

Relationship between teachers' perceptions regarding autism and their classroom practices at secondary school level

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Abstract: Autism is a well-known phenomenon in students and it will impact the teaching and learning process. This study aims to investigate the correlation between teachers' awareness of autism and classroom practices in secondary schools in Lahore. The study is carried out by following the quantitative method using a descriptive and inferential approach to discover and report the relationship between autism and classroom practices. 300 teachers from government and private secondary schools in Lahore responded to the questionnaire (Appendix 1). The questionnaire was consisted of 40 items covering teachers' knowledge regarding autism and their classroom practices. Statistical package for social sciences (SPSS) software was used for the calculations and analyzing the correlation. The results showed a moderately positive relationship between teachers' perception regarding autism and their classroom practices in secondary schools. This means that as the perception of the teachers moderately increases, the classroom practices are also improved and become better.

Keywords: Autism, Children with special needs, Teachers' perception about mixed ability student, Classroom practices

Introduction

The importance and necessity of inclusion is being increasingly considered and recognized these days. Many researchers are writing about the inclusion of children with learning disabilities in mainstream classrooms who have autism (Inayat et al., 2019; Mastropieri et al., 2001; Peterson et al., 2012; Cheryl, 2009). Autism Spectrum Disorders (ASD) is a term frequently used nowadays. It is a neurological developmental disorder known as a mental disorder that occurs during the developmental period (usually initially in the developmental stages) and is referred to as a Neurodevelopmental disorders. Autism usually occurs before the child enters school or even earlier. The lack of precision in personal, social, academic

or work-related operations in autistic children is due to the developmental discrepancies that need to be addressed. All neurodevelopmental disorders are categorized by developmental impairments in the area of social or intellectual deficits, that vary from general discrepancies to exceptionally explicit discrepancies or limitations (Soltau, 2015).

According to Soltau, continuous impairments in social communication and common interactions in different situations, nonverbal cues for teamwork, impairments in social exchange and the abilities to establish and develop relationships are all categories of autism spectrum disorder. Delimited, regular forms of reaction, passion, or action, are the main characteristics of a child diagnosed with autism spectrum disorder (Soltau, 2015). Whereas, DSM-5-TR

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demonstrated the autism spectrum disorder as professionals diagnose autism spectrum disorder based on difficulties in two areas – "social communication" and "restricted, repetitive and/or sensory behaviours or interests."

The ratio of school-aged children suffered from ASD has increased and the majority of these children are studying in mainstream educational institutions. It is essential to use effective methods and behavioral approach in general classrooms due to the rising number of autistic students in schools (Zeidan et al., 2022). Teachers in Pakistan teach autistic students along with mainstream students to include them in the learning process and cultivation. Irrespective of teachers' qualifications and experience, they must teach all students in their classes, including those with special needs. The teachers' sources, such as their practices, challenges, ideas, and beliefs, are important because they provide data that contribute to the successful advancement and development of inclusive programs (Soltau, K. 2015). Sometimes students are blamed as slow-learners or uninterested in studies only because teachers fail to recognise the cause of their inability to learn. (Inayat. et al. 2019). According to Zeidan et al. (2022), the prevalence of autism disorder can be reduced through public policies, awareness and research.

The general classroom environment provides a fertile ground for learning social skills, but for autistic students it also presents challenges. The school provides ample opportunities for mainstream and autistic students to intermingle with each other in a regular social atmosphere. The social discrepancies present in autistic students considerably affect their common interactions and have a negative influence on educational performance. Therefore, schools are a trustworthy source for teaching social skills to these children (Soltau, 2015). Some characteristics of autistic children are less communication, stereotyped and repetitive behaviours. Whereas in the same study, it has been concluded that the prevalence ration of autism is higher in preschool children as compared to primary school children (Morales-Hidalgo et al., 2018).

ASD has an impact on children's abilities in class and in other fields of life. Teachers try to use various types of educational strategies to support autistic students in the classroom because they have exceptional social and academic needs. Recently, students with autism and other learning disabilities are allowed to attend the mainstream schools due to the "Individuals with Disabilities Education Act of 2004".

Objectives of the study

In the local Pakistani context, the available literature lacks data on the perceptions about autistic children, the identification of autistic children and teachers' perception of autism and teaching practices. Therefore, this study is planned to clarify these questions. The objectives of the study are as follows.

- To ascertain teachers' perceptions of autistic children in mainstream schools about autism.
- To know how teachers recognize autistic students in the classroom.
- To identify the teaching strategies that teachers in mainstream school teachers use to teach autistic students.
- To investigate the relationship between teachers' perception of autism and their classroom practices in secondary level school.

Research questions

- What are the perceptions of teachers of autistic children in schools about autism?
- How do teachers recognize autistic student in the classroom?
- What teaching strategies do teachers in mainstream school use to teach autistic students?
- What kind of relationship exists between teachers' perception regarding autism and their classroom practices in secondary schools?

Research methodology

This research was aimed to explore the correlation between teachers' perception of autism and their classroom practices in secondary school. Teachers investigated by this study are from mainstream public and private secondary schools in Lahore. A quantitative research method followed by a survey was selected for data collection from mainstream public and private schools in Lahore. There are 1320 secondary schools in Lahore, including 159 public and 1161 private secondary schools. This study used the non-probability sampling to select the secondary school teachers as respondents. Total 30 schools (15 public and 15 private) were randomly selected and 300 questionnaires were completed by the respondents. Hence, the results are based on 300 responses. A questionnaire was developed for this research, which comprised of 40 statements related to the objectives of the study. Other statements were obtained from existing literature and some were developed by the researchers. A five-point Likert scale from "strongly agree" to "strongly disagree" was used. Pilot testing was conducted to test the reliability of the research tool.

According to Gay (1992), any research instrument with a correlation coefficient between 0.70 and 1.00 is acceptable as reliable enough.

Data analysis

As this study is quantitative in nature, the data was analyzed by using descriptive and inferential statistics. The results are presented through frequencies, mean values, standard deviations and percentages.

Results

Questionnaires were used for data collection. Table 2 below shows the demographic data of the respondents. The t-test was used to confirm the statistically valid differences in opinion between the groups of participants (male and female, private and public, trained and untrained teachers) regarding the relationship between teachers' perception of autism and their classroom practices in secondary schools. The significance value (*p-value*) for gender (.598), for institution (.616) and for training (.894) showed that there were no significant differences of opinion for gender, institution and training.

ANOVA was used to see the differences in opinion based on experience of the respondents. The significance value for experience is (.000), which revealed that there is a significant difference in opinion on perceptions about autism among teachers based on their experience.

A Pearson correlation analysis was used to find out the relationship between teachers' perception of autism and their classroom practices in secondary schools. A positive correlation was found between the two variables: $r = 0.504$, which means that there was a moderately positive correlation between the two variables. As teachers' perceptions increase, their classroom practices become better. Table 3 below shows the summary of the statistical tests of differences and correlation.

Table 1 Cronbach's alpha values

Construct elements	Items	Cronbach's alpha values
Overall questionnaire	44	.896

Table 2 Demographic information of respondents

Variables	Demographics	Frequency	Percentage
Gender	Male	142	47.3
	Female	158	52.7
Institution	Private	150	50.0
	Public	150	50.0
Training	Trained	95	31.7
	Untrained	205	68.3
Experience	Less than 1	26	8.7
	1-5	91	30.3
	6-10	73	24.3
	11-15	31	10.3
	16-20	27	9.0
	21-25	22	7.3
	26-30	24	8.0
	Above 30	6	2.0

Table 3 Statistical Tests

	T-Statistics	F	Sig. (<i>p-value</i>)
Gender	1.851		.062
Experience	2.46	3.892	.000

Table 4 Correlation

	Pearson Correlation	<i>P-value</i>
Practice	Sig. Positive	.000

** . Correlation is significant at the 0.01 level (2-tailed)

Research question No.1

What are the perceptions of teachers of autistic children in schools about autism?

From teachers' responses, it can be concluded that they have knowledge of autism, as the majority of teachers agreed with the basic characteristics of autistic children, such as 234 out of 300 teachers knew that autism is a developmental disorder, 226 teachers admitted that autistic children avoid communicating and socializing, 208 teachers agreed that autistic children show limited and fixed recurrent patterns of behavior, restricted interests and activities, 190 teachers agreed that autism begins at birth or within the first two years of life, 134 teachers agreed that autism tends to affect boys more than girls, and 194 teachers agreed that children spend their time engaging in puzzling and disruptive behaviors. This shows that almost 66% of the teachers have a clear perception of the disorder (autism) while the rest of the teachers do not have a clear perception of the disorder, because the researcher added the incorrect statements about autism and some teachers agreed with those statements. This was conducted to test teachers' knowledge of autism. The results of this study were supported by Evan's research. That was about general education teachers' perceptions of teaching students with autism in urban schools (Evans, S. D. 2016). Evans did her research on mainstream school teachers and explored their perception regarding autism and teaching autistic students along with other students. In her opinion, there are many autistic children in mainstream class, which is why the demand for inclusive educational settings has increased. To accommodate students with multiple special educational needs (SEN) in general class requires teachers to be more committed and responsible for educating students. Alzheimer's Disease, Rett Syndrome, Asperger's Syndrome, Childhood Disintegrative Disorder, and PDD-NOS all fall under the term, "Autistic Spectrum Disorders" and mainstream teachers realize that they are teaching children with different types of the disorders.

According to Evas, S. D. (2016), mainstream teachers in general classrooms should use instructional strategies to support students with different disabilities such as autism. In order to teach autistic students, mainstream teachers need to figure out how to design, organize, and present work tasks. Due to the increase of children with learning disabilities, such as autism and others, there should be a plan and proper training to handle this challenging situation for teachers and administrators. The increasing numbers of autistic students requires a high level of organization and communication between mainstream and special school teachers; some schools have devoted their resources and time to fostering these interactions. Dr. Inayat suggested that teachers must be well trained to respond to such students or that special support teachers should be provided to assist the teachers in the class. Inayat, N. et.al. (2019), "An exploratory study of teachers' awareness about Autism

in primary schools of Lahore".

Research question No.2

How do teachers recognize autistic student in the classroom?

Out of 300 participants, 217 participants agreed that autistic children are unable to understand social cues or guess others' feelings or gestures. 198 participants agreed that autistic children seem to be more interested in "things" than in people and do not like to interact with other children. 184 participants agreed that autistic children are usually echolalic (repeat what others say) and are obsessed with talking about their favorite things and have difficulty in natural common conversation. 182 participants agreed that children with autism are hypersensitive to touch, and 229 participants agreed that autistic children are usually very skilled in some fields. The statistics shows that around 66% of the teachers can recognise autistic students in a mainstream classroom. This result was supported by the article of Flynn (2010) about the characteristics of autistic children and 6 inclusion strategies for them in a mainstream classroom. In her article, she described the basic problems of autistic children, namely health/movement problems, school-related problems, emotional problems, behavioural problems, linguistic/language problems, and social problems. She explained that if a teacher observes behavioural variations from the norm, such as unordinary fixations and impulses, extreme offensiveness from touching, objects tedious, self-harm, declining skills and social issues such as, difficulty understanding meaningful gestures and perceiving others' nonverbal signals, issues with sharing, avoiding eye contact, no social connection or no reaction. The teacher should take action to help and support the child in terms of study and treatment. She also described that Asperger's syndrome, Pervasive Developmental Disorder or PDD (also known as atypical autism) and Childhood Disintegrative Disorder all fall under one category of Autism Spectrum Disorder.

Research question No. 3

What teaching strategies do teachers in mainstream school use to teach autistic students?

The results of this research showed that the majority of teachers, i.e. 76.7%, agreed that visual communication aids are used for students with autism. 74.3% teachers agreed that they use a reinforcement strategy to encourage and stimulate a student with autism, and 77.3% participants agreed that an academic modification is used to manage problems with fine-motor deficits for autistic students. 73.7% teachers agreed that autistic students need to be taught social skills. 75% respondents agreed that they use communication strategies for autistic students, while only a small proportion of teachers, 6% to 7%, do not use these

strategies for autistic students. The study result was supported by the research conducted by [Sandford, C. A. \(2009\)](#) on the availability of supportive classroom equipment for autistic children. Sandford, C. A., did his research on public school teachers to investigate the support that autistic students receive in the classroom from their teachers. According to this research, autistic students receive a variety of supports from their teachers. The most frequently used strategies by teachers for autistic students were meticulous and unchanged learning environments, observable objects, behavior correction and intervention plans, suitable and accessible curriculum, educational and behavioral support, and the least frequently used strategies were gesture language, voice recording devices, video - clips or computer-assisted devices, various teaching methods, and behavior intervention strategies.

Sandford's research revealed that individualized curriculum instructors utilize approaches more frequently than mainstream teachers. In addition, the social standards of mainstream education require some students to express themselves in social skills, which was also profoundly appraised. However, the low student-teacher ratio, the pedagogical modules intended to address center's deficits, the directed and undeviating guideline, and the design of mediation are expected to help the children with special needs, especially with their behavioral mood swings, and their educational and communicative needs.

Research question No.4

What kind of relationship exists between teachers' perception regarding autism and their classroom practices in secondary schools?

It is revealed from the correlation analysis that there is a moderately positive relationship between teachers' perception of autism and their classroom practices in secondary school with the Pearson value of $r = 0.504$, $n = 3$ and $p = 0.000$. It shows that as the perception of the teachers moderately increases, the classroom practices become better. Out of the 300 samples, almost 59% of the respondents agreed that it is possible to understand and teach autistic students together with normal students in secondary school. While 41% respondents agreed that it is impossible to understand and teach autistic students along with normal students in secondary school. They hold this opinion for the reason that teaching becomes more challenging and more time-consuming for teachers. The result of the study was supported by a research on "Unseen threads: weaving the stories between teacher beliefs and classroom practice" by [Braun, S. \(2011\)](#). The researcher conducted her research with three participating teachers. The researchers used semi-structured interviews that provided individual statements on beliefs about learning, inclusion and disability. Classroom perceptions give a chance to examine the impact on practice. In addition, the research determines whether self-described beliefs

coordinate with observed classroom activities. The researcher concluded that teachers' transcendent model of handicap originates from an inadequate background; the inclusion of children with various learning disabilities in a standard steady classroom will be troublesome. In this research, the educator sees incapacity primarily from an interventionist perspective. Instructor B's utterances demonstrate a solid arrangement with irrational beliefs. As specified in the past section, some of her remarks started with a comprehensive approach, but quickly turned pathognomonic (signs of disorder) over nature. Educator C vacillated between the two, although her reactions were as often as possible from an interventionist point of view.

Discussion

One of the aims of this study was to find out the correlation between teachers' perception of autism and their classroom practices in secondary schools in Lahore. It was concluded that there is a moderately positive correlation between teachers' perceptions of autism and their classroom practices in secondary schools as 234 out of 300 respondents knew that autism is a developmental disorder while 176 out of 300 respondents agreed that it is possible to teach autistic students together with other students in secondary school. There is a direct correlation between teachers' understanding of autism and their classroom practices. It is observed that as the perception of teachers regarding autism increases, their classroom practices are better.

It is revealed from the study that teachers' perception of the disorder (autism) is not completely valid as they are not 100% sure whether autism is a neurodevelopmental disorder or not. There are numerous factors that show the lack of knowledge on the part of teachers such as 44% of the teachers think that autism is incurable, almost 50% of the respondents think that autistic children have very little potential, 45% of the participants think that autistic children speak very fast, 41% of the teachers think that autistic students fight with other students in the class and 57% of the respondents think that autistic children show typical behaviors.

Conclusion

Although the teachers of the study were not fully aware of ASD, their level of awareness was good and the positive correlation between teachers' perception and their teaching practices indicates that they are aware of this ASD and try their best to include students with ASD in the learning process. This positive relationship also shows that as teachers' awareness of autism improves, their teaching practices improve, leading to the inclusion of students who are disadvantaged to some degree. Therefore, it is important for teachers to have a good awareness of ASD

and to implement teaching practices that can help those students with ASD.

Recommendations

Training and guidelines should be provided to teachers in mainstream schools. By providing special training to teachers, to make them be able to recognize and offer required assistance and help to autistic children in the classroom.

- Special support should be provided to assist class teachers and make them be able to handle the SEN children independently.
- There is a need to make more inclusive teaching strategies for educating autistic and other children who needs special assistance in the mainstream classrooms.
- Schools with provision of inclusion should be developed in Pakistan to make the quality of education better for all students.
- More awareness should be raised for parents so they can educate autistic child at home and make them learn better.
- The idea of including students with autism in mainstream classroom is fruitful, because it improves their verbal and non-verbal communication and other restricted behaviors.
- Further research may be conducted in Pakistani to explore the family and the characteristics of autistic children.

Authors' contribution

All the authors of this paper are renowned researchers in their field and have multiple publications at national and international levels. In this study the first two authors (Dr. Nusra and Dr. Kalsoom) are the thesis supervisors of Novaira Habib and the last authors reviewed, modified and proofread the whole paper as well as conducted inferential statistical tests.

Conflict of interest

There is no any conflict of interest among all the authors and no funding in involved in this study.

Appendix

The appendix of this research is available at: <https://file.luminescence.cn/RPPE-196%20appendix.pdf>

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