



## Research Article

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# Autism Teachers' Perceptions of Students' Behaviors and Different Education Techniques, in the UAE

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## Abstract

**Introduction:** This study aims to assess the attitude and perception of specialized teachers regarding autistic student's performance, cooperation and affection of autistic students, in terms of providing the best techniques and environment to reach success in education.

**Methods:** A cross-sectional study was conducted over a period of 4 months. A total of 133 teachers participated in the study from 8 autism centres in the Emirates of Sharjah, Dubai and Abu-Dhabi, In UAE. The questionnaire used included four sections: the demographic information, including the participants' qualifications and training, where autism students should be in school, and lastly the autism students' performance, and behaviour.

**Result:** About 133 teachers participated and completed the study, giving a response rate of 66.5%. Majority of participants were well educated and trained to manage communications and aggressive behaviours of autistic students. 82% of participants agreed that autistic children should be in special classes. Also, 84.0% of them mentioned that visual education videos could improve the education process of autistic students.

**Conclusion:** Autism teachers' support using new techniques in autism students teaching, such as visual education. However, teachers had contradicted responses regarding involving students in general or special classes.

**Keywords:** Autism spectrum disorder (ASD); Autism; Perceptions; Autism education; Autism teachers; UAE

## Introduction

Autism Spectrum disorder (ASD) is neurodevelopmental disorders identified as pervasive developmental disorders (PDD). People with these conditions, characterised by three core deficits: impaired communication, social interaction and restricted, and repetitive actions or interests (American Psychiatric Association, 2013). Furthermore, people with autism disorders had a seizure and mental retardation in up to 25% and 70% of cases. Moreover, Autism can affect children's skills and can be noticed in school by their handwriting, reading and eye contact. Those skills were the most common skills affected by such disorder. Simpson, et al. reported in his study, that children with ASD require professional, individualized planning to educate them successfully, independent of the severity of their case.

Autism is currently identified in approximately 1 in 59 children, according to CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network estimates. The prevalence of autism is variable, in the USA, reported a median of 21.6 per 10,000

cases, while reported in Europe, an average of 18.75 per 10,000. Furthermore, the male to female case ratio ranged from 1.33:1 to 16:1.1. Other studies were conducted in the Middle East, specifically in Gulf countries, to measure the ASD (Autism Spectrum disorder) Prevalence. The prevalence of ASD was 1.4 per 10,000 in Oman, 4.3 per 10,000 in Bahrain, about 18 per 10,000 in Saudi Arabia (Al-Salehi, Al-Hifthy and Ghaziuddin, 2009), and 29 per 10,000 for PDD in UAE.

According to this Increase in prevalence of ASD in the UAE, the needs and challenges of children, particularly in the area of medical care, and education are steadily growing. Several studies were conducted for the same purpose and had highlighted the high prevalence of negative attitudes and misunderstanding towards children with PDD [1,2]. However, there is still inadequate research on public awareness, knowledge and attitudes in Sharjah, UAE. This study aimed to assess the knowledge, attitudes and investigate of the teachers' awareness about autism since teachers are the ones

who hold the key to raise awareness amongst children and their families. Knowing the teachers' weaknesses, and improving them, can enhance their role, besides the parents and institutions, in order to provide the autistic children with a better environment to become independent, and normally interact in all life aspects. In general, the rates of intellectual disabilities, precisely Autism prevalence is growing, raising awareness and knowledge about PDD is needed, and if limited, we need to improve the training curricula in the primary and secondary schools in UAE.

## Materials and Methods

### Ethical approval

The study procedures were approved by the Research Ethics Committee of the University of Sharjah (REC/16/09/29/S).

### Study design

This was a cross-sectional study involved 200 Autism teachers from eight Autism Centres in cities of Sharjah, Dubai and Abu-Dhabi, in UAE, from September to December 2016. The study was conducted to assess the attitude and perception of autism specialized teachers in the UAE. A three sections questionnaire was used to collect the data, and it highlighted the points related to the autistic students' teachers. The autism centres were found by Internet search engines.

### Participants

A convenience sample was used. A total of 200 teachers were participating in their job in the eight autism centres, and out of the 200 distributed questionnaires, only 133 surveys were utterly solved, giving a response rate of 66.5%. A total of sixty-seven teachers refused to do the survey or did not complete it, for different reasons such as busy schedules, limited time or not interested in research.

Furthermore, each survey was attached with a consent form to ensure that there was no bias and that the teachers participated voluntarily in the study.

### Questionnaire development

After reviewing several similar articles, the authors obtained samples of each variable survey and developed the questionnaire, inspired by Autism Inclusion questionnaire. The survey was modified, shortened, and included 16 questions only.

The survey questions were organized as follows:

The first section is the demographic information including gender, age, grade level and academic education, their roles in teaching and whether they are trained to manage the difficulties of communications and aggressive behaviour of the autistic students. The second section addressed where autism students should be in school systems from the teachers' perspective and what they observed from the student's actions. In The third element, it clarified the observations of the performance and behaviour of the autism students, including their performance in the visual and

verbal tasks and their cooperation with others, ability to display eye contact, cooperatives, and showing affection. The participants were asked to answer our survey questions or statements by using the answer options: "Yes or No", and three points scale: "strongly agree, agree, and disagree".

### Study procedure

The purpose of this study was explained to the centers' management and teachers. The teachers were assured about the anonymity and confidentiality of their response, and personal data were guaranteed.

### Data analysis

The data collected were encoded and analysed using Statistical Package for the Social Science (SPSS version 23.0). Descriptive analysis was used to calculate the respondents' percentage of each group with all statements in the questionnaire. Chi-square test was used to measure the significant association between demographic data of the participants and their response to different items of the survey. The value of P-value  $\leq 0.05$  is considered the significance.

## Result

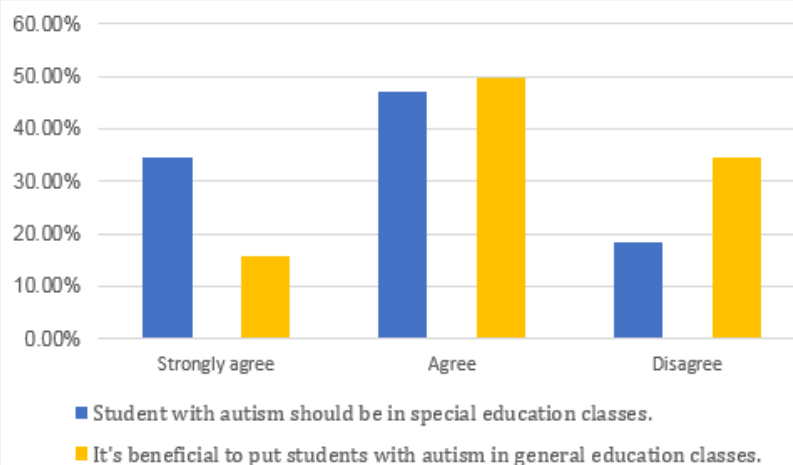
Among the 133 teachers participated in this study, the majority were females (60.2%). Of teachers, 98.5% were involved in the teaching of autism students. The highest percentage (69.2%) were from the age group of 25-34 years and only 4 of the participants who are in the range 45-54 years old. Only 9.0% of the teachers reported that they hold a high school grade levels certificate. The most abundant grade level the teachers were teaching is the Elementary school. All participants' demographic characteristics are presented in (Table 1).

### Autism teachers' qualification and training to manage communication and aggressive behaviors of autism students

In the first section, we asked participants, if they consider themselves to be prepared to work with autism students or not, 49.9% and 44.4% reported "Yes" through colleges or special development programs respectively, and 5.7% stated that they are not prepared academically. Furthermore, the majority of the pooled sample reported that the teaching of autism students is within their job description (97.0%) and they have had enough training programs on how to manage the students' communications problem (95.5%) or aggressive behaviour of autism students (91.7%).

### Where autism Students should be in the school?

Participants had contradicted responses, regarding whether autistic students should be in general or special classes. More than half (56.4%) of interviewed teachers believe that autism students should be included in general classes. However, about 82.0% of the participants were either agree or strongly agree with the survey statement "autism students should always be in special classes". Furthermore, 34.6% of the teachers disagreed with the statement "autism students benefit more if they will be in general classes (Figure 1).



**Figure 1:** Agreement of teachers about teaching of autism students in special or general educational classes.

### Autism students performance, cooperation, and affection

The majority of participants (84.0%) believe that autism students' performance can be improved if teaching materials are presented visually. According to the results, 82.0% of teachers reported that they either strongly agree or agree with the survey statement "autism students display poor eye contact". Moreover, more than half of the participants disagreed that the autism students over the study period were un-cooperative (51.1%) and did not show affection (66%). Table 2 summarized the autism student's teacher's opinions regarding tasks performance, poor eye contact, uncooperative, and affection of autism students (Table 2).

**Table 1:** Personal Information of the 133 participants included in the study.

Variable	Frequency (%) (n=133)
<b>Gender (n=133)</b>	
Male	53 (39.8)
Female	80 (60.2)
<b>Age (n=133)</b>	
25-34 years	92 (69.2)
35-44 years	37 (27.8)
45-54 years	4 (3.0%)
<b>Grade Levels (n=104)</b>	
Elementary school	41 (30.8)
Middle school	25 (18.8)
High school	12 (9.0)
Kinder school	26 (19.5)
No response	29 (21.8)
<b>Involving in autism students teaching</b>	
Yes	131 (98.5)
No	2 (1.5)

**Table 2:** Teacher's opinions regarding tasks performance, poor eye contact, un-cooperative, and affection of autism students.

Survey Item	Strongly Agree n (%)	Agree n (%)	Disagree n (%)	95% CI for single proportion for "strongly agree/ agree answer options"
Autism students task performance if presented visually	71 (53.4)	54 (40.6)	8 (6.0%)	44.9 – 61.8%
Display poor eye contact	30 (22.6)	80 (60.2)	23 (17.3)	15.5 – 29.6%
Uncooperativeness of autism students	14 (10.5)	51 (38.3)	68 (51.1)	5.3 – 15.7%
Autism student do not show affection	12 (9.0)	55 (41.4)	66 (49.6)	4.2 – 13.9%

### The Relationship between socio-demographic characteristics and teachers' responses on different autism questions/statements variables

Majority of the responses received from the participants was not related to their demographic characteristics (their age, gender, and the grade level they teach). However, there were two exceptions.

A significant association ( $P=0.050$ ) was found between the age of the participant and their response to the statement "should autism students be in special classes".

Also, there was a significant association ( $P=0.038$ ) between the grade level the participant teaches and their response to the statement "Autism students do not show affection".

### Discussion

#### Autism teachers preparations and training to manage communication and aggressive behaviors in autism students

Aggressive and challenging behaviour in autistic children in school can be mild, such as making noises, repetitive phrases over

and over, close and open doors repetitively. These behaviour might not be dangerous, but they can lead to some confusions if the child is not under careful observation, like harming themselves or their classmates. However, aggressive behaviour comes in many forms, including Verbal Aggression, Bullying, Covert Aggression, Hostility, and Physical Aggression [3]. Autism children are not always associated with aggressive behaviour. However, many studies suggest that showing aggressive behaviour from autism student is a way to communicate. Autism students sometimes scream and hit each other, as a way of communication to explain feelings like: "this is too noisy or scary for me" or "I don't feel well", especially in young autism students who cannot express themselves with words [4]. The teachers should know what exactly triggers the aggressive behaviour in autism students, in order to design a solution plan.

Moreover, they should keep aggressive students safe and keep any dangerous tools away from their reach, keep watching them and monitoring them [5]. The aggressive behaviour in autism students has been reported as a significant problem. This behaviour might interfere with their quality of life and their parents, such as suffering from more financial responsibilities, less social activities, and more tension and stress [6]. According to our results, the majority of participants confirmed that they are adequately trained to deal with the aggressive behaviour of ASD students, and confidently mentioned that they are well prepared to manage the communication problems associated with autism students.

### **Autism students performance, cooperation, and affection**

Majority of the teachers agreed on teaching autism students with visual style learning, which depends on using visual rather than the verbal method for explanation such as using pictures, charts, books, videos and colour-coding ways, as they believed that the visual learning improves the performance of autism students. This shows that autism teachers understand the importance of the visual method of learning for better outcomes in the educational process. There was no study considered the best support technique for teaching children with autism. However, particular visual teaching methods were recommended. Visual communication helps in the education of autism students, as it can attract their attention for specific points during the classes, and it also assists them in being more involved in social communication. Moreover, it plays a significant role in reducing stress, and let them focus more on the delivered idea to express their thoughts and feelings through teaching [7]. In our study, the majority of participants (82.0%) believed that the visual learning improves the performance of autism students, which shows that autism teachers realize the importance of the visual method of learning in the improvement of the educational process of autism students. Students with autism may have difficulties to follow with writing activities, so it is preferred to use videos instead, which can attract their attention and interest, as well as encouraging them to cooperate with the teachers. Video modelling is another highly effective programs used in teaching a variety of skills. It includes recording, processing and playback of pictures, such as digital media. Harris et al. mentioned

that using of the video modelling technique in teaching the autism students will lead to better learning and enjoying the contents of their studies, also It will provide two-way communication indirectly, which it would improve the language and social interaction for autism students [7].

Eye contact is considered one of the main issues that affect the learning process for autism students, as a nonverbal communication behaviour that we use automatically in social interaction, however keeping eye contact can be very challenging for students with autism. Thus, poor eye contact is indicated as one of the main symptoms of autism. However, lack of eye contact is not enough to diagnose with autism, as having autism includes many signs (Jo Rudy, 2018). According to our results, a high percentage of the teachers agreed that autism students, display poor eye contact as it considered as one of the most abundant disorder that appears in the majority of autism people. Eye contact improves the social and communication skills for students. Therefore, they will feel like they are a member of the community as well as this indicates the importance of interaction skills [8].

An autistic student can be taught to use more eye to eye contact and improving their gesture and body language. Trevisan, et al. mentioned that some of the social brain functions could be developed in ASD when forcing direct eye contact, however, forcing autistic to make eye contact can cause extremely stressful and fear emotions, as reported from the data. That is the reason behind providing other support programs, such as visual support to catch their interest, increasing their attention during communication with other people. Picard also concluded in his study that the technology can reach a greater understanding of people with autism spectrum, as well as improving their emotions and autonomic nervous system challenges (Picard, 2009). One of the methods used to reinforce visual support is done by touching the corner of the eye using movement where the start point is, within the range sight of the ASD student to attract his/her attention [9].

Affectionate communication encompasses those actions through which we express feelings of positive regard to each other such as love, intimacy, compassion, and gratitude. These feelings can be expressed through verbal, nonverbal, and supportive forms of communication [10]. In our study results, teachers revealed an almost equal number of agreement and disagreement regarding the ability of autistic students to show affection. Not surprisingly, because social interaction and communication impairment, is considered as a core feature of autism.

Affectionate communication is something that people with autism find problematic. However, it is essential to note that although some children are very affected in most or all domains of functioning, others are only mildly affected, which means that the extent of autistic students' ability to display affection varies between individuals. Another point worth mentioning is that a student with autism may be very affectionate but may be incapable of expressing it in the conventional form people are accustomed to [10]. There have been several proposed strategies such as social



skills training and speech-language therapy, cognitive behaviour therapy and applied behavioral analysis, which help the autistic students to deal with social challenges. These strategies can lead to better understanding and interpreting signals by autistic students. Also, it helps them to express their own thoughts and feelings appropriately

We also asked teachers about another behavioral component of autistic students, which is the cooperation. Cooperation involves several essential skills such as sharing, taking turns and following instructions from others. It is not less important than other behavioral components, as it helps in forming healthy relationships with others and enhance the education process. Unfortunately, it is a characteristic in some autism students [11]. According to our survey results, 50% of teachers supported the previous statement. They found that autistic students are uncooperative. Although this is not true for all students who have autism, it seems to affect some of them. Autistic students' apparent lack of cooperation could be for more than one contributing aspect. Firstly, the autism students often have difficulties in comprehending instructions especially if the language used is unclear or vague, which make it hard for them to be cooperative.

Secondly, autism students may require a longer time to process what is requested from them, and they feel overwhelmed if they are asked to do several things at once. Thirdly, autistic students may find some of the things asked of them challenging if they don't have the right abilities to carry them out. Furthermore, autistic students are considered to be uncooperative, if they are not aware of the appropriate behaviour required of them at different social situations [12].

Moreover, teachers can do several actions to help students with autism, to cooperate better with them. Teachers firstly should be mindful of using clear and concise language and should be willing to repeat the instructions if the student does not understand, to ensure that students are understanding. After the instructions are offered, teachers should allow sufficient time for the student to go through with the task. Besides, to have a better response from the student, the instructions can be presented visually rather than verbally. The students who cooperate should be praised, to encourage the right behaviour (ref notin 22 or 23). [13].. (22 check it again) So even though some autistic students seem to struggle with cooperative behaviour inherently, it is important that teachers should be well trained and aware of some of the approaches that could make the autistic student more cooperative.

According to the issues regarding autism students' performance, and the types of challenges they face to achieve educational success, it is very important to understand through autism teacher's perception, what education system that autism students need to be in, and whether inclusion is beneficial for them.

### **Where should autism students be in schools**

Recently, support has increased for children with ASD to be included in general classes. According to Bryson et al., they stated

that educating autism students in general classes, can ensure that children with autism, will have the opportunity to be more socialized, independent and increase their ability to learn. In addition, (Fryxell and Kennedy, 1995) and (Reeve and Carr, 2000) studies stated that Inclusion of students with autism is essential in improving social and educational outcomes. In this study, more than half of autism teachers agreed with inclusion of ASD students in general classes, understanding and believing in the benefits of the support and challenges, which would improve of autism students.

However, other teachers who disagree that inclusion would benefit autistic children could be due to their concern regarding challenges of inclusion, such as educational challenges. Those unmodified subjects can be hard for autism students to follow which will affect their school achievement compared to their peers. Also, the teachers-related difficulties, as some general education teachers who are working in general classes, revealed that they face difficulties in doing some modifications for each lesson. Also, there will be a need for professionals or assistants support in the classroom.

Other challenges that are associated with autism students are dealing with environmental activities, social interaction and communication, this can lead to an adverse reaction of the ASD students because they don't, they can't interact and socialize probably with their mates [14]. Nevertheless, [15] (Crosland and Dunlap, 2012) identified the need for standardized models for autism inclusion, in order to provide the full support to ASD students. Such a model should be cost-effective, feasible, and can be used everywhere. According to the previous illustrations, there is a strong opposition to inclusion of ASD students.

Special education service for ASD could overcome all the barriers that present in general education. Special classes provide specialized techniques to teach autism student effectively, such as shadowing techniques, visual tools, and learning support. The shadowing technique can be used in preschool settings. Applied Behavioral Analysis (ABA) service, can be used in the home setting to assist autism students, the ABA can help in improving the autistic social-communication skills. It includes PECS (Pyramid educational products), assist with transitioning by using pictorial schedule boards, developing verbal and non-verbal communication skills [16]. Going back to the results of this study, 109 of the participants agree with ASD students should be in special classes. Indicating that the majority of the population prefer special education settings rather than facing the challenges of inclusion students in normal classes.

Most of the autism centres that were visited, they mentioned that they use the individualized education service, where a session is done with one ASD student with the specialist autism teacher, to provide support in regular education, and help the child to become independent. On the other hand, special education can also be considered as preparation for possible transition of the autistic student to the next school level, or involvement in general schools.

## Conclusion

The majority of teachers in Autism centres in UAE are well educated and trained to deal with autism children. However, they had contradicted responses regarding involving students in general or individual classes, which might be for the reason that most of them are at a young age, and their experience might be limited. Studies of comparing outcomes between autistic students involved in special and general classes should be done. Furthermore, visual learning is one of the best ways, to educate autism students successfully. Moreover, continuous encouragement and compliments can enhance their cooperation.

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## Conflict of Interest

The authors report no conflict of interests.

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