

Understanding Pre-Service Teachers' Attitudes on Inclusive Education

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ABSTRACT

This study examines pre-service teachers' attitudes toward inclusive education at Universitas Muhammadiyah Kalimantan Timur. A quantitative descriptive approach was employed to explore how future teachers perceive inclusive practices and how these perceptions may influence classroom implementation. Data were collected from 40 pre-service teachers using a 30-item questionnaire adapted from the Teacher Attitude to Inclusion Scale (TAIS). The instrument demonstrated good validity and high reliability, ensuring the accuracy and consistency of the data. Descriptive statistics and inferential analyses were conducted using SPSS to identify overall attitude trends and possible differences based on demographic factors, particularly gender. The findings indicate that pre-service teachers generally demonstrate positive attitudes toward inclusive education, reflecting an openness to accommodating students with diverse learning needs in regular classrooms. Statistical analysis reveals no significant difference in attitudes based on gender, suggesting that inclusive perspectives are shaped more by professional preparation and educational experiences than by demographic characteristics. Despite these positive attitudes, the results also highlight the need for increased practical exposure and classroom-based training to support effective implementation of inclusive practices in real teaching contexts. This study emphasizes the important role of teacher education programs in fostering not only positive attitudes but also practical competence through reflective learning, supervised practicum, and continuous professional development. The findings contribute to the growing discussion on inclusive teacher preparation and provide empirical evidence to support curriculum improvement in teacher education institutions.

Keywords: Pre-Service Teachers; Inclusive Education; Teacher Attitudes; Teacher Education; Inclusion Practices

INTRODUCTION

Education plays a crucial role in supporting national development and social progress (Sari et al., 2022). In recent years, inclusive education has emerged as a

global priority, emphasizing the integration of students with diverse learning needs into regular classrooms to ensure equal access to quality education. One of the most influential factors in the successful implementation of inclusive education is teachers' attitudes toward inclusion (Dignath et al., 2022). Teachers' beliefs, perceptions, and willingness to adapt instructional practices significantly affect how inclusive policies are translated into classroom realities. For this reason, pre-service teachers, as future educators, hold a strategic role in shaping inclusive learning environments (Ediyanto et al., 2020).

Pre-service teachers' attitudes toward inclusive education influence their readiness, confidence, and ability to implement inclusive practices. Studies in the Indonesian context show that pre-service teachers with positive attitudes are more capable of applying adaptive teaching strategies in inclusive classrooms (Soeharto et al., 2024). In contrast, negative or inaccurate perceptions often lead to hesitation, limited instructional flexibility, and reduced confidence when teaching students with special educational needs (Krischler & Pit-ten Cate, 2019). These attitudes are gradually formed through coursework, teaching practicums, and meaningful interactions with learners who have diverse abilities (Fairbrother et al., 2025). When pre-service teachers are provided with structured opportunities to engage in inclusive settings, they tend to develop stronger professional competence and greater commitment to inclusive values (Depping et al., 2024).

Although previous studies have highlighted the importance of attitudes in inclusive education, empirical evidence at the institutional and regional level remains limited, particularly in the context of teacher education programs in East Kalimantan. Most existing studies focus on national trends or international comparisons, leaving a gap in understanding how pre-service teachers in specific local contexts perceive inclusive education and how their demographic background may influence these perceptions. Examining local data is important because teacher preparation, institutional culture, and field exposure vary across regions and may shape attitudes differently. Therefore, this study aims to investigate pre-service teachers' attitudes toward inclusive education at Universitas Muhammadiyah Kalimantan Timur and to examine whether gender differences influence these attitudes. The findings are expected to provide empirical insights that support the improvement of teacher education curricula, strengthen practical training components, and contribute to the development of inclusive education practices in higher education institutions.

LITERATURE REVIEW

Inclusive Education and Teacher Attitudes

Inclusive education has evolved from a limited focus on placing students with disabilities in regular classrooms to a broader commitment to equity, participation, and meaningful access for all learners (Arnaiz-Sánchez et al., 2022). Contemporary perspectives emphasize that inclusion addresses not only disability but also linguistic diversity, socioeconomic background, cultural identity, and learning

variability (Semião et al., 2023). This shift reflects a growing recognition that inclusive education is both a pedagogical responsibility and a social commitment to justice and equal opportunity. As governments and educational institutions continue to strengthen inclusive policies, successful implementation increasingly depends on the capacity and readiness of teachers.

Teachers' attitudes play a central role in shaping inclusive classroom practices. Attitudes influence how teachers interpret policy mandates, respond to learner diversity, and adopt adaptive instructional strategies. Positive attitudes are associated with greater openness to differentiated instruction, collaboration with support professionals, and proactive classroom management, while negative attitudes often lead to resistance, anxiety, and limited instructional flexibility (Dignath et al., 2022; Guillemot et al., 2022). Research consistently shows that teachers who believe in the value of inclusion are more likely to create supportive learning environments and maintain high expectations for all students.

From a theoretical perspective, attitudes are commonly explained through the Theory of Planned Behavior, which posits that attitudes, subjective norms, and perceived behavioral control jointly influence individual intentions and actions (Ajzen, 1991). In the context of education, pre-service teachers who hold positive beliefs about inclusion and perceive themselves as capable of implementing inclusive strategies are more likely to apply inclusive practices in real classroom settings. In addition, Booth and Ainscow's Index for Inclusion highlights the importance of developing inclusive cultures, policies, and practices within schools to sustain inclusive behavior. These frameworks emphasize that attitudes are not isolated personal traits but are shaped by institutional environments, professional preparation, and social expectations.

Pre-Service Teacher Preparation and Inclusive Competence

Teacher education programs play a critical role in shaping pre-service teachers' attitudes and competencies related to inclusive education. Exposure to inclusive pedagogy, reflective coursework, and practicum experiences significantly contributes to the development of positive attitudes and professional confidence (Fairbrother et al., 2025; Depping et al., 2024). When pre-service teachers engage directly with diverse learners under guided supervision, they gain practical understanding of instructional adaptation, classroom management, and collaborative problem-solving. These experiences help transform theoretical knowledge into meaningful practice.

Empirical studies indicate that pre-service teachers who receive systematic training in inclusive education demonstrate higher levels of self-efficacy and stronger commitment to inclusive values (Ismailos et al., 2022). Conversely, limited exposure to inclusive classrooms may result in uncertainty and reduced readiness to address diverse learning needs (Krischler & Pit-ten Cate, 2019). These findings

underline the importance of integrating inclusive education throughout teacher preparation programs rather than treating it as a single course or isolated topic.

International evidence suggests that demographic variables, including gender, may influence attitudes toward inclusion, although results remain inconsistent. Some studies report slightly more favorable attitudes among female pre-service teachers, while others find no significant differences, indicating that professional training may have a stronger impact than demographic characteristics (Boyle et al., 2023; Schwab et al., 2024). This inconsistency highlights the need for context-specific investigations to better understand how local educational environments shape attitudes.

Inclusive Education in the Indonesian and Regional Context

In Indonesia, inclusive education has been formally supported through national policies aimed at expanding equitable access to education for students with diverse needs. Despite policy commitments, implementation challenges persist due to uneven teacher preparation, limited resources, and variations in institutional support across regions (Sari et al., 2022). Studies conducted in major urban areas show that pre-service teachers generally hold positive attitudes toward inclusive education but often report limited practical readiness (Ediyanto et al., 2020; Soeharto et al., 2024). This gap between attitudes and practical competence suggests the need for stronger integration of hands-on experiences in teacher education.

Regional contexts such as East Kalimantan remain underrepresented in empirical research on inclusive teacher preparation. Local institutions may face unique constraints related to school partnerships, access to inclusive classrooms, and availability of trained mentors. Research conducted in Kalimantan indicates that pre-service teachers encounter challenges in implementing multicultural and inclusive practices due to limited institutional exposure and collaboration with inclusive schools (Pratiwi et al., 2023). Strengthening partnerships between universities and inclusive schools has been recommended to bridge the gap between theory and practice.

The reviewed literature demonstrates that inclusive education success is strongly influenced by teachers' attitudes, professional preparation, and institutional support. While international and national studies provide valuable insights, there is limited empirical evidence addressing how pre-service teachers in specific regional contexts perceive inclusive education and how demographic variables, particularly gender, relate to these attitudes. Furthermore, many studies emphasize attitude measurement without sufficiently linking findings to curriculum development and practical training enhancement. Therefore, this study seeks to address these gaps by examining pre-service teachers' attitudes toward inclusive education at Universitas Muhammadiyah Kalimantan Timur and analyzing whether gender differences influence these attitudes. By situating the investigation within a regional

institutional context, this study contributes localized evidence that supports the development of responsive teacher education programs and strengthens the implementation of inclusive education in diverse educational settings.

METHOD

Design and Sample

This study employed a quantitative descriptive research design to examine pre-service teachers' attitudes toward inclusive education. A quantitative approach was selected because it enables the collection of measurable data that reveal patterns and relationships among variables related to attitudes toward inclusion (Nusrotus Sa'idah et al., 2024). This design is widely used in educational research to describe trends and compare demographic groups. The population of this study consisted of 208 pre-service teachers enrolled at Universitas Muhammadiyah Kalimantan Timur. From this population, 40 students were selected as participants. A convenience sampling technique was applied, whereby participants were selected based on accessibility and willingness to participate (Diningrat et al., 2020). This technique was considered appropriate because the target population was readily available and participation was voluntary. Participants were informed about the purpose of the study prior to data collection and provided their consent. Data were collected using an online questionnaire distributed through Google Forms. The survey link was shared through institutional academic communication channels, allowing participants to complete the questionnaire anonymously and independently.

Instrument and Procedure

The instrument used in this study was a questionnaire adapted from the Teacher Attitude to Inclusion Scale (TAIS), which originates from the Opinions Relative to Mainstreaming Scale (ORMS) (Larrivee & Cook, 1965). The instrument was further refined based on the Teachers' Attitudes to Inclusion Scale Validation Questionnaire (Daniela & Ecaterina, 2023) to ensure relevance to the context of inclusive education. The questionnaire consisted of 30 statements designed to measure pre-service teachers' attitudes toward inclusive education, including beliefs, comfort levels, willingness to implement inclusive strategies, and perceived challenges in teaching students with diverse learning needs. Each item was rated on a four-point Likert scale: 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), and 4 (Strongly Agree). The absence of a neutral option encouraged respondents to express a clear position. To ensure accessibility and convenience, the questionnaire was distributed digitally via Google Forms. Data collection was conducted over a two-week period. Reminder messages were sent periodically to encourage participation. All responses were automatically recorded and securely stored in an online spreadsheet for further analysis.

Data Analysis

After data collection, the responses were exported from Google Forms and imported into SPSS for analysis. The data were screened to ensure completeness and to remove duplicate entries. Descriptive statistical analysis was conducted to determine the mean, standard deviation, frequency, and percentage of participants' responses. These measures provided an overview of pre-service teachers' attitudes toward inclusive education. Instrument quality testing included validity and reliability analysis. Item validity was examined using Pearson Product–Moment Correlation, while reliability was assessed using Cronbach's Alpha. Normality testing was conducted using the Kolmogorov–Smirnov and Shapiro–Wilk tests to ensure that the data met the assumptions for parametric analysis. Homogeneity of variance was tested using Levene's Test. Inferential analysis was performed using the Independent Samples t-test to examine whether there were significant differences in attitudes based on gender. A significance level of 0.05 was applied for all statistical tests.

RESULT AND DISCUSSION

Instrument Quality Testing

Validity Test

Table 1. Results of the Validity Test

Question Item	Correlation Coefficient (r-calculated)	r-table Value	Remark
P1	0.648	0.31	Valid
P2	0.537	0.31	Valid
P3	0.551	0.31	Valid
P4	0.466	0.31	Valid
P5	0.470	0.31	Valid
P6	0.594	0.31	Valid
P7	0.523	0.31	Valid
P8	0.554	0.31	Valid
P9	0.505	0.31	Valid
P10	0.464	0.31	Valid
P11	0.342	0.31	Valid
P12	0.390	0.31	Valid
P13	0.707	0.31	Valid
P14	0.657	0.31	Valid
P15	0.399	0.31	Valid
P16	0.627	0.31	Valid
P17	0.593	0.31	Valid
P18	0.613	0.31	Valid

P19	0.382	0.31	Valid
P20	0.328	0.31	Valid
P21	0.475	0.31	Valid
P22	0.374	0.31	Valid
P23	0.464	0.31	Valid
P24	0.592	0.31	Valid
P25	0.377	0.31	Valid
P26	0.338	0.31	Valid
P27	0.616	0.31	Valid
P28	0.735	0.31	Valid
P29	0.423	0.31	Valid
P30	0.466	0.31	Valid

Based on the validity test results presented in the table above, the Attitude variable was measured using 30 statement items (P1 to P30). The test was conducted on 37 respondents, with a critical value (r -table) of 0.312. The analysis results indicate that all statement items (P1 to P30) have correlation coefficient values (r -calculated) that are higher than the r -table value (0.3246). The item with the highest validity is P28, with a correlation value of 0.735, while the lowest validity is found in P20, with a correlation value of 0.328. Therefore, it can be concluded that all 30 statement items in this questionnaire are VALID and appropriate for use as a research instrument in the subsequent stages of the study.

Reliability Test

Table 2. Reliability Test Results (SPSS)

Variable	Cronbach's Alpha	Number Item (N of Items)	Remark
Attitude	0.897	30	Very Reliable

Based on the reliability Statistics table above, the test was conducted on 30 statement items that had previously been declared valid. The analysis results show a Cronbach's Alpha coefficient of 0.897. This value is significantly higher than the minimum threshold of 0.60 ($0.897 > 0.60$). Moreover, a value approaching 0.90 indicates that the internal consistency of the instrument is very high or very strong. Therefore, it can be concluded that the questionnaire instrument for the attitude variable is reliable and can be trusted for use as a measurement tool in this study.

Respondent Profile Analysis

Table 3. Results of Respondent Profile Analysis

Category	Sub-Category	Frequency	Percentage (%)
Gender	Male	12	30
	Female	28	70

Semester	Semester 7	40	100
Total		40	100

Table 3 presents the demographic characteristics of the respondents based on gender and semester level. Of the 40 participants, 28 were female (70%) and 12 were male (30%). All respondents were enrolled in Semester 7, indicating a homogeneous academic level across the sample.

Descriptive Statistical Analysis

Table 4. Descriptive Statistics Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Pre-service Teachers' Attitudes toward Inclusive Education	40	54	118	90.25	12.703

Descriptive statistics were calculated to summarize pre-service teachers' attitudes toward inclusive education. As shown in Table 4, the attitude scores ranged from 54 to 118, with a mean score of 90.25 and a standard deviation of 12.703. The relatively high mean indicates that respondents generally demonstrated positive attitudes toward inclusive education, while the standard deviation suggests moderate variability in responses.

Analysis Prerequisite Testing

Normality Test

Table 5. Normality Test

Variable	Uji Statistic	Statistic	df	Sig.	Remark
Pre-service Teachers' Attitudes	Kolmogorov-Smirnov	124	40	0.125	Normal
	Shapiro-Wilk	960	40	0.164	Normal

Normality was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. The results indicated that the data were normally distributed, with significance values of 0.125 for the Kolmogorov–Smirnov test and 0.164 for the Shapiro–Wilk test. These findings confirm that the data met the assumptions required for parametric analysis.

*Homogeneity Test**Table 6. Results of the Homogeneity of Variance Test*

Levene Statistic	df1	df2	Sig.	Remark
0.268	2	37	0.767	Homogen

Based on the SPSS output presented in the test of homogeneity of variances table (Based on Mean row), the Levene Statistic value is 0.268, with a significance (Sig.) value of 0.767. According to the testing criteria, if the significance value is greater than 0.05, the data variances are considered homogeneous. Since the obtained significance value is 0.767, which is substantially higher than 0.05 ($0.767 > 0.05$), it can be concluded that the data variances are homogeneous. This indicates that there is no significant difference in variance among the data groups. Therefore, the assumption of homogeneity is met, and comparative analyses, such as the Independent Samples t-test and ANOVA, are appropriate to be conducted.

*Hypothesis Testing**Table 8. Results of the Independent Samples t-test*

Group	N	Mean	t	Df	Sig. (2-tailed)
Laki-Laki	12	91.17	0.295	38	0.769
Perempuan	28	89.86			

Based on the group statistics table, the descriptive results show that the mean attitude score of male respondents is 91.17, while that of female respondents is 89.86. The very small mean difference (1.310) indicates a high degree of similarity in attitudes between the two gender groups. For statistical verification, the Independent Samples Test table was examined. First, the results of Levene's Test show a significance value of 0.086 (> 0.05), indicating that the variances of the two groups are homogeneous. Therefore, the results were interpreted using the Equal variances assumed row. In this row, the calculated t-value is 0.295, with a two-tailed significance value (Sig. 2-tailed) of 0.769. Since the significance value of 0.769 is much greater than 0.05 ($0.769 > 0.05$), the null hypothesis (H_0) is accepted. This result indicates that there is no significant difference between the attitudes of male and female pre-service teachers toward inclusive education. These findings confirm that gender is not a determining variable in differentiating pre-service teachers' attitudes, as both male and female students demonstrate comparable tendencies in their views on inclusive education.

The findings of this study indicate that pre-service teachers generally demonstrate positive attitudes toward inclusive education, as reflected in the relatively high mean score obtained. This result suggests that future teachers increasingly recognize the importance of accommodating students with diverse learning needs within regular classroom environments. Positive attitudes toward inclusion are critical because they influence teachers' willingness to adapt instructional strategies, collaborate with support professionals, and create learning environments

that promote participation and equity. When teachers perceive inclusion as an integral part of their professional responsibility, they are more likely to engage in reflective practice and continuous improvement. This finding aligns with previous studies showing that teacher candidates tend to develop favorable views toward inclusive education when they are exposed to inclusive pedagogy, mentoring, and structured learning experiences during their training (Schwab et al., 2024b).

The generally positive attitudes observed in this study also indicate that inclusive education is increasingly understood as a foundational teaching value rather than an additional or optional task. When inclusion is framed as education for all learners rather than exclusively for students with disabilities, pre-service teachers tend to express stronger acceptance and commitment. This perspective supports the argument that inclusive education should be embedded across teacher education curricula rather than confined to isolated courses or theoretical modules. Schwab et al. (2024b) emphasize that broad conceptualization of inclusion promotes stronger professional identity and ethical responsibility among teacher candidates. In this context, the findings suggest that the teacher education environment at Universitas Muhammadiyah Kalimantan Timur may be contributing positively to the formation of inclusive values among its students.

Another important finding of this study is the absence of a significant difference in attitudes toward inclusive education based on gender. Both male and female pre-service teachers demonstrated comparable perceptions and levels of acceptance. This suggests that shared academic experiences, institutional culture, and professional preparation may play a more dominant role in shaping attitudes than demographic characteristics. This result is consistent with previous research reporting minimal or no gender-based differences in inclusive attitudes (Boyle et al., 2023; Schwab et al., 2024b). While some studies in other contexts have suggested that female teachers may express slightly more favorable attitudes, such differences are often small and context-dependent. The present findings reinforce the view that effective teacher education programs can promote inclusive values equitably across student populations, regardless of gender.

Although positive attitudes are encouraging, they do not automatically translate into effective classroom practice. Several studies caution that pre-service teachers who hold positive beliefs about inclusion may still experience uncertainty when faced with real classroom challenges, such as managing diverse learning needs, adapting curriculum materials, and addressing behavioral or communication barriers. Walton and Rusznyak (n.d.) note that limited classroom exposure can restrict the development of practical confidence, even when attitudes are supportive. This gap between belief and practice highlights the importance of providing meaningful practicum experiences, mentoring opportunities, and reflective activities that allow pre-service teachers to apply inclusive principles in authentic teaching contexts. Without such experiences, positive attitudes may remain theoretical and may not fully support effective instructional decision-making.

The findings of this study also underscore the role of teacher education institutions in shaping both attitudes and readiness for inclusive education. Structured coursework that integrates inclusive pedagogy, assessment adaptation, and classroom management strategies can strengthen conceptual understanding, while supervised teaching practice can enhance practical competence. Mentorship from experienced educators further supports professional growth by providing feedback, modeling inclusive practices, and encouraging reflective thinking. When these components are aligned, pre-service teachers are more likely to develop confidence and resilience in addressing diverse classroom situations. Therefore, teacher education programs should continuously evaluate the balance between theoretical instruction and practical exposure to ensure that graduates are well-prepared for inclusive teaching responsibilities.

From a regional perspective, the findings contribute valuable insight into inclusive education within the context of East Kalimantan, an area that remains underrepresented in empirical research. Educational resources, school infrastructure, and access to inclusive support services may vary across regions, potentially influencing pre-service teachers' experiences and expectations. Understanding local perceptions is essential for developing context-sensitive curriculum improvements and professional development strategies. The positive attitudes identified in this study suggest that future teachers in this region are open to inclusive values; however, continued institutional support is necessary to sustain these attitudes and translate them into effective practice in diverse school environments.

The absence of gender differences in attitudes also suggests that institutional learning environments may be fostering consistent professional values across the student population. This finding highlights the importance of maintaining inclusive institutional cultures that promote equity, respect, and collaboration. Such environments not only shape academic learning but also influence professional identity formation among future teachers. By reinforcing inclusive norms through curriculum design, classroom interaction, and practicum partnerships, teacher education institutions can strengthen long-term commitment to inclusive education. Despite the strengths of this study, several limitations should be acknowledged. The sample size was relatively small and drawn from a single institution, which may limit the generalizability of the findings. Additionally, the use of a self-report questionnaire may introduce response bias, as participants may provide socially desirable answers rather than fully reflecting their true perceptions or future behavior. The study also focused primarily on attitudes and did not directly assess practical teaching competence or classroom performance. Future research could expand the sample across multiple institutions and regions, incorporate qualitative methods such as interviews or classroom observations, and examine the relationship between attitudes and actual teaching practices in inclusive settings.

The findings reinforce the importance of strengthening inclusive education within pre-service teacher preparation programs. Positive attitudes provide a strong

foundation for inclusive practice, but they must be supported by continuous professional development, reflective learning, and authentic teaching experiences. By integrating theoretical knowledge with practical application, teacher education institutions can better prepare future educators to respond effectively to diverse learner needs and contribute to more equitable and inclusive educational systems. This study contributes empirical evidence that supports ongoing efforts to enhance inclusive teacher education and highlights the need for sustained institutional commitment to inclusive values and practices.

CONCLUSION

This study investigated pre-service teachers' attitudes toward inclusive education at Universitas Muhammadiyah Kalimantan Timur and examined whether gender differences influenced these attitudes. The findings indicate that pre-service teachers generally demonstrate positive attitudes toward inclusive education. This suggests that future teachers increasingly recognize inclusion as an essential component of professional teaching practice and show openness toward accommodating students with diverse learning needs in regular classroom settings. The results also reveal that there is no significant difference in attitudes based on gender. Both male and female pre-service teachers exhibited comparable perspectives on inclusive education, indicating that attitudes are shaped more by professional preparation and shared educational experiences than by demographic factors. This finding highlights the important role of teacher education programs in fostering inclusive values consistently among all pre-service teachers.

Although positive attitudes provide a strong foundation for inclusive practice, they do not automatically ensure effective implementation in real classroom contexts. Therefore, teacher education institutions should continue to strengthen practical components such as supervised teaching practicum, reflective learning activities, and collaboration with inclusive schools. These experiences are essential to support pre-service teachers in translating positive attitudes into concrete instructional practices and classroom management strategies. This study is limited by its relatively small sample size and focus on a single institution, which may restrict the generalizability of the findings. Future research is encouraged to involve larger and more diverse samples across multiple institutions and to incorporate qualitative approaches to explore deeper insights into pre-service teachers' experiences, challenges, and instructional practices related to inclusive education. This study contributes empirical evidence to the discussion on inclusive teacher preparation and underscores the need for sustained institutional commitment to integrating inclusive values, practical training, and reflective practice within teacher education programs. By strengthening both attitudinal and practical dimensions of preparation, teacher education institutions can better equip future educators to implement inclusive education effectively and equitably.

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