



ISSN: 0975-833X

RESEARCH ARTICLE

TEACHERS' ATTITUDES TOWARD INCLUSION OF STUDENTS WITH AUTISM SPECTRUM
DISORDERS: A CRITICAL REVIEW OF THE ARTICLES

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ARTICLE INFO

Article History:

Received 28th August, 2015
Received in revised form
22nd September, 2015
Accepted 30th October, 2015
Published online 30th November, 2015

Key words:

Teachers' Attitudes,
Inclusion,
Autism Spectrum Disorders.

ABSTRACT

This article reviews the research on the teachers' attitudes toward inclusion of students with autism in the regular classroom and thereby finds out the teacher-related factors that might impact teacher attitudes toward inclusion of students with autism. Teachers play the vital role as a decision maker in implementing inclusive education for students with autism. Given that research has suggested that the successful implementation of any inclusive policy is largely dependent on teachers being positive about it, a great deal of research has sought to examine teachers' attitudes toward the inclusion and, more recently, the inclusion of students with autism in the regular classroom. A review of four studies revealed that most of the teachers showed positive attitudes toward inclusion of students with autism. However, there was no evidence of acceptance of a total inclusion or 'zero reject' approach to special educational provision. Teachers' attitudes were found to be influenced by teacher-related variables. The methodologies used in the research findings are discussed and recommendations for future research based on alternative methodologies are provided.

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Citation: Mst. Maleka Pervin, 2015. "Teachers' attitudes toward inclusion of students with autism spectrum disorders: A critical review of the articles", *International Journal of Current Research*, 7, (11), 22571-22576.

INTRODUCTION

Autism spectrum disorder (ASD) is a lifelong developmental disability that describes a range of conditions classified as neurodevelopment disorders, characterized by impaired social interaction, verbal and non-verbal communication as well as restricted and repetitive behavior (American Psychiatric Association, 2013). The CDC (Centers for Disease Control and Prevention) released report on the prevalence of autism and identified 1 in 68 children in the United States as having autism spectrum disorder (CDC, 2014). Moreover, the prevalence of ASD is more difficult than for a disorder where clear biological markers exist due to the symptoms of ASD vary in severity and may represent differently in children with a mixture of cognitive abilities (King and Bearman, 2009). In the same way, ASD and intellectual disability may co-occur; however, an accurate diagnosis requires the individual to display social communication skills that fall below general levels of development (American Psychiatric Association, 2013). Therefore, the extreme variability of the disability in terms of severity level and coexisting conditions makes it difficult for teachers to find out the diverse needs presented by a student with autism who is enrolled in the regular classroom.

Inclusive education is a worldwide reform strategy intended to include children with different abilities in mainstream regular schools as well as provides various benefits to children with disabilities including the fundamental rights of children no matter according to their abilities and disabilities, the provision of quality education and the provision of opportunities to develop the children's social skills as well (Allen & Cowderly, 2005). Under the circumstances, all children have the right to receive the kind of education that does not discriminate on grounds of disability, ethnicity, religion, gender, capabilities among others (UNESCO, 2003). Accordingly, the World Report on Disability in 2011 argued that, among other things, the inclusion of children with disabilities in mainstream schools promotes universal primary completion, can be cost-effective and contributes to the elimination of discrimination. In this regard, the education of students with autism have changed dramatically over the last two decades, and several countries have implemented policies that the foster the integration and inclusion of this students into regular classroom (Visible, 2003).

The philosophy of educating students with autism in regular classroom is a relatively new concept within the education system throughout the world. Teachers hold divergent views regarding the efficacy of inclusive education for students with disabilities in the regular classroom. In any manner, successfully meeting the needs of children with disabilities in

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inclusive classrooms depends on the attitudes of those working most closely with the students (Burke & Sutherland, 2004). Although evidence from previous studies suggest that teacher attitude was noted to be overall positive toward inclusion of students with autism highlighting different variables with respect to teacher that correlated with agreement or disagreement with inclusion (Park and Chitiyo, 2011; Al-Shammari, 2006, and Kosmerl, 2011), however, comprehensive research findings on teachers attitudes toward inclusion of students with autism is limited. At this moment, there are still a number of challenges to meeting the goals and aspirations of inclusive education, such as addressing the issue of meeting the learning needs of student with autism in regular classroom according to comprehensive aspects. Planning, implementing and evaluating special and inclusive education connected to diverse special needs as cognition and intellectual impairments, speech and language, reading and writing, numeracy, psycho-social conditions and sensory functions as well. The topic of this article is "teachers' attitudes toward inclusion of students with autism spectrum disorders" which is related with special needs as cognition and intellectual impairments. In any respect, clinical diagnosis of cognitive disability can include autism, down syndrome, dementia, dyslexia, attention deficit disorder, dyscalculia and other learning disabilities respectively. Many children with autism spectrum disorders also have intellectual disability, and approximately 75% have lifelong disability requiring substantial social and educational support (Chakrabarti and Fombonne, 2001).

Purpose of the Study

For this reason, the purpose of this article is to review articles as a comprehensive way on the attitudes of teachers toward inclusion of students with autism into the regular classroom and to explore if there any significant differences in teachers attitudes with respect to teacher-related factors. Consequently, it is necessary to understand teacher attitude toward inclusion of students with autism in regular classroom highlighting teacher-related factors which is associated with agreement or disagreement with inclusion so that educational administrators can take necessary steps in order to promote inclusive education for the students with autism in regular classroom as well as outline possible directions for future research on proposed topic.

Statement of the Problem

This article provides a systematic review of studies that have assessed the following questions:

1. What are the attitudes of teachers toward inclusion of students with autism in regular classroom?
2. Is there any significant difference in teachers' attitudes with respect to teacher-related factors (gender, position, educational qualification, teaching experience, and contact with students with autism) ?

MATERIALS AND METHODS

Article Selection Procedure

A systematic search of psychological and educational databases including Educational Resources Information Center

(ERIC), Psychology and Behavioural Science Collection (2012-2014) and PsycINFO databases was conducted in (2012-2014). Reference lists from relevant books, literature reviews and all identified relevant reports were searched for additional references. Over and above, the following international journals were searched for relevant reports: *European Journal of Special Needs Education*; *International Journal of Disability*, *International Journal of Inclusive Education*, *International Journal of Current Research*, *Autism Research and Treatment*, *Development and Education*; *Asian Social Science*, and *Journal of Special Education*. The keyword fields in database were searched using the Boolean terms (Autism), (Teachers' attitudes toward inclusion) and (Autism and Inclusion) accordingly.

Inclusion and Exclusion Criteria

Four articles were selected for final inclusion if they met each of the following criteria:

- Included original research (literature review) and contained data collected from teachers;
- The study included the measure of teachers' attitudes toward inclusion of students with autism;
- The studies were conducted in different countries after 2010;
- The studies were published in a recognized journal.

Besides, studies were excluded because authors only measured teachers' attitudes toward inclusion of students with autism but did not include any evidence-based practices were excluded.

Data Extraction Procedures

Each study was summarized in terms of the following:

- Number of Participants and Selection Procedure of Participants;
- Methods;
- Outcome measures of teachers' attitudes toward inclusion of students with autism;
- Findings;
- Limitations.

In both the text and table variables, measuring teachers' attitudes was coded into one of the following categories:

- any variable measuring teachers' attitudes toward inclusion of students with autism;
- any variable measuring teacher-related factors which are related with teachers attitudes toward inclusion.

Inter-rater agreement

An inter-rater agreement (IRA) checklist adapted from Ramdoss *et al.* (2011) was used.

Five questions:

- Is this an accurate description of the selection of the participants?

- Is this an accurate description of the methods?
- Is this an accurate description of the measures of teachers' attitudes toward inclusion of students with autism?
- Is this an accurate description of the findings?
- Is this an accurate description of the limitations?

Inter-rater reliability was conducted on the systematic search and application of inclusion and exclusion criteria.

RESULTS

Findings across the five areas of reviews (Participants, Methods, Measures, Findings and Limitations) are summarized in the Table 1:

Table 1. Summeryzed output on the teachers' attitudes towards inclusion of students with Autism Spectrum Disorders

Citation	Participants	Methods	Measures of Teachers attitudes	Findings	Limitations
Haimour and Obaidat, (2013)	391 Teachers	Quantitative Method (Using Questionnaire)	Attitudes toward inclusion of student with autism scale	Teachers attitudes slightly positive and significant differences in the teachers attitudes depending on teacher-related factors	Not understanding others factors like child factors or environmental factors which are influenced teachers attitude
Humphrey and Symes, (2013)	53 Teachers	Cross-Sectional Survey Design (Quantitative Method)	Using questionnaire including 58 items which were adapted from McGregor and Campbell's (2001) study	Positive attitudes toward inclusion of pupils with autism	Participants were selected randomly in a small scale.
Razali <i>et al.</i> (2013)	3 Teachers	Interview Method (Face to face interview) Qualitative Method	Interview protocol	Mixed Findings (Positive and Negative attitudes) Teachers attitudes are differ according appropriate resources, support, and professional training	All participants were female and they were not prepared to teach the children with in their class
Rodriguez <i>et al.</i> (2012)	69 Teachers	Interview method (Quantitative Method)	Using questionnaire for measuring teachers attitudes (http://bscw.rediris.es/pub/bscw.cgi/3932122/)	Positive view of teachers' expectations regarding the education of pupils with ASD	The efforts of the ASD networks were not fully implemented

The findings are discussed in the following:

Participants

The most common respondent type was teachers with 516 participants across four studies (Haimour and Obaidat, 2013; Humphrey and Symes, 2013; Razali *et al.*, 2013; and Rodriguez *et al.*, 2012). In this respect, highest numbers of participants like 391 teachers were included in Haimour and Obaidat (2013) study, 53 participants were used in Humphrey and Symes (2013) study, only 3 teachers participated in the Razali, *et al.* (2013) study, finally, Rodriguez, *et al.* (2012) study included 69 teachers as a participant.

Country where studies were conducted

Studies were conducted four countries including Saudi Arabia (Haimour and Obaidat, 2013); UK (Humphrey and Symes, 2013); Malyasia (Razali *et al.*, 2013) and Spain (Rodriguez *et al.*, 2012) accordingly.

Selection procedure

Following different selection procedure were used for selection the participations in these studies. In the study (Haimour and

Obaidat, 2013), 391 general and special education teachers for various schools were selected randomly. Therefore, 53 teachers from 11 mainstream secondary schools across the North-West of England took part in the study (Humphrey and Symes, 2013). In any respect, the study (Razali *et al.*, 2013) three teachers (R1, R2 & R3) working in a mainstream preschool agreed to participate in this research. Consequently, 69 teachers were selected through interview in the study (Rodriguez *et al.*, 2012) respectively.

Methods

One study was used qualitative methods (Razali, *et al.*, 2013) and other three studies (Haimour and Obaidat, 2013; Humphrey and Symes, 2013 and Rodriguez *et al.*, 2012) were

used quantitative methods. In the study (Razali *et al.*, 2013) the interviews were transcribed in text verbatim and analyzed based on the constructed themes. Other three studies used descriptive and inferential statistics for analysing the data.

Findings

The findings of the study Haimour and Obaidat, 2013 indicated that the "Overall" school Teachers' attitudes toward inclusion of students with Autism were slightly positive, not negative. The results also indicated significant differences in the teachers' attitudes depending on Teachers' (position, education level, teaching experience, and contact with students with Autism), favouring special education teachers, more advanced level of education, less teaching experience, and those with previous contact with students with Autism. Further, the same result of the study Humphrey and Symes (2013) indicated that respondents tended to indicate positive attitudes towards inclusion as well as showed that senior managers and Special Educational Needs Co-ordinators reported greater self-efficacy in teaching pupils with ASD and in coping with behaviours associated with ASD than did subject teachers. As a consequence, the study of Rodriguez *et al.*, 2012 showed the

same result of the study [Haimour and Obaidat, 2013](#) that positive view of teachers' expectations regarding the education of pupils with ASD. Logistic regression analysis was used for testing of experience with the child, school relationship with an ASD network and type of school (mainstream or special) as potential predictors. Although all three variables (experience, training, and perception of available resources and support) are useful in predicting special education teachers' attitudes, the most relevant was the relationship with an ASD network. In opposite side, the study [Razali et al. 2013](#), the result showed that the teachers were not prepared to teach children with autism in their class because they did not know the characteristics of children with autism and did not understand the importance of inclusive education. However, the practice of inclusive education in pre-school is yet to be implemented successfully due to some constraints experienced by teachers and lack of support in the environment. For this reason, the result of this study found a mix attitude such as negative and positive among the respondents toward inclusive education of students with autism.

Limitations

There are some limitations included in four studies. First and foremost, the study of [Haimour and Obaidat, 2013](#) used self-developed questionnaire including two sections. Only face validity was used for determining validity of the questionnaire, no other validity like content validity was not used in this situation which is essential. Hence, this study focused on teacher related factors were found to have a significant direct effect on teachers' attitude toward inclusion of students with autism but others factors like, child-related factors, environmental factors were ignored. However, the study [Humphrey and Symes, 2013](#), participants were selected randomly in a small scale, this is not always appropriate in educational research. Correspondingly, the study [Razali, et al. 2013](#), the reliability and validity of the interview protocol were not established. The interview protocol was built based on previous research and adapted from a study by [Yu \(2008\)](#). All participants were female and they were not prepared to teach the children in their class. Lack of proper guidance and training of teachers occurred negative attitudes toward inclusion of students with autism. After all, the teachers' responses in the study [Rodriguez et al. 2012](#) suggest that inclusion of pupils with ASD in mainstream settings is a considerable challenge for those involved, needing specific and extraordinary support. The study focused on the efforts of the ASD networks which were not fully implemented.

DISCUSSION

All studies included in this review focused on teachers attitudes toward inclusion of students with autism. Across studies there are different types of variability in the findings. While the variability in outcomes may limit generalization of the findings, it also provides a wide area of possible implications. Findings related to teachers' attitudes toward inclusion of students with autism appear to be mixed.

Furthermore, the study of [Haimour and Obaidat \(2013\)](#), it is showed that the overall school teachers' attitudes toward

inclusion of students with autism were slightly positive. The results also indicated significant differences in the teachers' attitudes depending on (Teachers' position, education level, teaching experience, and contact with students with Autism) favouring special education teachers, more advanced level of education, less teaching experience, and those with previous contact with students with Autism. If not indicate any significant differences in teachers' attitudes depending on teachers' gender.

In respect to the study [Humphrey and Symes, 2013](#), the findings focused on future teacher training needs and issues around inclusive education for students with ASD more generally. Most of the respondents in this study reported positive attitudes toward inclusion which is related with the findings of [Haimour and Obaidat \(2013\)](#) and [Rodriguez, et al., 2012](#) but little bit opposite the finding of [Razali, et al., 2013](#) study. It is found that subject teachers reported lower self-efficacy in teaching pupils with ASD and in coping with behaviours associated with ASD than did senior managers and Special Educational Needs Co-ordinators. Further training indicated a strong willingness to develop their knowledge and expertise which affected the teachers' attitudes toward inclusion. Overall, respondents reported a range of potential benefits and challenge of inclusion for both students with ASD and their peers.

While all participants are female in the study [Razali, et al. 2013](#) and had experiences in teaching a child with autism who was included in their classes. Two of them had at least one child with autism in their classes. Meanwhile, one respondent had previous experience as a shadow aide of two children with autism in a typical classroom. According to this study, inclusive education is benefited when student with autism can increase their social skills and thus increasing their confidence in facing their typical peers. However, the actual inclusive environment makes awareness about the disabilities among the typical children and imperfections of their other friends. The data in this study found a mix attitude such as negative and positive attitudes toward inclusion of students with autism. The viewpoint of respondent one, inclusive education is not suitable for students with autism because they are in their own world and have uncontrollable behaviour when they are in the preschool. In addition, children with autism were not very good at adapting with environment and they find it hard to adapt with their friends when they were playing in a group. On the contrary, other two respondents showed positive attitudes toward inclusion of students with autism. Second respondent was willing to accommodate student with autism in her classroom as well as she highlighted on as the presence of these children did not affect the quality of her teaching. Under the circumstances, the findings of this study emphasized on the teachers' appropriate knowledge, training and readiness are the important factors which are influenced on teachers' attitudes. Therefore, the study focused on providing appropriate resources, support services and training is necessary in order to ensure the success of inclusive education.

Additionally, the study [Rodriguez, et al., 2012](#), Overall, teacher showed the positive attitudes regarding the education of pupils with ASD, their own ability to influence their

development, and their relationships with the families. However, the influence of certain factors as the availability of a support network on teachers' attitudes and expectations towards teaching children with ASD. A direct logistic regression analysis was performed testing for experience with the present child, school relationship with an ASD network, and type of school (mainstream or special) as potential predictors still the most relevant was the relationship with an ASD network. In any manner, the experience with students with ASD like support in training and general commitment to the teaching students with autism has been shown to support more positive attitudes toward the inclusion of student with ASD. It is possible that this kind of information demand derives from teacher attitude that teaching children with autism requires a greater degree of specialization. Consequently, schools related to the ASD networks seem to receive the necessary support in terms of ongoing training and a culture of staff commitment and, therefore, favour more positive attitudes toward pupils with ASD, both in mainstream and special schools. Besides, the lack of response to this demand could be fostering a less positive attitude toward the education of the pupils with ASD.

However, there have been no studies which show more positive attitudes toward inclusion, leading to widespread acceptance of full inclusion. In this respect, teacher related factors can be seen as important factors in generating positive attitudes among teachers toward the inclusion of children with autism.

Conclusion

The information discussed thus far leads to the conclusion; teachers' attitudes toward inclusion of students with autism were slightly positive do not share a 'total inclusion' approach to education of students with autism. Lack of support, teachers hold negative attitude to the implementation of inclusion for students with autism. The governments of different countries wishing to promote inclusive education have a difficult task convincing their educators about the feasibility of the policy. Moreover, it seems imperative that successfully meeting the needs of students with disabilities in inclusive classroom depends on the attitudes of those working most closely with the students.

Another conclusion of this review is that the evidence regarding teacher-related variables (positions, knowledge, experience, skills, appropriate training and contact with students with autism) is consistent but none of them alone could be regarded as a strong predictor of teachers' attitudes. Hence, with the provision of more resources and support, teachers' attitudes could become more positive.

To sum up, it is said that teachers are the main agents for executing inclusive education for students with autism. However, the provision of extensive opportunities for training at the pre- and in-service levels should be seen as a top priority for the policy-makers. In addition, the success of inclusive education may be achieved with supports that fulfil the needs of the student with autism. In this respect, it could be concluded that while teachers are likely to show initial

resistance to any innovative policy, their attitudes might become more positive as well as build up relationship between teacher-related factors or other factors and attitude toward inclusion.

Acknowledgements

The authors are grateful to Dr. JorunBuli-Holmberg, Associate Professor, Department of Special Needs Education, University of Oslo, Norway for her valuable inputs in the initial stage of the development of the manuscript.

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Appendix

Appendix I: Links of the Selected Articles

1. Haimour, A.I., and Obaidat, F. (2013) <http://www.journalera.com/article/school-teachers-attitudes-toward-inclusion-students-autism-saudi-arabia>
2. Humphrey, N., and Symes, W.(2013) <http://www.tandfonline.com/doi/full/10.1080/13603116.2011.580462>
3. Razali, N.M., Toran, H., Kamaralzaman, S., Salleh, N.M., & Yasin, M.H. (2013) <http://dx.doi.org/10.5539/ass.v9n12p261>
4. Rodriguez, I.R., Saldana, D. and Moreno, F.J. 2012. <http://dx.doi.org/10.1155/2012/259468>
