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AN INVESTIGATION INTO TEACHERS' LEVELS OF ADOPTING INCLUSIVE EDUCATION PRINCIPLES

Abstract: This study aimed to examine teachers' levels of adopting inclusive education principles. The research was conducted using the general survey and causal-comparative models within the framework of quantitative research methods. The study population consisted of teachers, with the sample drawn from teachers working in the province of Igdir. A total of 548 teachers participated in the study. Data were collected using the Inclusive Education Principles Adoption Scale (IEPAS). Descriptive statistics, Independent Samples t-Test, and One-Way Analysis of Variance were used to analyze the data. The results revealed that teachers perceived themselves as adopting inclusive education principles at a very high level across dimensions such as inclusive school climate, explicit expectations, inclusive course content, accessibility, and reflection. The levels of adopting these principles did not show significant differences across any sub-dimensions based on class type or level of education taught. However, statistically significant differences were observed in various sub-dimensions when considering factors such as gender, pre-service inclusive education training, in-service inclusive education seminars, settlement area, educational background, employment status, and seniority.

Keywords: Inclusiveness, Inclusive education, Principles of inclusive education, Teacher training.

Introduction

Inclusive education refers to an educational process where no student is excluded based on their learning levels, social characteristics, behavior patterns, language proficiency, emotional and physical abilities, or cognitive capacities. This includes students with special needs, students with specific learning difficulties, students with disabilities, and those requiring special education. Furthermore, it ensures that no student is excluded due to their circumstances, such as migration, conflict, war, exposure to terrorism or violence, health and nutrition status, gender, sexual orientation, language, geographic location, culture/tradition, disability, race, ethnicity, religion, language, socioeconomic status, caste, or citizenship conditions such as being a refugee, asylum seeker, or under temporary protection, whether they are advantaged or disadvantaged (Butakor, Ampadu, & Suleiman, 2020; Corbett, 1999; Ozel & Cetinkaya Yildiz, 2020; Sakiz, 2022; Shaeffer, 2019; Taneri, Ozbek, Altunoglu, Avci, & Asiret, 2020). Inclusive education entails a variety of strategies, activities, and processes that aim to transform the universal right to quality, relevant, and appropriate education into reality for all students (Stubbs, 2008). It can also be described as meeting students where they are, as they are, and guiding them toward becoming skilled, knowledgeable, goal-oriented, and motivated learners (Borosan, 2017).

Inclusive education embodies four core characteristics. Firstly, it is an ongoing process of striving for excellence that never truly ends. Secondly, it focuses on identifying and eliminating barriers to

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each student's learning. Thirdly, it requires the physical presence of students in school, active participation in learning processes, and achieving success. Lastly, it places a particular emphasis on disadvantaged groups (Ainscow, 2005). Beyond these principles, inclusive education aims to promote the holistic development of students (Esici & Dogan, 2020). It advocates for the equal valuation of all children and their right to receive education alongside their peers (Aydin Gungor & Pehlivan, 2021). In these environments, differences are not perceived as problems; instead, they are turned into learning opportunities (Unal & Aladag, 2020). Both students and educators assume active and transformative roles, participating in decision-making processes with a sense of social responsibility (Al-Shammari, Faulkner, & Forlin, 2019). Inclusive education relates to concepts of context and community and is measured by its responsiveness to change and diversity. Economic, political, and social changes in a given region can generate new needs for students and potentially hinder their presence, participation, and success in educational settings (Armstrong, 2008). Inclusive education is considered a moral issue concerning human rights and values and is thus viewed as an integral part of creating an inclusive society as a whole (Dreyer, 2017). Finally, it fosters pedagogical creativity, emphasizing the need for instructional processes to move beyond uniformity and advocating for the maximum individualization of learning (Fedulova, Ivanova, Atiyukova, & Nosov, 2019).

Several conceptual approaches to inclusivity exist. According to Ainscow and Cesar (2006), one approach emphasizes the need for students with disabilities or 'special educational needs' to be educated in typical schools. A second approach addresses school exclusion as a response to disciplinary issues, where students who do not or cannot conform to school norms are punished, either formally or informally, and distanced from schools. A third approach broadens the scope to include all cultural and social groups at risk of exclusion and introduces an understanding of inclusivity for groups threatened by restricted access to schools. The fourth approach advocates for inclusivity under the concept of "A School for All," proposing the development of a common school for everyone and opposing school systems that direct students based on abilities or social status. Lastly, the concept of inclusivity as "Education for All" prompts a reconsideration of schools as tools to develop education within all communities.

For schools to truly become places where all communities can flourish, teachers must adhere to certain inclusive principles. According to Columbia University's Inclusive Education Guide, these principles include fostering an inclusive school climate, setting clear expectations, creating inclusive course content, ensuring accessibility, and reflecting on practices. Under the inclusive school climate framework, teacher-student and student-student relationships should be established, treating every student as an individual without resorting to stereotypes. Teachers should instill confidence in students about their abilities, address challenging classroom experiences directly, and seek feedback from students. The principle of clear expectations requires conveying goals and achievements to students, sharing evaluation criteria, providing timely feedback, preparing agreements on expected behaviors, showcasing exemplary work, and modeling the desired behaviors. As per the principle of inclusive course content, different ideas and perspectives should be addressed, authors from diverse backgrounds should be included, and intercultural, diverse examples should be used. Regarding accessibility, multiple modes of information presentation, methods of action and expression, and interaction tools should be utilized. Finally, the principle of reflection encourages teachers to consider their identities, how students perceive these identities, how they resolve classroom issues, their beliefs about teaching, and how they organize classroom activities (Appert et al., 2018).

In the literature, no specific research has been identified regarding the principles of inclusive education. However, existing studies reveal that inclusive education self-efficacy does not differ by gender or education level but varies with experience (Buyuktaskapu Soydan, Durmusoglu Saltali, & Sengoz, 2022). Classroom practices in inclusive education (Kozikoglu & Yildirimoglu, 2021) and positive beliefs about inclusivity also do not differ significantly by gender, though they vary by

experience and education level (Butakor et al., 2020). Teachers' attitudes toward refugees in the context of inclusive education show no variation based on gender or education level but differ across various dimensions depending on seniority (Kazu & Deniz, 2019). Simsek's (2019) study found that attitudes toward inclusive education vary significantly across some dimensions by gender but not by experience, in-service training, or seminar attendance. Similarly, self-efficacy in this area does not differ significantly by gender, experience, or in-service training/seminar attendance. Aksungur's (2022) research indicates that school administrators' attitudes toward inclusive education may vary in some dimensions based on gender and experience but not by their education level or the level of education in which they work. According to Wang (2023), university instructors' attitudes toward inclusive education do not vary significantly by experience but do differ significantly by gender. These studies collectively suggest that dependent variables like self-efficacy, practice level, and attitudes toward inclusive education have been examined concerning independent variables such as gender, education level, experience, and in-service or pre-service training. However, the principles of inclusive education as a dependent variable have not yet been analyzed in relation to these variables, representing a gap in the literature. Addressing this gap necessitates an examination of the principles of inclusive education with respect to gender, education level, experience, level of education taught, and whether in-service or pre-service training on inclusive education has been received. Additionally, the principles of inclusive education should also be investigated concerning class type, settlement area, employment type, and whether a pre-service inclusive education course was taken. This is because teachers' adoption levels of inclusive education principles might differ in multi-grade versus single-grade classes, urban versus rural areas, and among different types of employment. For instance, contractual teachers may lack a sense of professional belonging (Oztas, 2010) and experience exclusion by educational stakeholders (Polat, 2013), raising concerns about whether they themselves are being included. Similarly, the introduction of an elective inclusive education course in undergraduate programs only in 2018-2019 in Türkiye (Council of Higher Education, 2018) means that teachers who began university prior to 2018 or took different electives did not have the opportunity to take this course. This could create differences in the adoption of inclusive education principles between teachers who took the course and those who did not. Based on these considerations, the current study aims to examine teachers' adoption levels of inclusive education principles. To achieve this objective, the following research questions are posed:

1. What are the levels of teachers' adoption of inclusive education principles?
2. Do teachers' adoption levels of inclusive education principles differ significantly based on variables such as gender, class type, pre-service inclusive education training, in-service inclusive education seminars, level of education taught, settlement area, educational background, employment status, and seniority?

Methodology

Research Design

This study was conducted using general survey and causal-comparative research designs within the framework of quantitative research methods. The general survey model, defined as a method for drawing general conclusions about a population by examining a specific part or the entirety of that population (Karasar, 2009), was employed to determine the levels at which teachers adopt inclusive education principles. The causal-comparative model, used to identify the variables responsible for differences among various groups (Buyukozturk, Kilic Cakmak, Akgun, Karadeniz, & Demirel, 2013), sought to answer the question of which variables differentiate teachers' adoption levels of inclusive education principles.

Population and Sample

The population of this study consists of teachers, with the study sample focusing on teachers working in the province of Igdir in Türkiye. The sample was formed using a convenience sampling method, which involves selecting participants that are easily accessible (Yildirim & Simsek, 2005). Through an online survey link, data were collected from 548 teachers. After eliminating outliers, analyses were conducted using data from 500 teachers. Of these participants, 55% were female and 45% were male. Additionally, 14% worked in preschool, 45% in primary school, 22% in middle school, and 20% in high schools. Furthermore, 34% of the participants were employed in villages, 21% in districts or towns, and 45% in city centers. Regarding their education levels, 4% had associate degrees, 83% bachelor's degrees, and 13% postgraduate degrees. Their employment status varied as follows: 7% were temporary (paid) teachers, 33% were contractual teachers, and 60% were permanent staff. The seniority of the teachers varied between one month and 42 years.

Data Collection

The data for this study were collected using the Inclusive Education Principles Adoption Scale (IEPAS), developed by Yilmaz, Oner Sunkur, and Derya (2024). This scale measures the extent to which teachers identify with behaviors related to inclusive education principles. The scale encompasses five dimensions: These dimensions are “Adoption of the Inclusive School Climate Principle (AISCP), Adoption of the Clear Expectations Principle (ACEP), Adoption of the Inclusive Course Content Principle (AICCP), Adoption of the Accessibility Principle (AAP), and Adoption of the Reflection Principle (ARP).” Teachers rated the items on the scale from 1 (Does not describe me at all) to 7 (Describes me completely). The reliability of the scale was examined using Cronbach’s alpha coefficients, which were as follows: 0.78 for AISCP, 0.78 for ACEP, 0.77 for AICCP, 0.71 for AAP, 0.87 for ARP, and 0.93 for the overall IEPAS. Since all coefficients exceed the 0.70 threshold (Sipahi, Yurtkoru, & Cinko, 2010), the measurements done with the scale are considered reliable.

Data Analysis

Prior to data analysis, all datasets were cleared of outliers. Box plots for the dataset containing outliers (n=548) are shown in Figure 1, and box plots for the cleaned dataset (n=500) are shown in Figure 2.

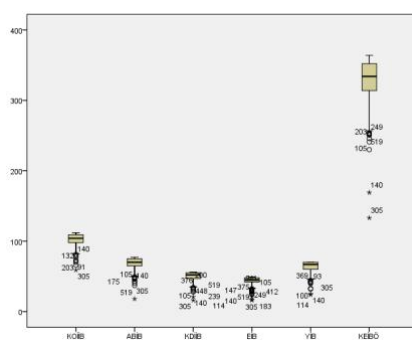


Figure 1. Box plot (with outliers)

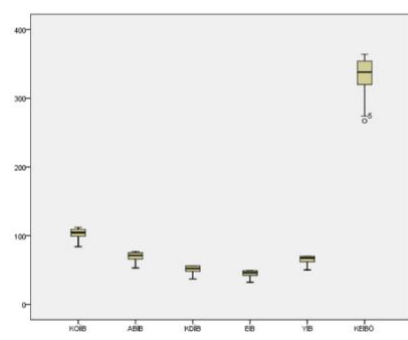


Figure 2. Box plot (without outliers)

After outliers were eliminated, skewness and kurtosis coefficients of the datasets were examined. These coefficients ranged from -0.63 to -0.38 for AISCP, -0.68 to -0.19 for ACEP, -0.83 to -0.15 for AICCP, -0.95 to 0.39 for AAP, -1.09 to 0.26 for ARP, and -0.63 to 0.11 for the overall IEPAS. Since all values fall within the acceptable range of -1.5 to +1.5 (Tabachnick & Fidell, 2013), the normal distribution assumption for parametric tests is met. Thus, in addition to descriptive statistics, the

Independent Samples t-Test and One-Way Analysis of Variance (ANOVA) were used for data analysis. For post-hoc tests required in cases of unequal group samples, Scheffe's test was employed when variances were equal, and Dunnett's C test was used when variances were not equal (Kayri, 2009). Effect sizes were calculated using eta squared (η^2) and interpreted as small at the 0.01 level, medium at the 0.06 level, and large at the 0.14 level (Pallant, 2016).

Findings

Findings on the Levels of Adoption of Inclusive Education Principles

The descriptive statistics regarding teachers' levels of adoption of inclusive education principles are presented in Table 1.

Table 1. Descriptive Statistics

Scales	N	Minimum	Maximum	\bar{X}	Sd
AISCP	500	84,00	112,00	103,53	6,62
ACEP	500	53,00	77,00	70,01	5,78
AICCP	500	37,00	56,00	51,18	4,61
AAP	500	32,00	49,00	44,84	4,00
ARP	500	50,00	70,00	65,41	5,34
IEPAS	500	267,00	364,00	334,97	21,68

Based on the mean scores for each scale, as shown in Table 1, and considering the seven-point Likert structure of the scale, the findings indicate that participating teachers expressed a very high level of adoption of inclusive education principles, including inclusive school climate, clear expectations, inclusive course content, accessibility, and reflection. Overall, the teachers reported that they highly embraced the principles of inclusive education.

Findings on Gender Differences

The results of the Independent Samples t-Test, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on gender, are presented in Table 2.

Table 2. Independent Samples t-Test Related to Gender

Scale	Gender	n	\bar{X}	s	df	t	P
AISCP	Female	273	103,71	6,66	498	0,67	,504
	Male	227	103,31	6,58			
ACEP	Female	273	70,02	5,95	498	0,05	,958
	Male	227	69,99	5,58			
AICCP	Female	273	51,3	4,56	498	0,6	,549
	Male	227	51,05	4,66			
AAP	Female	273	44,85	4,16	498	0,1	,924
	Male	227	44,82	3,77			
ARP	Female	273	65,92	5,09	498	2,36	,019
	Male	227	64,8	5,57			
IEPAS	Female	273	335,8	21,66	498	0,94	,347

Scale	Gender	n	\bar{X}	s	df	t	P
	Male	227	333,97	21,72			

According to Table 2, the overall adoption levels of inclusive education principles and the subdimensions of inclusive school climate, clear expectations, inclusive course content, and accessibility do not differ significantly based on gender ($p>0.05$). However, in the reflection subdimension, a significant difference favoring female teachers ($\bar{X}=65.92$) was observed ($t[498]=2.36$; $p<0.05$). The effect size of gender on ARP scores is small ($\eta^2=0.011$). This finding suggests that female teachers are more inclined than male teachers to reflect on their inclusive practices.

Findings on Class Type Differences

The results of the Independent Samples t-Test, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on class type, are presented in Table 3.

Table 3. Independent Samples t-Test Related to Class Type

Scale	Class type	n	\bar{X}	s	df	t	P
AISCP	Multi-grade	50	103,84	6,44	283	0,27	,789
	Single-grade	235	103,57	6,58			
ACEP	Multi-grade	50	70,34	5,55	283	-0,03	,976
	Single-grade	235	70,37	5,52			
AICCP	Multi-grade	50	51,02	4,29	283	-0,43	,672
	Single-grade	235	51,32	4,57			
AAP	Multi-grade	50	44,44	3,86	283	-0,43	,667
	Single-grade	235	44,71	4			
ARP	Multi-grade	50	65,6	4,9	283	0,47	,638
	Single-grade	235	65,21	5,42			
IEPAS	Multi-grade	50	335,24	21,18	283	0,02	,982
	Single-grade	235	335,17	21,5			

According to Table 3, teachers' adoption levels of inclusive education principles, both overall and across all subdimensions, do not differ significantly based on class type ($p>0.05$).

Findings on Pre-Service Inclusive Education Training Differences

The results of the Independent Samples t-Test, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on whether they had taken pre-service inclusive education training, are presented in Table 4.

Table 4. Independent Samples t-Test Related to Participation in Pre-Service Inclusive Education Training

Scale	Training	n	\bar{X}	s	df	t	P
AISCP	Participated	198	104,88	6,09	453,07	3,84	,000
	Not participated	302	102,64	6,81			
ACEP	Participated	198	71,21	5,41	498	3,83	,000

Scale	Training	n	\bar{X}	s	df	t	P
AICCP	Not participated	302	69,22	5,89	498	3,05	,002
	Participated	198	51,95	4,84			
AAP	Not participated	302	50,68	4,38	498	3,43	,001
	Participated	198	45,59	3,75			
ARP	Not participated	302	44,35	4,06	498	1,21	,228
	Participated	198	65,77	5,31			
IEPAS	Not participated	302	65,18	5,35	498	3,75	,000
	Participated	198	339,4	20,78			
	Not participated	302	332,06	21,8			

As seen in Table 4, the reflection subdimension does not differ significantly based on whether teachers had taken pre-service inclusive education training ($t(498)=1.21$; $p>0.05$). However, significant differences favoring teachers who had taken this training were found for the subdimensions of inclusive school climate ($t(498)=3.84$; $p<0.001$), clear expectations ($t(498)=3.83$; $p<0.001$), inclusive course content ($t(498)=3.05$; $p<0.01$), and accessibility ($t(498)=3.43$; $p<0.01$), as well as the overall score ($t(498)=3.75$; $p<0.001$). The effect sizes of receiving pre-service inclusive education training on AISC ($\eta^2=0.031$), ACEP ($\eta^2=0.029$), AICCP ($\eta^2=0.018$), AAP ($\eta^2=0.023$), and IEPAS ($\eta^2=0.027$) scores are small. These findings indicate that teachers who received pre-service inclusive education training are more likely to adopt inclusive education principles, except for the reflection principle.

Findings on In-Service Inclusive Education Seminars Differences

The results of the Independent Samples t-Test, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on whether they had participated in-service inclusive education seminars, are presented in Table 5.

Table 5. Independent Samples t-Test Related to Participation in In-Service Inclusive Education Seminars

Scale	Seminar	n	\bar{X}	s	df	t	P
AISC	Participated	268	104,49	6,37	498	3,53	,000
	Not participated	232	102,42	6,75			
ACEP	Participated	268	70,58	5,97	496,27	2,41	,017
	Not participated	232	69,34	5,49			
AICCP	Participated	268	51,6	4,77	498	2,16	,031
	Not participated	232	50,71	4,37			
AAP	Participated	268	45,42	3,8	498	3,54	,000
	Not participated	232	44,17	4,09			

Scale	Seminar	n	\bar{X}	s	df	t	P
ARP	Participated	268	65,78	5,27	498	1,68	,094
	Not participated	232	64,98	5,39			
IEPAS	Participated	268	337,87	21,79	498	3,24	,001
	Not participated	232	331,62	21,12			

As shown in Table 5, the reflection subdimension does not differ significantly based on whether teachers had attended in-service inclusive education seminars ($t(498)=1.68$; $p>0.05$). However, significant differences favoring teachers who had attended these seminars were found for the subdimensions of inclusive school climate ($t(498)=3.53$; $p<0.001$), clear expectations ($t(496.27)=2.41$; $p<0.05$), inclusive course content ($t(498)=2.16$; $p<0.05$), and accessibility ($t(498)=3.54$; $p<0.001$), as well as the overall score ($t(498)=3.24$; $p<0.01$). The effect sizes of attending in-service inclusive education seminars on AISCP ($\eta^2=0.024$), ACEP ($\eta^2=0.012$), AICCP ($\eta^2=0.009$), AAP ($\eta^2=0.024$), and IEPAS ($\eta^2=0.021$) scores are small. These findings suggest that attending in-service inclusive education seminars positively influences teachers' adoption of inclusive education principles, except for the reflection principle.

Findings on the Level of Education Taught Differences

The results of the One-Way ANOVA, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on the level of education they taught, are presented in Table 6.

Table 6. One-Way Analysis of Variance (ANOVA) Related to Level of Education Taught

Scale	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
AISCP	68	105,13	5,94	Between Groups	318,61	3	106,2	2,44	,063
	224	103,71	6,42	Within groups	21561,94	496	43,47		
	109	102,46	7,38	Total	21880,55	499			
	99	103,19	6,48						
ACEP	68	69,47	6,02	Between Groups	43,65	3	14,55	0,43	,729
	224	70,29	5,53	Within groups	16627,34	496	33,52		
	109	69,77	6,20	Total	16670,98	499			
	99	69,99	5,74						
AICCP	68	51,63	4,31	Between Groups	25,65	3	8,55	0,4	,752
	224	51,00	4,61	Within groups	10559,43	496	21,29		
	109	51,12	4,84	Total	10585,07	499			
	99	51,37	4,56						
AAP	68	45,32	3,85	Between Groups	76,65	3	25,55	1,61	,185

Scale	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
	224	44,42	4,17	Within groups	7849,23	496	15,83		
	109	45,26	3,84	Total	7925,88	499			
	99	44,99	3,77						
ARP	68	66,71	4,54	Between Groups	170,7	3	56,9	2,01	,112
	224	65,42	5,25	Within groups	14046,42	496	28,32		
	109	64,70	5,61	Total	14217,13	499			
	99	65,30	5,64						
IEPAS	68	338,26	20,55	Between Groups	1046,69	3	348,9	0,74	,528
	224	334,83	21,30	Within groups	233585,9	496	470,94		
	109	333,30	23,36	Total	234632,6	499			
	99	334,85	21,47						

As indicated in Table 6, teachers' views on their levels of adoption of inclusive education principles show no significant differences based on the level of education taught, whether in terms of overall scores or subdimensions such as inclusive school climate, clear expectations, inclusive course content, accessibility, and reflection ($p > 0.05$). This finding suggests that teachers working at preschool, primary school, middle school, and high school levels adopt the principles of inclusivity at similar levels.

Findings on Settlement Area Differences

The results of the One-Way ANOVA, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on the settlement area in which they worked, are presented in Table 7.

Table 7. One-Way Analysis of Variance (ANOVA) Related to Settlement Area

Scale	Group	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
AISCP	Village	168	102,74	6,56	Between Groups	192,82	2	96,41	2,21	,111
	Town	106	103,44	6,67	Within groups	21687,73	497	43,64		
	City	226	104,15	6,61	Total	21880,55	499			
ACEP	Village	168	69,49	5,63	Between Groups	66,33	2	33,16	0,99	,371
	Town	106	70,27	5,47	Within groups	16604,66	497	33,41		
	City	226	70,26	6,02	Total	16670,98	499			
AICCP	Village	168	50,49	4,71	Between Groups	134,86	2	67,43	3,21	,041

Scale	Group	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
	Town	106	51,25	4,71	Within groups	10450,21	497	21,03		
	City	226	51,67	4,43	Total	10585,07	499			
AAP	Village	168	44,27	4,25	Between Groups	82,34	2	41,17	2,61	,075
	Town	106	45,15	3,85	Within groups	7843,54	497	15,78		
	City	226	45,12	3,81	Total	7925,88	499			
ARP	Village	168	65,10	5,18	Between Groups	83,33	2	41,67	1,47	,232
	Town	106	64,96	5,87	Within groups	14133,79	497	28,44		
	City	226	65,86	5,17	Total	14217,13	499			
IEPAS	Village	168	332,09	21,51	Between Groups	2380,4	2	1190,2	2,55	,079
	Town	106	335,08	22,10	Within groups	232252,2	497	467,31		
	City	226	337,06	21,47	Total	234632,6	499			

According to Table 7, teachers' views on their levels of adoption of inclusive education principles show no significant differences in terms of overall scores or in the subdimensions of inclusive school climate, clear expectations, accessibility, and reflection based on the settlement area ($p>0.05$). However, teachers' views on their levels of adoption of the inclusive course content principle differ significantly based on the settlement area ($F(2, 497)=3.21$; $p<0.05$). Scheffe test results indicate that this significant difference lies between teachers working in villages ($n=168$; $\bar{X}=50.49$) and those working in city centers ($n=226$; $\bar{X}=51.67$), with the difference favoring teachers in city centers. The effect size of the settlement variable on AICCP scores is small ($\eta^2=0.013$). These findings suggest that teachers working in villages, towns, and city centers adopt inclusive education principles similarly, except for the inclusive course content principle. Teachers in city centers appear to adopt the principle of creating more inclusive course content at higher levels compared to those working in villages.

Findings on Educational Background Level Differences

The results of the One-Way ANOVA, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on educational background of teachers, are presented in Table 8.

Table 8. One-Way Analysis of Variance (ANOVA) Related to Educational Background

Scale	Group	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
AISCP	Associate	21	108,67	1,93	Between Groups	644,21	2	322,11	7,54	,001
	Bachelor's	414	103,45	6,74	Within groups	21236,34	497	42,73		
	Postgraduate	65	102,37	6,13	Total	21880,55	499			

Scale	Group	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
ACEP	Associate	21	74,62	3,73	Between Groups	581,09	2	290,55	8,98	,000
	Bachelor's	414	70,00	5,70	Within groups	16089,89	497	32,37		
	Postgraduate	65	68,57	6,12	Total	16670,98	499			
AICCP	Associate	21	54,48	2,27	Between Groups	283,12	2	141,56	6,83	,001
	Bachelor's	414	51,16	4,63	Within groups	10301,95	497	20,73		
	Postgraduate	65	50,26	4,60	Total	10585,07	499			
AAP	Associate	21	46,81	2,50	Between Groups	90,26	2	45,13	2,86	,058
	Bachelor's	414	44,79	4,09	Within groups	7835,62	497	15,77		
	Postgraduate	65	44,49	3,52	Total	7925,88	499			
ARP	Associate	21	67,81	2,96	Between Groups	160,38	2	80,19	2,84	,060
	Bachelor's	414	65,41	5,42	Within groups	14056,75	497	28,28		
	Postgraduate	65	64,63	5,20	Total	14217,13	499			
IEPAS	Associate	21	352,38	10,48	Between Groups	7779,33	2	3889,67	8,52	,000
	Bachelor's	414	334,82	21,86	Within groups	226853,2	497	456,45		
	Postgraduate	65	330,32	20,67	Total	234632,6	499			

As seen in Table 8, The findings indicate that teachers' educational backgrounds do not lead to significant differences in the adoption of the *accessibility* and *reflection* subdimensions of inclusive education principles ($p>0.05$). Teachers with associate, bachelor's, and postgraduate degrees reported adopting these principles at similar levels. However, significant differences were found in the subdimensions of *inclusive school climate* ($F(2, 497)=7.54$; $p<0.01$), *clear expectations* ($F(2, 497)=8.98$; $p<0.001$), and *inclusive course content* ($F(2, 497)=6.83$; $p<0.01$), as well as in the overall adoption of inclusive education principles ($F(2, 497)=8.52$; $p<0.001$). In all these cases, teachers with associate degrees demonstrated significantly higher levels of adoption compared to those with bachelor's and postgraduate degrees, as confirmed by Dunnett's C test results.

The effect sizes of education level on AISCP ($\eta^2=0.029$), ACEP ($\eta^2=0.035$), AICCP ($\eta^2=0.027$), and IEPAS ($\eta^2=0.033$) scores are small. Despite these small effect sizes, the results show that teachers with associate degrees consistently reported higher adoption levels of these principles compared to their more highly educated counterparts, indicating a potential inverse relationship between educational background and reported adoption of these inclusive education principles.

Findings on Employment Status Differences

The results of the One-Way ANOVA, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on their employment status, are presented in Table 9.

Table 9. One-Way Analysis of Variance (ANOVA) Related to Employment Status

Scale	Group	N	\bar{X}	sd		Sum of squares	Df	Mean square	F	p
AISC	Temporary	33	102,64	7,07	Between Groups	463,34	2	231,67	5,38	,005
	Contractual	167	102,30	6,85	Within groups	21417,21	497	43,09		
	Permanent	300	104,31	6,34	Total	21880,55	499			
ACEP	Temporary	33	69,61	6,15	Between Groups	290,21	2	145,11	4,4	,013
	Contractual	167	68,99	5,82	Within groups	16380,77	497	32,96		
	Permanent	300	70,62	5,65	Total	16670,98	499			
AICCP	Temporary	33	51,09	5,32	Between Groups	82,37	2	41,18	1,95	,144
	Contractual	167	50,63	4,74	Within groups	10502,71	497	21,13		
	Permanent	300	51,50	4,43	Total	10585,07	499			
AAP	Temporary	33	43,82	4,99	Between Groups	266,45	2	133,23	8,65	,000
	Contractual	167	43,97	4,30	Within groups	7659,43	497	15,41		
	Permanent	300	45,43	3,56	Total	7925,88	499			
ARP	Temporary	33	65,94	5,08	Between Groups	121,76	2	60,88	2,15	,118
	Contractual	167	64,72	5,44	Within groups	14095,37	497	28,36		
	Permanent	300	65,74	5,29	Total	14217,13	499			
IEPAS	Temporary	33	333,09	22,87	Between Groups	5384,32	2	2692,16	5,84	,003
	Contractual	167	330,60	22,37	Within groups	229248,2	497	461,26		
	Permanent	300	337,61	20,81	Total	234632,6	499			

According to Table 9, teachers' levels of adoption of inclusive education principles show no significant differences in the subdimensions of inclusive course content and reflection based on employment status ($p > 0.05$). However, significant differences were observed in the adoption of the inclusive school climate ($F(2, 497) = 5.38$; $p < 0.01$), clear expectations ($F(2, 497) = 4.4$; $p < 0.05$), accessibility ($F(2, 497) = 8.65$; $p < 0.001$), and overall adoption scores ($F(2, 497) = 5.84$; $p < 0.01$). Permanent teachers reported significantly higher levels of adoption compared to contractual teachers across these areas, as indicated by Scheffe and Dunnett's C test results. Effect sizes for these differences were small [AISC ($\eta^2 = 0.021$), ACEP ($\eta^2 = 0.017$), AAP ($\eta^2 = 0.034$), and IEPAS ($\eta^2 = 0.022$)].

Findings on Seniority Differences

The results of the One-Way ANOVA, conducted to determine whether teachers' levels of adoption of inclusive education principles differed significantly based on their seniority, are presented in Table 10.

Table 10. One-Way Analysis of Variance (ANOVA) Related to Seniority

Scale	Group	N	\bar{X}	sd		Sum of squares	df	Mean square	F	p
AISCP	1 year -	91	103,25	5,61	Between Groups	1131,14	5	226,23	5,44	,000
	2-5 years	142	101,83	7,21	Within groups	20300,99	488	41,60		
	6-10 years	121	103,55	6,53	Total	21432,13	493			
	11-15 years	58	105,21	6,65						
	16-20 years	41	104,27	5,79						
	21 years +	41	107,12	5,41						
ACEP	1 year -	91	69,35	5,12	Between Groups	481,59	5	96,32	2,99	,011
	2-5 years	142	69,44	5,90	Within groups	15706,64	488	32,19		
	6-10 years	121	70,14	6,08	Total	16188,23	493			
	11-15 years	58	70,83	5,45						
	16-20 years	41	69,73	5,72						
	21 years +	41	72,95	5,02						
AICCP	1 year -	91	50,62	4,41	Between Groups	304,99	5	61,00	2,97	,012
	2-5 years	142	50,91	4,70	Within groups	10014,27	488	20,52		
	6-10 years	121	50,86	5,05	Total	10319,26	493			
	11-15 years	58	51,95	3,80						
	16-20 years	41	51,34	4,26						
	21 years +	41	53,49	3,68						
AAP	1 year -	91	43,85	4,22	Between Groups	345,12	5	69,03	4,60	,000
	2-5 years	142	44,34	4,22	Within groups	7329,52	488	15,02		
	6-10 years	121	45,02	3,79	Total	7674,64	493			
	11-15 years	58	45,48	3,77						
	16-20 years	41	45,56	3,19						
	21 years +	41	46,88	2,59						
ARP	1 year -	91	65,19	4,77	Between Groups	191,69	5	38,34	1,36	,237
	2-5 years	142	64,75	5,55	Within groups	13737,48	488	28,15		
	6-10 years	121	65,53	5,37	Total	13929,16	493			
	11-15 years	58	66,52	5,16						
	16-20 years	41	65,41	5,77						
	21 years +	41	66,54	5,08						
IEPAS	1 year -	91	332,25	18,88	Between Groups	10048,46	5	2009,69	4,49	,001

Scale	Group	N	\bar{X}	sd		Sum of squares	df	Mean square	F	p
	2-5 years	142	331,27	22,70	Within groups	218571,46	488	447,89		
	6-10 years	121	335,11	22,00	Total	228619,91	493			
	11-15 years	58	339,98	21,30						
	16-20 years	41	336,32	20,63						
	21 years +	41	346,98	17,91						

As shown in Table 10, teachers' adoption levels of the reflection principle do not differ significantly based on seniority ($p > 0.05$). However, significant differences are observed in the adoption of the inclusive school climate ($F(5, 488) = 5.44; p < 0.001$), clear expectations ($F(5, 488) = 2.99; p < 0.05$), inclusive course content ($F(5, 488) = 2.97; p < 0.05$), accessibility ($F(5, 488) = 4.60; p < 0.001$), and overall inclusive education principles ($F(5, 488) = 4.49; p < 0.01$) based on seniority.

According to Dunnett's C test results, teachers with 21 or more years of experience scored significantly higher than all other groups in the *Inclusive School Climate* dimension. Additionally, teachers with 11–15 years of experience scored higher than those with 2–5 years of experience. In the *Clear Expectations*, *Accessibility* dimensions, and *Overall Adoption of Inclusive Education Principles*, teachers with 21 or more years of experience achieved significantly higher scores compared to all groups with up to 10 years of experience. According to Scheffe test results, teachers with 21 or more years of experience also scored significantly higher in the *Inclusive Course Content* dimension compared to all groups with up to 5 years of experience.

The effect sizes of the seniority on AISCP ($\eta^2 = 0.052$), ACEP ($\eta^2 = 0.030$), AICCP ($\eta^2 = 0.030$), AAP ($\eta^2 = 0.045$), and IEPAS ($\eta^2 = 0.044$) scores are small. Even though these effect sizes are small, the findings generally indicate that teachers with 21 or more years of experience adopt inclusive education principles—except for the reflection principle—at higher levels, especially compared to teachers in their first 10 years of teaching.

Discussion

According to the findings of this study, teachers perceive themselves as adopting inclusive education principles at a very high level. This result suggests that teachers may also possess other positive affective traits related to inclusive education. Supporting this interpretation, various studies have revealed positive findings regarding teachers' perceptions of inclusive education practices (Ali, Mustapha, & Jelas, 2006), self-efficacy levels (Buyuktaskapu Soydan et al., 2022), and attitudes (Dorji, Bailey, Paterson, Graham, & Miller, 2021; Kozikoglu & Yildirimoglu, 2021). However, there are also studies in the literature that do not support the positive findings regarding the adoption of inclusive education principles observed in this research. For instance, when it comes to including students with special educational needs or disabilities, teachers may feel unprepared to meet their needs (Hay, Smit, & Paulsen, 2001) and express concerns about including such students in their classrooms (Savolainen, Engelbrecht, Nel, & Malinen, 2012). Some studies have even concluded that many teachers do not engage in any practices related to inclusive education (Kahriman, Pamuk, & Bal, 2019).

This study found that teachers' levels of adoption of inclusive education principles, both overall and in the subdimensions of inclusive school climate, clear expectations, inclusive course content, and accessibility, did not differ significantly by gender. Previous studies have similarly shown no significant differences between male and female teachers in terms of their evaluations of inclusive education (Acar, 2020), self-efficacy (Buyuktaskapu Soydan et al., 2022), attitudes (Kazu & Deniz, 2019), classroom practices (Kozikoglu & Yildirimoglu, 2021), and beliefs (Butakor et al., 2020).

However, when inclusivity is specifically considered in relation to students with disabilities or special needs, Dorji et al. (2021) observed that male teachers exhibited more positive attitudes than their female counterparts. Although no significant gender differences were found in most subdimensions, this study revealed that female teachers adopted the reflection principle more strongly. This might be attributed to higher reflective thinking skills among female teachers, as previous research has consistently shown that women possess higher levels of reflective thinking skills compared to men (Aslam, Hali, Zhang, & Saleem, 2021; Dilekli & Orakci, 2019; Poyraz & Usta, 2013).

According to this study, there were no significant differences in the levels of adoption of inclusive education principles between teachers working in multi-grade and single-grade classrooms. This finding points to an unexpected result. Multi-grade classrooms, which involve multiple grades taught together, often face challenges such as insufficient time for each student, school climate and classroom management issues, and heightened cultural diversity (Dursun, 2006). These factors could make it more difficult to implement inclusive education principles. However, the high levels of adoption of inclusive education principles reported by teachers in both groups suggest that differences between multi-grade and single-grade classrooms may have less impact on students' presence, sense of belonging, and academic success in schools.

The findings indicate that both in-service training seminars and pre-service inclusive education courses positively influence teachers' adoption of inclusive education principles, both overall and in the subdimensions of inclusive school climate, clear expectations, inclusive course content, and accessibility. In other words, training on inclusive education enables teachers to adopt most principles of inclusivity. Supporting these findings, Esici and Dogan (2020) found that pre-service inclusive education courses positively influenced prospective teachers' attitudes toward inclusivity. The study conducted by Yilmaz et al. (2024) demonstrated that inclusive education seminars provided to newly appointed teachers have a positive effect on their adoption of inclusive education principles. However, Acar (2020) reported that in-service training had no impact on teachers' evaluations of inclusive education. Similarly, Yada, Tolvanen, and Savolainen (2018) found that while the number of inclusive education seminars positively affected self-efficacy and attitudes among Finnish teachers, no such effect was observed among Japanese teachers. Although this study demonstrates that both in-service and pre-service training increases the adoption of inclusive education principles in many subdimensions, no such effect was found for the reflection principle. This may be due to the nature of the training, which focuses on future practices rather than encouraging teachers to reflect on their past attitudes and experiences.

The results of this study revealed no significant differences in teachers' levels of adoption of inclusive education principles based on the level of education they taught. Similar findings have been reported in the literature, where the attitudes of school administrators, another group of education stakeholders, toward inclusive education did not differ by the level of education at which they worked (Aksungur, 2022). When considered together, these findings suggest that education stakeholders tend to show similar tendencies regarding inclusivity, regardless of the level of education at which they work.

Teachers' levels of adoption of inclusive education principles, including overall scores and subdimensions such as inclusive school climate, clear expectations, accessibility, and reflection, did not differ significantly by settlement area. In other words, teachers in villages, towns, and city centers reported adopting these principles at similar levels. Supporting this, Unianu (2012) found no significant differences in teachers' attitudes toward the inclusion of students with special needs between rural and urban areas in Romania. However, this study revealed that teachers in city centers adopted the inclusive course content principle more strongly than those in villages. This may be attributed to the greater cultural diversity in city center classrooms, including differences in ethnicity, language, religion, migration, and disability (Karadag & Turut, 2013). Teachers may

perceive these differences not as challenges but as opportunities to enrich education, as advocated in inclusive education (Unal & Aladag, 2020). Additionally, the multicultural nature of city center schools requires a greater emphasis on multicultural education. Previous research has shown that teachers with more positive attitudes toward multicultural education tend to implement more inclusive practices in their classrooms (Kozikoglu & Yildirimoglu, 2021). In summary, teachers in city centers may have incorporated more inclusive course content due to the higher demand for multicultural education in such settings.

When examining education level, no significant differences were found in the subdimensions of accessibility and reflection. However, significant differences favoring teachers with associate degrees were observed in the subdimensions of inclusive school climate, clear expectations, and inclusive course content, as well as overall scores. No differences were found between teachers with bachelor's and postgraduate degrees. While Butakor et al. (2020) found that teachers with bachelor's degrees were more inclusive than those with postgraduate degrees, other studies have reported opposite results, particularly concerning mainstreamed students (Dorji et al., 2021).

This study found no significant differences in teachers' levels of adoption of the inclusive course content and reflection principles based on employment type. However, significant differences were observed in the inclusive school climate, clear expectations, accessibility, and overall scores, with permanent teachers reporting higher levels of adoption compared to contractual teachers, while temporary (paid) teachers did not show significant differences from the other groups. Similarly, significant differences were found in all subdimensions except reflection, based on seniority. These differences generally favored teachers with 21 or more years of experience over those in their first 10 years of teaching. When considering employment type and years of experience together, the findings suggest a close relationship between these variables. Contractual teachers are often in the early stages of their careers, while permanent teachers tend to have more experience. The finding that more experienced teachers adopt inclusive principles at higher levels aligns with previous studies showing higher self-efficacy scores among experienced teachers in inclusive education (Buyuktaskapu Soydan et al., 2022). However, Saloviita (2020) found only a weak correlation between years of experience and attitudes toward inclusivity.

Conclusion and recommendations

The findings of this study indicate that, while teachers exhibit some differences in their levels of adoption of inclusive education principles, they generally adopt these principles at a high level. Although this is a positive outcome, the reliance on self-reported data suggests a need for further support from additional studies. Therefore, qualitative research should be conducted to explore whether teachers actually implement these principles in practice, despite reporting high levels of adoption. Furthermore, it is important to investigate whether students feel that these principles are being implemented in their classrooms and to what extent they perceive themselves as being included based on these principles. In this context, scales that measure students' perceptions of these five principles should be developed and used in field studies.

The scale used in this study did not specifically focus on disadvantaged groups; inclusivity was considered as encompassing all students, regardless of their level or type of disadvantage. However, when it comes to particularly disadvantaged groups, future research could explore whether teachers remain inclusive in terms of inclusive school climate, clear expectations, inclusive course content, accessibility, and reflection.

Although there were no substantial differences, male teachers were found to exhibit slightly lower levels of reflectiveness in their classroom practices compared to female teachers. Male teachers in this situation could be encouraged to reflect on the inclusive or exclusive effects of their classroom behaviors on students at the end of each day or week. Teachers might keep reflective journals or

encourage students to provide feedback on their classroom practices, such as through written letters or other methods.

The study also found that individuals who had received pre-service or in-service inclusive education courses or seminars were more inclusive in all principles except reflection. In this case, it is recommended to continue offering such training programs. Additionally, these training programs should be enriched to better address the principle of “reflection.”

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