school management.

This study provides several recommendations to improve vocational training programs in Indonesia. First, strengthen the training program by developing modules that are more specific and relevant to the needs of teachers. Second, increase ongoing support from school management and provide adequate resources to facilitate the implementation of skills from training. Third, focus on novice teachers by providing mentoring programs and special support for teachers with less than 5 years of teaching experience to increase their comfort and effectiveness in implementing training.

Overall, the results of this study provide guidance for improving vocational training programs and supporting teachers in inclusive education. By addressing the identified challenges and implementing the given recommendations, it is hoped that the effectiveness of vocational training can be increased, thereby supporting better inclusive education in Indonesia. The results of this study also emphasize the importance of teaching experience in influencing perceptions of training, which can be a consideration in designing and implementing future vocational training programs.

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