

Assessing Teachers' Cognition on the Concepts and Practices of Inclusive Classroom

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Abstract

This article explores teachers' cognition on inclusive classrooms and examines their levels of knowledge . The data for the study were collected from 170 participants, representing different regions, educational levels, and areas of expertise . The research examined demographic distribution, training experiences, and views on inclusive education concepts and practices . Data from 170 participants show that 63.6% had received basic inclusive education training, but only 18.3% perceived inclusion as meeting all student needs, highlighting substantial gaps in understanding . Confidence in implementing inclusive practices was minimal, with only 2.9% expressing "very confident" . Barriers such as inadequate administrative support (38.2%) and lack of resources (35.3%) were major barriers . Despite these concerns, 74.1% of teachers agreed with the benefits of inclusive education, indicating its widespread acceptance . The results support the idea that trained teachers are better able to handle diverse classrooms . The article highlights the need for improved professional development, systematic support, and resource distribution to bridge knowledge gaps and increase confidence to promote successful inclusive practices.

Keywords: *Inclusive education, Understanding, Knowledge , Training, Diverse classrooms*

Introduction

Inclusive classrooms are desirable for creating good learning environment . Inclusion in education ensures that every learner feels valued and respected, and can enjoy a clear sense of belonging (UNESCO, 2020) . The fundamental principle of inclusive schools is that all children should learn together, wherever possible, regardless of any difficulties or differences they may have (UNESCO, 1994) . After, Salamanca's Statement upheld inclusive education as the priority in national policies of worldwide education . How to integrate a variety of learners in the classroom is known as inclusive education . Inclusive classrooms create an environment that includes, respects, and welcomes all diverse students . When students of different backgrounds, backgrounds, and abilities feel like they truly belong in the classroom, they feel socially successful with their peers and feel boosted in confidence) Webster2014 ,).

Teacher training can positively impact teachers' attitudes toward inclusion, teaching strategies, and knowledge of disabilities in as little as ten hours . Over 50% of the 31 studies advocate for improved pre-service and in-service training for teachers (Mendoza & Heymann 2024) . Promoting inclusive schools requires appropriate preparation of educational personnel . Training programs should equip all teachers with the skills to support students with disabilities by adapting curricula and using assistive technology (UNESCO, 1994) . In order to improve the quality of education, SSDP (2016) aims to make inclusive education a required module in pre-service teacher preparation programs . SESP (2022) also focuses on the teachers' qualifications and capacity development in line with the prescribed competencies and standards . Topics of inclusiveness and equity have been included in teacher training . It indicates the importance of teachers' understanding and awareness of inclusive education to enhance inclusive and quality education.

Haug (2017) states that, in many countries, inclusive education varies widely between and within schools . The most effective ways to teach inclusively and foster an inclusive school environment are still debated . It supports that the understanding of inclusive education is different by national diversity . In Nepal, there are many types of diverse children in the classroom, like cultural, linguistic, ethnic, disability, etc., so confusion can be seen in the understanding of how to include diverse children . There are differences in understanding and practice of inclusive education based on the diversity of children in the classroom.

Commitment to education for all in Nepal's, general schools, and teachers are encouraged to practice inclusion . The government and development partners keep funding teacher capacity building in inclusive education for students with diversities (UNICEF, 2021) . In Nepal, there are ethnic, linguistic, ability, gender, cultural, religious

and other diversity . Because of the principles of inclusive education, mainstream classrooms include students from diverse needs and backgrounds . This means that every teacher must be competent enough to meet the individual needs of students in a classroom . The successful effect of inclusive education depends on the understanding of the teacher . UNICEF (2021) also noticed that the majority of principals (85%) and teachers (73%) believed that children with hearing/visual impairments had the potential to succeed in education, but aspirations were lower for children with intellectual disabilities . This shows that there is diversity in the understanding of the expectations of students with disabilities among the teachers of Nepal, and it also indicates that there is a difference in the understanding of inclusive classrooms with other genders, races, languages, and cultural backgrounds.

Therefore, in this quantitative research article, we aim to measure teachers' levels of cognition on the concepts and practices of inclusive education . The entire discussion examines the answers to questions like: how do teachers view inclusive classrooms, and how are they practicing in the development of inclusive education?

Literature Review

In research work, literature review is important to know the previous methodological practices, inform debates, and improve research practices . In this research, the researcher reviewed related research documents that were employed to conduct similar types of studies conducted in different countries revealing a variety of quantitative research designs which are stated below.

In the first study, Gulsun et al., (2023) researched to investigate the “Exploring the role of teachers’ attitudes towards inclusive education, their self-efficacy, and collective efficacy in behavior management in teacher behavior” . In this study, the researchers used a cross-sectional online survey design to achieve the objectives . The researchers selected 384 in-service teachers working in 57 primary schools in the eastern part of Finland as a sample by using a random sampling method . For data collection, researchers used the Likert scale and in the data analysis process, the confirmatory factor analysis (CFA) was used to test the validity of the measurement model and structural equation modeling (SEM) used with latent and background variables . Mplus, version 8.7, was used to conduct both analyses . The article's main finding is that teachers' methods of instruction in supporting acceptable student behavior are significantly influenced by their collective effectiveness in student discipline and their self-efficacy in behavior management . Furthermore, the study shows that teachers' self-efficacy is negatively impacted by the growing number of children with behavioral or attention issues, which in turn limits their capacity to encourage positive behavior in the classroom .

The second study of Radojlovic et al., (2022) investigated the attitudes of primary school teachers toward inclusive education . In this study, the researchers used a cross-sectional online survey design to achieve the objectives . 64 primary teachers were selected by the researcher as a sample by using a random sampling method in Serbia . For data collection, researchers used a questionnaire and in the data analysis process frequencies and Chi-square tests were used from MANOVA . This article highlights that teacher's attitudes toward inclusive education were typically moderate to favorable, with urban instructors exhibiting more positive attitudes than rural teachers . Although there was no discernible gender difference, pre-service teachers had a more optimistic attitude than in-service teachers, most likely as a result of their varied exposure to training . Issues like inadequate funding and unprepared teachers were identified as major obstacles to successful inclusion . Similarly, Duka & Haxhihseni (2022) conducted a quantitative survey paper teacher attitudes and challenges in inclusive classrooms to evaluate the issue by using questionnaires to randomly clustered 3071 sample teachers . To analyze the data standard deviation was used tabulations, and results from ANOVA . The article's main finding was that teaching ability in inclusive classrooms in Albania is significantly influenced by teacher attitudes, professional development, and teaching experience . Specifically, teachers who received inclusive education training were more likely to report being more competent teachers, while there were no significant distinctions between male and female teachers or between teachers with varying years of experience . Large class sizes and a lack of resources for supporting children with special needs have been identified as issues that require attention.

Asiri, (2020) highlights the necessity for effective communication, collaboration, and clear legislative provisions to reinforce the foundation of inclusive education in his survey study . He also reveals that Saudi Arabian teachers hold varying opinions regarding administrative support for inclusive education . Similarly, Singh et al., (2020) employed a survey design to assess the Attitude of Teachers entitled “A Study of Attitude of Teachers towards Inclusive Education” . The researchers employed a sample of 200 teachers from different educational institutions . Percentile scores and t-tests are used to analyze data from ANOVA . These studies aimed to assess the attitudes and perceptions of teachers by using a quantitative survey design . According to the study's findings, most teachers had moderate to positive opinions toward inclusive education . Compared to in-service teachers and rural teachers, pre-service teachers and urban teachers had more positive attitudes . The perceptions of male and female educators about inclusive education, however, did not differ significantly .

An in-depth understanding of teachers' attitudes, perspectives, and difficulties with inclusive education in many nations can be learned from the previous overview of past studies . The outcomes emphasize some essential subjects, such as the

significance of professional development, teacher self-efficacy, collective efficacy, and demographic characteristics including gender, urban/rural location, and teaching experience. Together, the research highlights how crucial it is to provide instructors with focused training, adequate resources, and specific policies to close the knowledge gap regarding inclusive education and foster fair and encouraging learning environments for all diverse students.

Methods

Quantitative cross-sectional survey design was implemented in the study to assess teachers' cognitions on inclusive classrooms and to measure their knowledge of inclusive education. To ensure representativeness, stratified random sampling has been used, which separates the population into strata according to province and training status (trained vs. untrained). The sampling frame was developed using data from teachers working in government, educational institutions, and schools in all seven provinces, as per the eligibility criteria. To ensure statistical significance, the necessary sample size is determined using Yamane's formula. Calculate the proportion of the total population in each stratum ($P_i = N_i/N$) and multiply this proportion by the total sample size ($n_i = P_i \cdot n$). 170 samples were chosen for this study and distributed proportionately throughout the strata. An extra 20% is oversample, yielding 204 individuals, to reduce non-response bias.

The researchers gathered data via questionnaire sent to the general teachers by using email. The collected data were first thoroughly checked and edited, and then the database was filled. Statistical Package for the Social Sciences (SPSS) version 20 was used. This research utilized univariate analysis. Univariate analysis was used to show the percentage of participants' responses involved in this study and show the relationship between the two variables based on Inclusive education teacher training (independent) association with knowledge and skills about managing inclusive classes (dependent).

Result and Discussion

In Nepal, there are many different types of children in the classroom, including cultural, linguistic, ethnic, disability, etc. Teachers appear to be confused about how to include diverse students. Additionally, evidence shows that teachers' opinions of inclusive classrooms differ from those of students with disabilities and students from other genders, ethnicities, languages, and cultures. In order to answer the main research question, how do teachers view inclusive classrooms, and how are they practicing in the development of inclusive education? The data obtained in the survey are presented in three main tables and analyzed below.

Table 1
Demographic Structure of the Study Participants

Description	Responses	Number (N)	Percent (%)
Sex	Male	102	60
	Female	68	40
Birthplace	Provence 1	30	17.6
	Provence 2	22	12.9
	Provence 3	25	14.7
	Provence 4	23	13.5
	Provence 5	22	12.9
	Provence 6	21	12.3
	Provence 7	27	15.9
Designation	Primary Level	69	40.6
	Lower Secondary Level	49	28.9
Teaching region	Secondary Level	52	30.6
	Himali	38	22.4
	Hilly	65	38.3
	Terai	67	39.5
Specialized subjects	English education	48	28.3
	Nepali education	51	30.0
	Mathematic education	44	25.9
	Health education	9	5.3
	Science education	7	4.2
	ICT education	6	3.6
	Population education	2	1.2
Educational Status	Other subjects	3	1.8
	SEE/SLC	-	-
	+2	6	3.6
	Bachelor	62	36.5
	Master	102	60.0
	M.Phil.	-	-
Training	Ph . D.	-	-
	Others	-	-
	Trained teacher on basic inclusive education	108	63.6
	untrained teacher on inclusive education	57	33.6
	Special education teacher training on inclusive education	5	2.9

Source: Primary data, survey, 2024

Table 1 shows the demographic variables and representative figures in percentage . Demographically, 60% (102) of the 170 respondents in the data are male, and 40% (68) are female . The distribution of teachers by birthplace shows that all seven provinces are represented, with Province 6 having the lowest participation rate (12.3%, 21) and Province 7 having the highest (15.9%, 27) . In terms of teaching levels, 40.6% (69) are primary school teachers, 28.9% (49) are lower secondary teachers, and 30.6% (52) are secondary school teachers . The Terai region employs the majority of teachers (39.5%, 67), followed by the hilly (48.0%) and Himali (22.4%) regions.

The largest percentage of specialized subjects is Nepali education (30.0%, 51), followed by English education (28.3%, 48), and the lowest percentage is population education (1.2%, 2) . Regarding credentials, 36.5% (62) have a bachelor's degree, and 60.0% (102) have a master's degree . In terms of training, the majority (63.6%, 108) have received basic inclusive education training, while 33.6% (57) have not received any training, and 2.9% (5) have received specialized training in inclusive education . The lack of training highlights the need for more focused professional development initiatives that are responsive to inclusive education needs.

Table 2

Understanding about Inclusive Education

Understanding about inclusive education.	Education for students with disabilities.	75	44.1
	Education for students with language and cultural diversity.	64	37.7
	Education for gifted students.	-	-
	includes all students, regardless of their abilities or backgrounds	31	18.3

Source: Primary data, survey, 2024

Regarding their understanding of inclusive education, table 2 shows the 37.7% (64) related it to students with different languages and cultures, whereas 44.1% (75) saw it as education for students with disabilities . Just 18.3% (31) of respondents correctly stated that inclusive education includes all students, regardless of their backgrounds or abilities.

The lack of knowledge also emphasizes the necessity of effective education programs and policies that reflect an inclusive educational philosophy that acknowledges diversity in the intellectual, physical, linguistic, and cultural domains . although this study demonstrates that a significant number of teachers are aware of and open to engaging with the concept, there are still important concerns around conceptual clarity, representation of the evaluated areas, and training that must be addressed . We

can address these issues and establish a classroom atmosphere that is supportive of inclusion by implementing curricular reforms for inclusion, proportional hiring practices, and focused teacher training.

Based on a review of previous studies, this analysis highlights the significance of teacher preparation, sufficient resources, and well-defined policies in bridging teachers' knowledge gaps in inclusive education and fostering inclusive and supportive learning environments for students from various backgrounds .

Table 3

Levels of Knowledge of Teachers about Inclusive Classrooms

Description	Responses	Number (N)	Percent(%)
Rate The Effectiveness of the Training	Very Good	2	1.2
	Good	56	32.9
	Fair	55	32.3
	Bad	-	-
	Very Bad	-	-
Principle of Inclusive Education	Strengthen	16	9.5
	Integration	76	44.7
	Equality	67	39.4
	Other (Specify)	11	6.5
Confident to Implement Inclusive Classroom Practices	Very Confident	5	2.9
	Somewhat Confident	78	45.9
	Not Very Confident	41	24.1
	Not Confident At All.	46	27.1
Benefit Believes in Inclusive Education	Strongly Agree	5	2.9
	Agree	126	74.1
	Neutral	39	22.9
	Disagree	-	-
Knowledge of Individualized Instruction	Strongly Disagree	-	-
	Very Well	2	1.2
	Well	57	33.5
	Somewhat	61	35.9
Family Involvement to The Success of Inclusive Education	Not Well	27	15.9
	Not At All	23	13.5
	Very Important	34	20.0
	Important	58	34.1
Challenges to the Implementation of Inclusive Education	Neutral	42	24.7
	Not At All	36	21.2
	Resources	60	35.3
	Administrative Support	65	38.2
	Both	45	26.5

Source: Primary Data, Survey, 2024

The classification of knowledge gaps was done using the percentage of survey responses . According to the reviewed research, teachers need to have the abilities necessary to address knowledge gaps, boost self-esteem, and successfully apply inclusive approaches; as a result, they must be well-trained, and knowledgeable in inclusive education.

Table 3 shows the level of knowledge of teachers about Inclusive Classrooms . Drawing on areas of progress and concern, the findings represent important insights into teachers' knowledge and perceptions of inclusive classrooms . For questions related to the perceived effectiveness of training on inclusive practices, most participants rated the training program a positive rating, with 32.9% (56) describing it as "Good" and 32.3% (55) describing it as "Fair." Few respondents (1.2%, 2) rated the training a "Very Good" rating, and none gave it a "Bad" or "Very Bad" one . This implies that even though training is typically seen as beneficial both its quality and delivery may be better.

The majority of educators identify inclusive education with the concepts of equality (39.4%, 67) and integration (44.7%, 76), whereas a lesser percentage links it to the notion of strengthening (9.5%, 16) . Only 11.5% of respondents mentioned additional principles . Although more explanation and focus on full inclusion are required, this distribution shows a general comprehension of important inclusive education ideas . This reveals a narrow understanding of the broader conceptual framework underlying the principles of inclusion and thus a need for more in-depth professional development .

Confidence in providing inclusive classroom practices was found to be low . Significant differences exist in confidence levels; only 2.9% (5) reported feeling "Very Confident." While a greater percentage of respondents (45.9%, 78) are "Somewhat Confident," 24.1% (41) are "Not Very Confident," and 27.1% (46) are "Not Confident at All." This suggests that although some teachers feel ready, many of them are hesitant to use inclusive approaches, highlighting the need for more thorough instruction and practical strategies for inclusive teaching . Despite these challenges, 74.1% (126) of respondents "Agree" that inclusive education is desirable, while 2.9% (5) select "Strongly Agree." 22.9% (39) of respondents were neutral, but none objected or strongly disagreed . Though the unclear responses reflect that some teachers may want additional evidence or experience in order to fully accept the benefits of inclusive education, these results suggest that its usefulness is widely accepted.

According to the responses, 35.9% (61) of teachers said they knew "Somewhat" about individualized education, while 33.5% (57) said they knew "Well." But a total of 29.4% (50) said "Not Well" or "Not at All," indicating serious gaps in understanding . Just 1.2% (2) of respondents said they knew "Very Well," highlighting the need for targeted training

in this essential subject . With 20.0% (34) rated family participation as "Very Important" and 34.1% (58) rating it as "Important," teachers largely believe that family involvement is important . On the other hand, 21.2% (36) thought it was "Not at All" significant, while 24.7% (42) were neutral . These conflicting answers show how important it is to stress family involvement as a key element of inclusive education . Administrative support (38.2%, 65) and resources (35.3%, 60) were the primary issues found . Furthermore, both were mentioned by 26.5% (45) as major challenges . These results highlight the administrative and practical challenges teachers encounter while establishing inclusive classrooms, pointing to the necessity of systemic changes and resource distribution.

According to the data, even while the majority of teachers appreciate inclusive education and recognize its advantages, many are unconfident and under-informed about how to put it into practice, especially when it comes to areas like personalized teaching and inclusive classroom management . Issues like a lack of resources and insufficient administrative support make the process even more difficult . Despite their high ratings, training programs require improvement in order to adequately fill these gaps . The results highlight the necessity for comprehensive and useful training programs and are in strong agreement with the idea that teachers who have received more training in inclusive education are more efficient and confident in managing diverse classrooms . These findings indicate that institutional reform, resource allocation, and collaborative leadership are needed to overcome these challenges . Overall, the data reflects moderate awareness of inclusive education among teachers but significant gaps in understanding, confidence, and systemic support that need to be addressed for successful implementation .

The findings confirm the reviewed literature that teacher preparation is essential for addressing knowledge gaps, improving self-esteem, and preparing teachers with the skills they need to successfully apply inclusive approaches . To promote more inclusive and equitable schools, supporting leadership, resource allocation, and institutional reforms are required . Teachers who receive inclusive education training are more able to handle diverse classes . Compared to untrained teachers, trained teachers had a much lower percentage of low knowledge and a larger percentage of good knowledge . This emphasizes how important training is in promoting inclusive teaching methods.

Conclusion

The study shows differences in conceptual clarity, confidence, and practical application, highlighting significant discrepancies in teachers' knowledge and comprehension of inclusive classrooms . Few respondents acknowledged that inclusive education is comprehensive in meeting the needs of various students, even though most

respondents link it with equality and integration . Many teachers expressed hesitation or a lack of preparation, and confidence levels in implementing inclusive strategies were shockingly low . This emphasizes the necessity of improved training initiatives and focused professional development to successfully fill these gaps in Nepal.

Systemic problems such as a lack of administrative support and resources further hinder teachers' capacity to implement inclusive education properly . Despite these challenges, teachers agreed on the advantages of inclusive education, indicating a willingness to participate with the right support and training . These results support the idea that trained teachers are better able to manage diverse learning settings and highlight the significance of professional development, policy change, and resource allocation in creating inclusive classrooms and building a strong and inclusive educational framework in Nepal.

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