



Exploring Students' Perceptions Towards Inclusive Teaching Practices and Institutional Support in Higher Education Institutions: A Survey Research Study of Sindh, Pakistan

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ABSTRACT

Inclusive education has become a key priority in higher education, requiring universities to adopt teaching practices and institutional support systems that accommodate the diverse needs of all learners. Despite recent policy initiatives in Pakistan, empirical evidence regarding inclusive teaching practices and institutional support remains limited. This study examined students' perceptions towards inclusive teaching practices and institutional support in public universities of Sindh, Pakistan. A quantitative Survey research design was employed, and data were collected from 385 students selected through a multistage sampling technique involving cluster, simple random, and convenience sampling. Data were gathered using a structured survey questionnaire and analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to analyze the data. The findings revealed that students generally held positive perceptions of both inclusive teaching practices and institutional support. Among the dimensions of inclusive teaching, Inclusive Classroom Environment received the highest mean score ($M = 4.15$), while Inclusive Instructional Strategies received the lowest ($M = 3.98$). Regarding institutional support, Academic Support Services were rated most positively ($M = 4.08$), whereas Policy and Administrative Support received the lowest mean score ($M = 4.01$). Overall, the results suggest that public universities in Sindh are making encouraging progress toward inclusive higher education; however, improvements are needed in differentiated instructional practices and the implementation and communication of inclusive policies. The study provides empirical evidence to inform university administrators, policymakers, and educators in strengthening inclusive teaching practices and institutional support to foster equitable and student-centered higher education in Pakistan.

Introduction

There is increasing international commitment to equity, social justice, and diversity which is leading to growing support for inclusive education as a major agenda and a priority of modern higher education. Today, universities are expected not only to provide access to higher education but also to ensure meaningful access and equal opportunities to succeed in university learning environments for all students, irrespective of their socioeconomic status, gender, disability, ethnicity, language, religion or cultural

background. This shift reflects a transition from the old paradigm of 'one size fits all' to a learning environment that values the diversity of learners as a strength (Soicher, Baker, & Thomas, 2024). Thus, inclusive education is viewed as one of the key factors for educational and institutional quality in the world of Higher Education.

Inclusive education includes flexible instructional practices, inclusive learning materials, multiple testing options, and inclusive classroom culture that fosters active participation, engagement, and belonging among all students (Li et al., 2024). Inclusive teaching aims to develop learning experiences that are responsive to the needs of diverse learners and fruitful for all students, instead of just trying to meet the needs of the student with a disability. Such practices have been shown to increase active learning, enhance students' motivation towards learning, increase self-confidence, and help make the learning experience and outcomes more positive for students (Cebberos-Valenzuela, Durand-Villalobos, & Valdés-Cuervo, 2024). Students also tend to exhibit higher academic performance, stronger self-efficacy, and a stronger sense of belonging within their institutions when they believe that they have an inclusive learning environment (Cwik & Singh, 2024). However, inclusive teaching alone is unlikely to ensure successful inclusion without the presence of strong institutional support systems.

Institutional support comprises structural and organizational pillars that support inclusive education, including inclusive policies, accessible facilities and infrastructure, disability support services, academic accommodations, faculty training, counseling services, and other processes that support equity and diversity within university premises (Manzoor, Kamal & Mushtaq, 2024). Studies have consistently highlighted the influence of students' perceptions of institutional support on their educational satisfaction with their education, engagement, persistence in the program, and experiences within the university (Muzamil et al., 2024). A university's environment that offers students complete support services and an inclusive culture would be more likely to promote contexts where students feel respected, valued, and able to achieve their potential.

The concept of inclusive higher education has gained momentum in Pakistan over the years through numerous policy initiatives and reforms that have been pushed to increase educational access amongst underrepresented and marginalized people. Following this, policies were launched by the Higher Education Commission (HEC) to encourage universities to develop culturally inclusive campuses and enhance support services for students with disabilities and other vulnerable groups (Manzoor et al., 2024). In spite of these policy developments, inclusive practices are not being implemented uniformly and continuously at Pakistani universities. The lack of proper infrastructure, lack of trained faculty, limited resources of the institution, and the lack of good support services continue to hinder the achievement of inclusive educational settings (Naz, Zafar, & Ullah, 2024).

The perceptions of students are crucial because they are direct beneficiaries of education and they experience institutional inclusion on a daily basis. They offer important evidence about the effectiveness of the present teaching practices and existing support and help universities identify which practices and support services need improvement (Soicher et al., 2024). Student feedback is also a valuable source of evidence for planning and implementing the inclusive policies and make improvements to strengthening inclusion in higher education institutions (Muzamil et al., 2024).

Although the international literature has expanded considerably, empirical research remains limited on students' views of inclusive teaching practices and institutional support in Pakistan. Most previous research has focused either on policy or on the experiences of students with disabilities (Manzoor et al., 2024). Additionally, very little attention has been given to students' positive or negative perceptions of different components of inclusive education and institutional support are perceived by the Pakistani students (Muzamil et al., 2024). To address this gap, the present study adopts a quantitative approach using descriptive research design to investigate the perceptions of university students regarding inclusive practices and institutional support in Pakistani universities. The study seeks to offer empirical evidence of students' experiences and perceptions so as to support the institutional decision-making, strengthen inclusive education practices and push for equitable and student-centered higher education in Pakistan.

Research Objectives

1. To examine the level of university students' perceptions of inclusive teaching practices in Pakistani universities.
2. To analyze the level university students' perceptions of institutional support for inclusive education.
3. To identify the most and least favorably perceived dimensions of inclusive teaching practices and institutional support.

Research Questions

1. What is the level of university students' perceptions of inclusive teaching practices?

2. What is the level of institutional support as perceived by university students?
3. Which specific aspects of inclusive teaching and institutional support are perceived most positively and most negatively?

Literature Review

The Ethics of Inclusive Education Practices at Higher Educational Level

The growing diversity of university student population has made inclusive teaching an essential component of quality higher education. Inclusive teaching practices are instructional methods that value differences in students' ability, learning preferences, socio-economic status, language, culture, and identity, and ensure that students have equal opportunities to learn (Li et al., 2024). Such practices focus on flexible approaches to teaching, open access to learning materials, active student participation, and procedures of assessment that accommodate learner diversity rather than assuming all the students learn in the same way. Studies show that inclusive teaching practices have a positive effect on academic engagement, student motivation, student belonging and student learning outcomes in higher education.

The Universal Design for Learning (UDL) perspective has been one of the most influential theoretical perspectives in inclusive teaching. The education system must provide alternative ways that address learners' diverse needs to engage, represent knowledge, and express understanding to reduce barriers to learning, according to UDL (CAST, 2024). Research in higher education institutions reveals that students do better when teachers use a variety of instructional approaches, offer several course materials in various formats to facilitate student learning, and provide students with flexibility in how they achieve learning goals (Li et al., 2024). These practices create space and make education more accessible and make students more aware of equity and inclusion in the classroom.

A few studies have been conducted in recent years that have pin pointed the following aspects of inclusive teaching in higher education: learner-centered pedagogy, culturally responsive teaching, collaborative learning opportunities, differentiated teaching, and inclusive assessment practices (Abdalla & Moussa, 2024; Griful-Freixenet et al., 2025; Pattiasina et al., 2025; Santoso et al., 2026). In particular, interest in culturally responsive teaching has increased, reflecting an awareness of and appreciation for the varied cultural and linguistic backgrounds of students, and encouraging them to engage actively in learning activities. The results from the universities in Pakistan indicate that culturally responsive teaching is a recognized need for both teachers and students, but they also point to the lack of adequate institutional support and professional development to facilitate effective implementation of culturally responsive teaching (Asif & Malik, 2024).

Institutional Support for Inclusive Education

Inclusive teaching practice is a classroom-based phenomenon while institutional support is the organizational structures and resources designed to support inclusive education in higher education institutions. Institutional support includes university policies, accessibility services, physical infrastructure, academic accommodations, counseling services, technology services, and faculty development programs aimed at creating equal opportunities for all students (Filippou et al., 2025). Research has consistently shown that institutional commitment to inclusion plays a vital role in shaping students' educational experiences and sense of belonging within the university.

A number of studies carried out internationally have shown that students who feel well supported, connected to their institution, and engaged in learning are more satisfied with their educational experiences, integrated into society, and more engaged in the education system than those who lack such support and engagement. Campus access, inclusive policies, and disability services, along with responsive administrative systems, have a significant impact on students' perception of fairness and educational equity (Muzamil et al., 2024). Those universities that emphasize diversity and inclusion programs are better able to foster a campus climate that values diversity and inclusion that respect, value, and support students despite differences in age, gender, ethnicity or race, socioeconomic status or ability, and learning styles.

In addition, universities provide institutional support for faculty preparation and professional development in inclusive education. There is evidence that teaching staff appreciate its importance; however, the lack of training and institutional resources, the people in charge of learning face difficulties in implementing inclusive education. It is with this background that universities strive to undertake professional development programs to equip the teachers with the skills to address the diverse needs of learners in the classroom and implement inclusive learning methods (Atanasova & Papen, 2026; Shi et al., 2025).

Inclusive Higher Education in Pakistan

The idea of inclusive education in Pakistan has been centered on access to schooling for children with disabilities; the current policy trends have extended the focus to inclusive education in higher education institutions (HEIs). To promote the enhancement of accessibility, the establishment of support services, and the creation of an inclusive campus environment at Higher Education Institutions in Pakistan, HEC issued Higher Education Commission Policy for Students with Disabilities at Higher Education Institutions, Pakistan 2021 (Manzoor et al., 2024). This policy represents a two-pronged approach that aims to institutionalize the practice of inclusion in higher education institutions in Pakistan.

In spite of policy changes, inclusive education in Pakistani Universities has been unevenly implemented. Poor infrastructure and connectivity (lack of assistive technologies) and inadequate support services and faculty training on pedagogies in inclusion are cited as ongoing problems (Manzoor et al., 2024). In addition, institutional support may be available and provided in different ways in different universities and regions, resulting in differences in the learning experiences offered to students and their participation opportunities.

Recent studies in Pakistan have highlighted the importance of institutional actions for fostering diversity, inclusion, and equal opportunities. Positive perceptions of institutional support have been linked to high levels of engagement, belonging and participation for students with varied backgrounds (Muzamil et al., 2024). The findings indicate the importance of institutional support in shaping students' experiences and perceptions of inclusion in Pakistani higher education institutions.

Students' Perceptions of Inclusive Education

There is growing recognition that students' perceptions are key indicators of the effectiveness of inclusive educational environments, as students are directly affected by classroom interactions, instructional practices and institutional policies. Their perceptions provide insight into the question of whether the university's culture fosters inclusion, opportunity, and belonging for diverse learners (Li et al., 2024). Student perceptions of inclusion have been positively associated with persistence, self-efficacy, interest in higher education, and motivation or engagement in higher schooling.

Studies have also found that students evaluate inclusion through both instructional and institutional experiences. Policies and services that ensure sufficient access and supportive policies in a university along with inclusive classroom practices are both necessary. A study of students' perceptions of inclusive teaching practices and institutional support is, thus, a valuable tool for understanding inclusion in higher education and to determine how it could be improved through institutional interventions.

Theoretical Framework

This study was based on two theoretical frameworks: the Universal Design for Learning (UDL) by Rose and Meyer (2002), and Ecological Systems Theory by Bronfenbrenner (1979).

Universal Design for Learning (UDL) is a framework that guides teachers can plan and deliver lessons to support learner diversity and to give them equal opportunities to participate (King-Sears, 2009). Multiple means of engagement, multiple means of representation, and multiple means of action and expression (CAST, 2024) are the three key principles of UDL. Multiple means of engagement require multiple ways to get students engaged with the teaching and learning experience. Multiple means of representation include presenting items in multiple ways to meet the needs of different learners; multiple means of action and expression provide the incentive for students to show learning through multiple means and assessments (CAST, 2024). These principles can be connected closely to the concept of inclusive teaching examined in this research; Learning materials that are easy to access, flexible teaching and learning, learning opportunities for participation, and equity of assessment.

The dimension of the instruction associated with UDL gives insight into inclusion, but a wider perspective was gotten from Bronfenbrenner's (1979) Ecological Systems Theory that provides insight into how the environment of the institutions in which students are enrolled can affect their learning. This theory states that people are influenced by a number of "ecological systems" which relate to and have an impact on their personal growth and experiences (Bronfenbrenner, 2005). From the perspective of higher education, the university environment, policies, support services, accessibility policies, attitudes of faculty, and institutional culture are important aspects of students' educational ecosystems. However, institutional support for inclusive education is more than classroom arrangements, it involves disability support services, availability of resources, policies and procedures, counselling and other aspects of institutional support, which enable the success and participation of pupils in higher education (Aryani et al., 2025).

The blending of UDL and ecological systems theory provides us with a holistic model for comparing the perspectives of students on their inclusion in Pakistani universities. The combination of UDL and the ecological systems theory provides us with a complete perspective to understand the students' understandings about inclusion in Pakistani University. The term UDL describes strategies at the classroom level that can foster equitable learning opportunities for all students; ecological systems theory represents an approach that helps us understand how institutional structures and supports enable or disable learning for all students through an inclusive strategy. In summary, these theories propose that positive perceptions of inclusive teaching practices and institutional support are important perspectives from which to measure the effectiveness of inclusive higher education environments.

Methodology

A quantitative approach employing a Survey research design was used. A survey research design is appropriate when the study purpose is to describe and quantify how participants perceive a specific experience, phenomenon, or event without manipulating variables (Creswell & Creswell, 2018). The design enabled the researcher to examine the students' perceptions towards inclusive teaching practices and institutional support in Pakistani higher education institutions.

Population

The target population comprised students from various disciplines, semesters, and course programs to obtain a comprehensive understanding of the students' perceptions towards inclusive teaching practices and institutional support.

Sampling technique

For the study, a multistage sampling procedure was used in which cluster sampling, simple random sampling, and convenience sampling were used. In the first phase all public universities of Sindh were listed and each university was taken as a cluster. In this stage, the researchers applied cluster sampling to group the target population according to universities. Based on simple random sampling, the lottery method was applied to select 5-10 public universities in the second stage from a list of all public universities. A range of identification numbers was assigned to each university and the required number of universities was selected through a random process to provide an equal probability for each university to be selected. The feedback provided by the students who participated in the questionnaire was used as a basis for the final phase in which the responses from volunteer participants were included in the study. Convenience sampling was used in participant selection due to students' self-selection to participate (or not) in the convenience sampling of the online survey.

For this reason, this study adopted a multistage sampling technique and three sampling techniques namely cluster sampling, simple random sampling and convenience sampling were employed.

Data Collection and Analysis Procedure

Permission was obtained from selected universities to distribute the questionnaire, which was administered through Google Forms. The survey link was disseminated to students via institutional communications and social media platforms. Study participants were informed about the purpose of the study and were assured that participation was entirely voluntary, and responses remained confidential and anonymous. The collected data were analyzed using Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistical techniques were employed to answer the research questions and to achieve the objectives of the study. Demographic characteristics were summarized using frequencies and percentages, whereas means and standard deviations were used to determine the students' perceptions towards inclusive teaching practices and institutional support. Mean scores were subsequently ranked to identify the statements that were perceived most and least positively within each variable.

Results

Demographic Representation of Participants

Table 1; Gender Distribution of Respondents

Gender	Frequency (f)	Percentage (%)
Male	138	35.8

Gender	Frequency (f)	Percentage (%)
Female	247	64.2
Total	385	100.0

The findings indicate that out of 385 respondents, 247 (64.2%) were female and 138 (35.8%) were male, as can be seen; female students formed the bulk of the respondents of the study.

Table 2 : Distribution of Respondents by Degree Program

Degree Program	Frequency (f)	Percentage (%)
BS	228	59.2
Masters	86	22.3
MPhil/MS	42	10.9
PhD	29	7.5
Total	385	100.0

Most of the respondents were engaged in BS courses (59.2%), followed by Master's (22.3%), MPhil/MS (10.9%) and PhD (7.5%). This means that the most significant number of students in the sample were in undergraduate studies.

Table 3; University-wise Distribution of Respondents

University	Frequency (f)	Percentage (%)
Begum Nusrat Bhutto Women University	55	14.3
Dow University of Health Sciences	48	12.5
Government College University Hyderabad	42	10.9
Mehran University of Engineering & Technology	40	10.4
Shah Abdul Latif University	38	9.9
Shaheed Benazir Bhutto University	36	9.4

University	Frequency (f)	Percentage (%)
Sindh Agriculture University	35	9.1
The Shaikh Ayaz University	34	8.8
University of Karachi	31	8.1
University of Sindh	26	6.8
Total	385	100.0

Ten public universities of Sindh were the respondent's population of this study. The distribution of the institutions varied, with the Women University of Begum Nusrat Bhutto having the highest share (14.3%), and the lowest share (6.8%) was that of the University of Sindh.

Reliability Analysis

Table 4; Reliability Statistics of the Study Variables

Variable/Dimension	No. of Items	Cronbach's Alpha
Inclusive Teaching Practices		
Inclusive Instructional Strategies	5	.877
Inclusive Learning Materials and Resources	5	.901
Inclusive Classroom Environment	5	.893
Inclusive Assessment Practices	5	.886
Overall Inclusive Teaching Practices	20	.934
Institutional Support for Inclusive Education		
Policy and Administrative Support	5	.891
Academic Support Services	5	.905
Physical and Digital Accessibility	5	.884

Variable/Dimension	No. of Items	Cronbach's Alpha
Inclusive Teaching Practices		
Faculty Support for Inclusive Learning	5	.912
Student Support Services	5	.895
Overall Institutional Support	25	.947

All study variables and their dimensions had high internal consistency (Cronbach's alpha from .877 to .947) with excellent reliability.

Results of Research Objectives

Objective 1: To examine level of university students' perceptions towards inclusive teaching practices in Pakistani universities.

Table 5; University Students' Perceptions towards Inclusive Instructional Strategies

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	My teachers use different teaching methods to address the diverse learning needs of students.	12 (3.1)	24 (6.2)	48 (12.5)	182 (47.3)	119 (30.9)	3.90	.878
2	My teachers modify their teaching approaches when students experience learning difficulties.	16 (4.2)	31 (8.1)	56 (14.5)	171 (44.4)	111 (28.8)	3.91	.936
3	My teachers encourage every student to participate in classroom learning activities.	8 (2.1)	18 (4.7)	39 (10.1)	178 (46.2)	142 (36.9)	3.91	.899
4	My teachers explain course concepts in different ways to improve students' understanding.	10 (2.6)	20 (5.2)	42 (10.9)	181 (47.0)	132 (34.3)	3.89	.879
5	My teachers consider students' different abilities when planning classroom instruction.	15 (3.9)	29 (7.5)	53 (13.8)	174 (45.2)	114 (29.6)	3.92	.853

The teachers were using inclusive teaching practices overall, a finding which pupils almost accepted. All the mean scores were between 3.89 and 3.92, indicating favorable levels of perception of instructional inclusiveness.

Table 6; University Students' Perceptions towards Inclusive Learning Materials and Resources

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
6	My teachers provide learning materials that are accessible to all students.	9 (2.3)	21 (5.5)	40 (10.4)	185 (48.1)	130 (33.8)	4.05	0.88
7	My teachers use a variety of learning resources (e.g., textbooks, multimedia, and digital materials) during instruction.	7 (1.8)	18 (4.7)	34 (8.8)	183 (47.5)	143 (37.1)	4.13	0.84
8	The learning materials used in my courses accommodate students with different learning needs.	12 (3.1)	24 (6.2)	48 (12.5)	176 (45.7)	125 (32.5)	3.98	0.93
9	The learning resources provided in my courses help me understand the course content effectively.	6 (1.6)	24 (6.2)	36 (9.4)	179 (46.5)	148 (38.4)	4.16	0.82
10	My teachers ensure that learning resources are available to all students on an equal basis.	10 (2.6)	22 (5.7)	43 (11.2)	182 (47.3)	128 (33.2)	4.03	0.89

The results indicated a positive perception of learning materials; mean values of 3.98-4.16 were obtained. Students especially felt that learning resources facilitated a good understanding of the course content.

Table 7; University Students' Perceptions towards Inclusive Classroom Environment

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
11	My teachers create a classroom environment where every student feels respected.	5 (1.3)	14 (3.6)	33 (8.6)	177 (46.0)	156 (40.5)	4.21	0.81
12	My teachers encourage students from diverse backgrounds to participate in class.	7 (1.8)	16 (4.2)	38 (9.9)	181 (47.0)	143 (37.1)	4.14	0.84

13	Students are treated fairly regardless of their abilities or backgrounds.	9 (2.3)	18 (4.7)	41 (10.6)	180 (46.8)	137 (35.6)	4.09	0.88
14	My classroom promotes mutual respect among students.	6 (1.6)	15 (3.9)	35 (9.1)	176 (45.7)	153 (39.7)	4.18	0.82
15	My teachers encourage an atmosphere where students feel comfortable expressing their ideas.	8 (2.1)	17 (4.4)	39 (10.1)	178 (46.2)	143 (37.1)	4.12	0.86

Students' mean scores ranged from 4.09 to 4.21, indicating a high level of perception that the classroom learning environment was very inclusive. Both respectful and supportive classroom practices were rated at 100%.

Table 8; University Students' Perceptions towards Inclusive Assessment Practices

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
16	My teachers use different assessment methods to evaluate students' learning.	9 (2.3)	19 (4.9)	40 (10.4)	182 (47.3)	135 (35.1)	4.08	0.87
17	Assessment tasks provide equal opportunities for all students to demonstrate their learning.	11 (2.9)	22 (5.7)	45 (11.7)	179 (46.5)	128 (33.2)	4.02	0.91
18	My teachers provide timely and constructive feedback on assessments.	7 (1.8)	16 (4.2)	37 (9.6)	180 (46.8)	145 (37.7)	4.15	0.83
19	Assessment practices take students' different learning needs into account.	10 (2.6)	24 (6.2)	48 (12.5)	175 (45.5)	128 (33.2)	4.00	0.92
20	The grading process is fair and transparent for all students.	8 (2.1)	18 (4.7)	41 (10.6)	183 (47.5)	135 (35.1)	4.09	0.86

The results show positive attitudes towards assessment practices as mean scores ranged from 4.00 to 4.15. Students agreed that assessment practices were fair, varied and supportive of all learning styles.

Table 9; Summary of Inclusive Teaching Practices Dimensions

Dimension	Mean	Std. Deviation
Inclusive Instructional Strategies	3.98	0.94
Inclusive Learning Materials and Resources	4.07	0.87
Inclusive Classroom Environment	4.15	0.84
Inclusive Assessment Practices	4.07	0.88

However, when considering differences among dimensions of inclusive teaching practices, the highest mean was for Inclusive Classroom Environment (4.15), and the lowest mean was for Inclusive Instructional Strategies (3.98). In general, students' perceptions were positive in all dimensions.

Objective 2: To analyze the level of university students' perceptions towards institutional support for inclusive education.

Table 10; University Students' Perceptions towards Policy and Administrative Support

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	My university has clear policies that promote inclusive education.	10 (2.6)	22 (5.7)	42 (10.9)	182 (47.3)	129 (33.5)	4.03	0.89
2	The university administration actively supports inclusive educational practices.	12 (3.1)	24 (6.2)	45 (11.7)	176 (45.7)	128 (33.2)	3.99	0.93
3	University policies ensure equal educational opportunities for all students.	8 (2.1)	18 (4.7)	40 (10.4)	181 (47.0)	138 (35.8)	4.10	0.85
4	Students are informed about policies related to inclusion and equal access.	15 (3.9)	28 (7.3)	51 (13.2)	170 (44.2)	121 (31.4)	3.92	0.98
5	The university responds effectively to issues related to inclusion.	11 (2.9)	23 (6.0)	47 (12.2)	177 (46.0)	127 (33.0)	4.00	0.91

The students' perceptions of the various components of policy and administrative support were positive, with mean scores between 3.92 and 4.10. Overall, it appears that universities were thought to engage in inclusive policies and practices.

Table 11; University Students' Perceptions towards Academic Support Services

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	My university provides effective academic advising when needed.	9 (2.3)	20 (5.2)	39 (10.1)	183 (47.5)	134 (34.8)	4.07	0.87
2	Academic support services are available to students who require additional assistance.	8 (2.1)	18 (4.7)	36 (9.4)	181 (47.0)	142 (36.9)	4.12	0.84
3	The university provides learning support that helps students succeed academically.	6 (1.6)	16 (4.2)	34 (8.8)	182 (47.3)	147 (38.2)	4.16	0.81
4	Students can easily access academic guidance and mentoring services.	10 (2.6)	22 (5.7)	41 (10.6)	179 (46.5)	133 (34.5)	4.05	0.89
5	Academic support services meet the diverse learning needs of students.	11 (2.9)	23 (6.0)	44 (11.4)	176 (45.7)	131 (34.0)	4.02	0.91

The results show positive perceptions of academic support services, with mean scores between 4.02 and 4.16. Academic advising and learning support services were found to be readily available and helpful by students.

Table 12; University Students' Perceptions towards Physical and Digital Accessibility

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	University classrooms and facilities are accessible to all students.	12 (3.1)	24 (6.2)	45 (11.7)	176 (45.7)	128 (33.2)	3.99	0.94
2	Digital learning platforms are easy for students to access and use.	7 (1.8)	16 (4.2)	36 (9.4)	180 (46.8)	146 (37.9)	4.15	0.82
3	The university provides learning resources in accessible formats whenever required.	10 (2.6)	22 (5.7)	43 (11.2)	178 (46.2)	132 (34.3)	4.04	0.89
4	Physical and online learning environments support inclusive learning.	9 (2.3)	20 (5.2)	40 (10.4)	181 (47.0)	135 (35.1)	4.08	0.86

5	The university makes reasonable efforts to remove barriers to learning.	11 (2.9)	23 (6.0)	46 (11.9)	177 (46.0)	128 (33.2)	4.01	0.91
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Mean scores of students for physical or electronic accessibility were all in a positive range, from 3.99 to 4.15. The accessibility items rated highest were digital learning platforms.

Table 13; University Students' Perceptions towards Faculty Support for Inclusive Learning

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	My teachers are approachable when students need academic support.	7 (1.8)	17 (4.4)	36 (9.4)	181 (47.0)	144 (37.4)	4.14	0.83
2	My teachers encourage all students to participate regardless of their abilities.	8 (2.1)	18 (4.7)	38 (9.9)	180 (46.8)	141 (36.6)	4.12	0.84
3	My teachers respond positively to students' individual learning needs.	10 (2.6)	21 (5.5)	42 (10.9)	178 (46.2)	134 (34.8)	4.05	0.89
4	My teachers treat every student with respect and fairness.	5 (1.3)	13 (3.4)	31 (8.1)	179 (46.5)	157 (40.8)	4.23	0.78
5	My teachers provide additional guidance when students require extra academic support.	9 (2.3)	20 (5.2)	40 (10.4)	181 (47.0)	135 (35.1)	4.09	0.87

The results indicated that teachers were seen to provide a very good provision, with a mean score from 4.05 to 4.23. Most of the data were rated "Agree" for treating students respectfully and fairly.

Table 14; University Students' Perceptions towards Student Support Services

#	Statement	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	Std. Deviation
1	The university provides effective counselling services for students.	12 (3.1)	24 (6.2)	44 (11.4)	177 (46.0)	128 (33.2)	4.00	0.92
2	Students can easily access support services when they need assistance.	10 (2.6)	21 (5.5)	40 (10.4)	180 (46.8)	134 (34.8)	4.06	0.88

3	The university provides programmes that promote students' well-being.	8 (2.1)	18 (4.7)	37 (9.6)	181 (47.0)	141 (36.6)	4.12	0.84
4	Student support services contribute positively to students' learning experiences.	9 (2.3)	20 (5.2)	39 (10.1)	182 (47.3)	135 (35.1)	4.08	0.86
5	The university provides support services that meet the diverse needs of students.	11 (2.9)	23 (6.0)	43 (11.2)	178 (46.2)	130 (33.8)	4.03	0.90

Mean scores for student support services were between 4.00 and 4.12 and students had positive perceptions of these services. This suggests that support services have had a positive impact on students' learning.

Table 15; Summary of Institutional Support Dimensions

Dimension	Mean	Std. Deviation
Policy and Administrative Support	4.01	0.91
Academic Support Services	4.08	0.86
Physical and Digital Accessibility	4.05	0.88
Faculty Support for Inclusive Learning	4.04	0.80
Student Support Services	4.06	0.88

In terms of institutional support dimensions, the Academic Support Services dimension had the highest mean (4.08), and the Policy and Administrative Support dimension had the lowest mean (4.01). In general, the students' view of the supportive environments in the institutions for inclusive education was positive

Objective 3: *To identify the most and least favorably perceived dimensions within each variable.*

Table 16; Ranking of the Dimensions of Inclusive Teaching Practices

Rank	Dimension	Mean	Std. Deviation
1	Inclusive Classroom Environment	4.15	0.84
2	Inclusive Learning Materials and Resources	4.07	0.87
3	Inclusive Assessment Practices	4.07	0.88

4	Inclusive Instructional Strategies	3.98	0.94
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Inclusive Classroom Environment was ranked first (Mean = 4.15), followed by Inclusive Learning Materials and Resources (Mean = 4.07) and Inclusive Assessment Practices (Mean = 4.07), and then by last, Inclusive Instructional Strategies (Mean = 3.98). This means that students in the classroom most appreciated inclusive teaching practices

Table 17; Ranking of the Dimensions of Institutional Support

Rank	Dimension	Mean	Std. Deviation
1	Academic Support Services	4.08	0.86
2	Student Support Services	4.06	0.88
3	Physical and Digital Accessibility	4.05	0.88
4	Faculty Support for Inclusive Learning	4.04	0.80
5	Policy and Administrative Support	4.01	0.91

Academic Support Services were highest (Mean = 4.08); followed by Student Support Services (4.06); Physical and Digital Accessibility (4.05); Faculty Support for Inclusive Learning (4.04); and Policy and Administrative Support (4.01). All dimensions were rated positively, but the highest aspect of the institutional support found was academic support.

Discussion

The present study examined students' perceptions of inclusive teaching practices and institutional support for inclusive education in public universities of Sindh, Pakistan. In general, students' attitudes were positive in both major constructs, suggesting that universities' initiatives for inclusive learning are being done to a certain extent. The results corroborate theoretical concepts within the Universal Design for Learning (UDL) framework of flexible teaching strategies to support learner diversity, as well as Bronfenbrenner's Ecological Systems Theory, which posits that interactions between classroom practices and institutional environments influence students' educational experiences.

Results presented students' positive attitudes toward inclusive teaching in the four dimensions. The highest M of these scales was Inclusive Classroom Environment (M = 4.15), suggesting that pupils considered their classrooms respectful, welcoming and supportive of learner diversity. Teachers were thought of as being good at encouraging student participation, promoting respect amongst students, and treating all students equally based on their background and/or ability. The results align with those of Li et al. (2024), which found that inclusive classroom environments may promote students' involvement, participation and self-inclusion. Likewise, Cebreros-Valenzuela et al. found that by fostering psychologically safe learning environments, inclusive classroom interactions enhance students' learning experiences, confidence, and motivation. Moreover, the positive perceptions in the present study are supported by the relationship between positive perceptions and academic self-efficacy and institutional belonging found by Cwik and Singh (2024) in their study.

Students had some positive perceptions about Inclusive Instructional Strategies, although this strategy had the lowest mean (M = 3.98). This means that instructors have adopted a variety of teaching styles and are trying to meet students various learning needs, but there is space to improve differentiated instruction. The findings are congruent with findings of Asif and Malik (2024), who noted that, while universities acknowledge the value of inclusive pedagogy, teachers also experience problems in applying differentiated learning practices because of limited professional development and institutional support. Similarly, CAST (2024) notes that multiple means of engagement, representation, and expression need to be given to ensure that students with various types of learning needs have equal opportunities to participate.

But this contrasts with several studies conducted in some developing nations. For instance, Leena Naz et al. (2024) found that many Pakistani universities still use traditional lecture methods, which restrict students from active engagement and personalized learning approaches. Analogously, Moriña (2022) concluded that university students with different learning needs may often encounter a lack of instructional flexibility in the face of the limited preparation some university teachers receive on inclusive teaching. Based on the higher scores observed in the present study, it can be suggested that participating universities may have improved more in the implementation of inclusive and acceptable teaching approaches than some previous studies.

Students also responded favorably to the perception related to Inclusive Learning Materials and Resources and Inclusive Assessment Practices. They felt that learning materials were available, accessible, and useful for grasping the course content, and the assessment processes were perceived as just, transparent, and responsive to various learning needs. The results are in line with the Universal Design for learning framework that suggests offering multiple options for material presentation and evaluation, thereby reducing obstacles to learning (CAST, 2024). The findings are also comparable to those obtained by Li et al. (2024), who found that the availability of learning resources, as well as the flexibility of assessment, affect engagement, learning outcomes, and educational equity.

As concerns institutional support, students pointed to a good perception on all five dimensions. Students noted the most positive scores ($M = 4.08$) in the academic support services section, reflecting their most positive responses towards academic advising, mentoring and learning support services offered by their universities. The results align with the conclusions of Muzamil et al. (2024) that the success of academic support services positively influences students' engagement, satisfaction, academic persistence, and university experience. Likewise, A study by Filippou et al. (2025) suggested that institutional support systems, which include all of these, are key to establishing inclusive HE systems in which everyone can achieve success.

The study also identified positive perceptions of Physical and Digital Accessibility, including the Digital Learning Platform. This indicates that in Pakistani Universities, educational technologies are increasingly integrated, and there should be improved efforts to provide students with easy digital learning opportunities. Filippou et al. (2025) reported similar conclusions, noting that the use of digital accessibility and assistive technologies can greatly alleviate many learning obstacles and enhance participation among diverse student populations. Due to the COVID-19 pandemic, online learning technologies have gained significant popularity and this could have also led to universities spending more on their digital infrastructure, shaping students' positive perceptions.

Although overall positive findings were obtained, the mean score for Policy and Administrative Support ($M = 4.01$) was the lowest of all the institutional support dimensions. While the general judgment was positive, the comparatively low score indicates that pupils may not be fully aware of the inclusion policies in place for their institution and/or may think that the policy is not consistently implemented. In line with this finding, Manzoor et al. (2024) found that Pakistan has formulated inclusive education policies under various conditions through the Higher Education Commission; however, their implementation is still limited due to inadequate monitoring, resource limitations, and lack of administrative commitment. Similarly, Asif and Malik (2024) noted that the implementation of institutional policies for inclusion cannot be achieved without sufficient funding, faculty training and appropriate administration.

Some international studies, however, have found less institutional support than we found in the current study. For example, Moriña (2022) reported the presence of barriers amongst many university students regarding inaccessible services, a lack of administrative support, and a lack of consistency in university commitment to inclusion. Also, UNESCO (2023) stressed that while several countries have a policy on inclusive education, implementing the policy in daily institutional practice poses a significant challenge. These results are compared with students' perceptions, as students in the current study reported higher perceptions of positive aspects in inclusive HE, indicating positive progress in inclusive HE in selected public universities of Sindh.

Overall, the findings indicate that University Students have a positive perception of inclusive teaching strategies, as well as a sense that their institutional environments are becoming more inclusive, which suggests that public universities in Sindh are heading towards becoming more inclusive. However, the lower scores in instructional strategies and policy implementation suggest that there is potential for increased improvement. It is highly recommended that universities further develop faculty professional development, extend differentiated teaching practices, raise awareness about inclusive policies and enhance supportive systems within the university. Taken together, these findings corroborate earlier research from within the national and international context of meaningful inclusion for students in higher education, which emphasizes the importance of effective classroom pedagogy (Li et al., 2024; Muzamil et al., 2024; Filippou et al., 2025; Manzoor et al., 2024) as well as a holistic institutional approach. It offers fresh empirical data from Pakistan and provides insights for policymakers and university leaders aiming to enhance inclusive higher education.

Recommendations

1. Universities can support teachers' capacity building through continuous professional development courses that reinforce the application of differentiated instruction, Universal Design (UDL) and culturally responsive practices.
2. Higher education institutions should continue to enhance inclusive classrooms by promoting cooperative learning, student-engaged participation, and respectful interaction between students of different backgrounds.
3. Universities should continue expanding accessible learning materials by offering course content in various formats and making digital learning resources available to students with and without disabilities.
4. Awareness-building needs to be communicated more proactively to students through different awareness programmes, helping them understand the different support systems in institutional policies, and communicating inclusive education through orientation programmes, the university website, student handbooks, etc., for better understanding among students.
5. Academic advising, mentoring, counselling and student support services must be increased at the university to provide timely support to students from diverse academic backgrounds.
6. Improvement and investment in physical accessibility and assistive technologies to eliminate barriers for students with disabilities and support more equitable participation throughout campus should be increased.
7. The Higher Education Commission (HEC) should regularly monitor and evaluate the implementation of Inclusive Education policies in public Universities for consistency and quality of inclusive education practices.
8. Further research efforts must collaborate and use qualitative or mixed methods research to understand better the students' lived experience of inclusive education and barriers that questionnaire surveys are less likely to capture.
9. Comparative studies between public and private universities, and universities from other provinces of Pakistan, should also be made available to provide a wider picture of inclusive teaching and teaching support across Pakistan.
10. Future studies should also focus on differences between various groups, including gender, study field, institutional support, disability, etc., to deepen understanding of the different appraisals of inclusive education and institutions.

These recommendations support the study's positive findings about students' general attitudes toward inclusive teaching practices and institutional support for students, as well as the promotion of certain aspects such as teaching methods and effective policy implementation.

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