Perceptions of School Administrators about Facilities Available in Schools for Children with Autism in Pakistan

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ABSTRACT

This study was designed to know the perceptions of school administrators about the available services for their children with autism in private and government special schools of Pakistan. Nineteen (19) school administrators were interviewed from six major cities of Pakistan including Karachi, Peshawar, Islamabad, Rawalpindi, Quetta, and Lahore. Perception of school administrators was recorded with the help of self-made structured questionnaire. The results of the study reveal that different diagnostic and therapeutic services are available for children with autism in Pakistan. On the other side; professionally qualified trained teachers, accessible buildings, pick and drop facilities for children are their major problems.

Keywords: Children with autism; special education schools; school administrators; facilities and services; Pakistan

INTRODUCTION

Autism is one of the most complex developmental disorders. Due to autism the ability of communication and social interaction with others significantly affected. Children with autism are affected in different ways. Some have only mild symptoms and grow up to live independently, while others may have more severe symptoms and need supported living and working environment throughout their lives. Therefore, one should keep in mind that autism is a spectrum disorder and it affects each individual differently and at varying degrees. As a result, each child with autism presents a slightly different profile of learning abilities and learning disabilities (*ddc.ohio.gov/Pub/ASDGuide.htm - 271k).*

The exact cause and etiology of autism are still unknown. There are many approaches to treat autism but are controversial, because the term "autism" is a "spectrum disorder", means that it manifests itself differently in each child. Due to unknown causes of autism the treatment of autism is become further complicated because there are very different perspectives from which to view treatment such as developmental, behavioral, educational, cognitive and medical. These perspectives overlap, but each emphasizes different things (Seigle, 2003).

In 1977, the Autism Society of America gives a definition of autism, which has similarity to Kanner's original description. It was revised in 2000 and stated that:

> *"Autism is a complex developmental disability that typically appears during the first three years of life. The result of a neurological disorder that affects the functioning of the brain, autism and its associated behaviors has been estimated to occur in as many as 1 in 500 boundaries. Autism is four times more prevalent in boys than girls and knows no racial, ethnic, or social boundaries. Family income, life-style, and educational levels do not affect the chance of autism's occurrence"* (Webber, 2002).

In 1973, the work of Rutter and Bartak indicated that "children with autism benefit from a more structured approach to teaching, providing a basis for a range of interventions to

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support the social interaction, communication and education of people with autism over the years**".** There is an agreement that persons with autism should be supported for what they do, particularly their strengths should be recognized. Reflecting what Baron-Cohen (2004) refers to as the 'triad of strengths', Volkmar, Chawarski & Klin, (2005) recognized that "intervention, and particularly early intervention can influence social, communicative and imaginative abilities in a child with autism and help with enabling social integration, friendships, self-esteem, well-being and access to education and employment. Earlier identification can lead to challenges for interventions". It may sound undesirable labeling a young child with an ASD, it must be remembered that the earlier diagnosis of ASD may help in providing early interventions that may be the crucial one.

Different theoretical frameworks and intervention paradigms have been presented. The range from providing a structured education environment, behavioral modification approaches, developmental interactive procedures in order to develop naturalistic social and communicative interactions. They may include cognitive approaches that help child with autism in constructing shared meanings.

According to Schopler et al (1980) "Division TEACCH (Treatment and Education of Autistic and Communication Handicapped Children) is described as a global approach based on close collaboration between parents and professionals, using structured and continuous intervention, environmental adaptations and alternative communication training, to minimize the difficulties for children and adults with autism and accommodate their strengths". TEACCH uses visual and non-verbal instructional aids to help plan, organize and facilitate transitions between activities. This helps to address cognitive and sensory processing, and minimize anxiety**.** Lord & Schopler (1994) note that "Founded in 1972 at the University of North Carolina the program is state-wide and community based. Many TEACCH ideas have been adopted in specialist units and mainstream schools within the UK".

According to Lovaas (1987) "Behavioral approaches rest on the theory of Skinner (1957) that learning is development, and all behavior is learned. Using associative learning and operant conditioning, behavioral responses can be modified by positive and negative reinforcement. This approach was developed on the theoretical basis that persons with autism had not learned the behaviors of typically developing children because they could not respond to the typical environment, and, so, it was necessary for the environmental input to be altered to condition behavioral responses". Lovaas (1981) further elaborates that "A particular behavioral approach, 'Applied Behavioral Analysis', is used by Lovaas and colleagues which involves breaking a skill into small steps and teaching each step a discrete trial technique". Smith (1999) remarks that "Other behavioral approaches have incorporated developments in behavioral methodology, such as 'errorless discrimination learning' and 'functional analysis". Prizant, Wetherby and Rydell (2000) draw "a distinction between the earlier discrete trial training (DTT) behaviorist approach, and the contemporary applied behavior analysis (CABA) approach, which involves behavioral reinforcement for appropriate responses but also uses naturalistic settings and minimally structured interactions. An intensive behavioral program can involve 30- 40 hours per week of one-to-one intervention".

Schopler et al (1980) note that "Some elements of behavioral approaches are included in other approaches such as Division TEACCH, but TEACCH would not use behavioral approaches in developing interpersonal understanding, considering them to be unsuited to promoting this type of development".

Nind & Hewett (1994) note "Within this overall approach play therapy and play interaction approaches are used, and also music interaction and drama interaction, and the impact of peer

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interaction is increasingly addressed". Prizant et al. (2000) believe that this type of approach has been referred to as the "social-pragmatic developmental interaction approach".

Cognitive Behavioral Therapy and Social Stories and similar approaches (Gray, 1994), help a young person in making sense of ideas and social conventions by constructing their meanings (Vygotsky, 1978). These approaches should be used along with other similar interventions. They can also be used to improving inclusive practices.

The impact of sensory and perceptual processing on social and communicative interactions for people with autism is widely recognized (Bogdashina, 2003). "They are addressed by therapies to integrated sensory processing or alter sensory sensitivities" (Irlen, 1995).

Whiteley and Shattock (2002) believe that "The role of physiological and biochemical factors, such as opiod excess are also addressed with, for example, exclusion diets and pharmacological interventions".

The above mentioned intervention approaches show a clear contrast in theoretical approach and at some places they seem to be mutually exclusive. Their impact upon other daily events and opportunities for a child to socialize is also visible. For a caregiver it is important to identify which interventions would be effective and suit to a particular child with reference to child's individual characteristics, age, and context. The approaches that support the child to build friendships and improve social and communicative abilities should be preferred. They also help to access the curriculum.

Jordan, Jones and Murray (1998) note that "practitioners tend to use the 'best elements' of many approaches, however, with the range and possible approach types, some of which are mutually exclusive, some basis upon which to base a decision for deciding on the best approach for a particular child needs to be established".

"Hellen et al. (2005) believe that:

> Evaluating an intervention approach, however, can be difficult in relation to people with autism who form a heterogeneous group. Issues arise in relation to numbers of participants in an evaluation study, comparability of individual characteristics, the ethics and recruitment of a control group, the random assignment of participant to comparative groups – all of which pose methodological difficulties for comparative intervention paradigms".

"Referring to Guralnick (1997) and (Goldstein, 2002) Helen et al. (2005) conclude:

> Indeed difficulties have been found in the evaluative literature. In fact when reviewing the literature of the effectiveness of a range of interventions in this area in 1998, Jordan, Jones and. Jordan Jones and Murray (1998) reported that there was no evidence that one approach was more effective than another. Looking closely at the methodologies involved in various studies they found that, while most approaches provided some evidence of effectiveness, they were very variable in scientific terms; some were just case studies, and most did not have a control group".

"Behavioral approaches are claimed to be effective (Lovaas, 1987), with different methodological difficulties. This claim has been questioned for its validity (Gresham & MacMillan, 1998)".

The effectiveness of these approaches needs evidence in their claim for supporting and teaching children with autism. It needs further investigation.

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LITERATURE REVIEW

The effective role by federal government in special education was started in 1980 when 1981 was declared as international year for disabled persons. Till 1981 special education was the responsibility of ministry of education and social welfare. In 1982 affaires of special education were transferred to ministry of health and social welfare at federal level.

1985 may be considered the landmark in history of special education in Pakistan due to personal interest of President of Pakistan Late General Zia-ul-Haq in education and rehabilitation of persons with disabilities. After the formulation of draft of special education policy in 1985 rate of development in sector of special education was increased. Another landmark was the beginning of building vocational training centers for people with disabilities in Pakistan in 1990. The national policy made by directorate general of special education and ministry of health and social welfare addressed many perspectives at federal level such as census, discovery and registration, education, rehabilitation and preparation for employment, research, technology aids and appliances (Khatoon, 2003).

The national policy 1988 included prevention, detection, school based services, curriculum, employment, professional training, rehabilitation and many other related issues. This policy was reviewed in 1998 by ministry of women development, social welfare and special education. In this review some other factors were included such as, adequately trained professionals and Para-professionals, adequate allocation of budgets and funds, community involvement and support, adequate transport facilities and assuring the availability of specialized equipment and aids.

National Policy for Persons with Disabilities 2002 clears all aspects to a greater extent. According to this policy the focused areas of attention are early intervention, assessment and medical treatment, education and training, integration and mainstreaming, vocational training, employment and rehabilitation, use of information technology, assistive technology on the basis of individual needs and outreach programs, advocacy and mass awareness, sports and recreation, design of buildings parks and public places, institutional arrangement and mechanism, funding and monitoring (http://siteresources.worldbank.org).

According to census of 1998 out of whole population 3,286,630 people were disabled. 8.06% were visually impaired, 7.43% were hearing impaired, 18.93% were physically handicapped, 6.39% were insane, 7.60% were mentally retarded, 8.23% were having multiple disabilities and 43.37% were having other disabilities (www.census.gov.pk).

At the time of creation of Pakistan in 1947, only two notable institutions for the deaf, blind and physically disabled existed: (i) “Ida Rieu Center for the Disabled” deaf and physically disabled children numbering 50 to 60 in Karachi and (ii) “Emerson Institute for the Blind” in Lahore.

In 1981 as decided by a Cabinet Committee (which was commissioned to assess the existing situation of disabled children and to prepare a Five-Year Plan for the special education and training) 312 physical targets were decided to build in Pakistan (280 special education schools and 32 infrastructure units) within five years. It was decided that at least one Centre for individuals with disabilities will be built in each district (Khatoon, 2003).

It was decided to establish 127 new special schools in the provinces: 102 by the governments and 25 by the NGOs, and 14 special schools in Federally Administered Tribal Areas (FATA) and Federally Administered Northern Areas (FANA) and 8 special schools in Azad Jammu and Kashmir.

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Development of special education schools was slower before 2000. After the year 2000 development of schools grew fast. Now a day, 84 special education institutes are working under the federal government all over the Pakistan (http://www.telenor.com.pk/images/pdf/disabledguide.pdf). In the province of Punjab, it was decided to build 90 new combined special education centers in each Tehsil Headquarter. 91 special education centers were working under the govt. of Punjab till September 2010 (http://pportal.punjab.gov.pk/).

National Policy for persons with disabilities (PWDs) 2002 defines following policies that should be provided to PWDs.

National policy for persons with disabilities 2002 focuses on some of the very important areas of services and provisions for persons with special needs. Such as; assessment of disability and medical treatment, education and training, out reach programs for the identification of PWDs their enrolment in schools and for this purpose many in-service teacher training programs have been started at post graduate level in the country. This policy also focuses on the latest trends in the field of special education regarding the placement of children with special needs in schools and ensures the inclusive and disabled friendly environment for the PWDs. Use of information technology, assistive technology and provision of special aids and equipment on the individual needs for the appropriate education and traing of PWDs is the main concern of the national policy. For the execution of this policy in real sense the role of federal government and provincial governments, role of district government and community and families of PWDs are already defined in the National policy2002. (http://siteresources.worldbank.org).

Although government and non-government organizations are working hard to improve the conditions of children with disabilities in Pakistan but they are facing many problems, major problems are absence of coordination and networking mechanism, lack of reliable data, inappropriate need assessment, inadequate policy, legislative and reinforcement work, lack of community based programs, lack of human resources, inadequate resources, inadequate services and facilities, urban concentration of services, paucity of vocational training facilities, environmental barriers and lack of training workshops (Din, 2008).

Another major problem is the division of management of special education in two ministries, Ministry of Education and Ministry of Social Welfare and Special Education. Clash of administrations creates uncomfortable environment for students and persons with disabilities.

DATA AND METHODOLOGY

This study was conducted to identify the facilities available for students with autism in special in Pakistan and to assess the level of satisfaction of school administrators about the facilities available for students with autism in Pakistani schools. The sample of the study comprised on 19 administrators of special schools from six major cities of Pakistan which are catering children with autism. These 19 administrators were selected through convenient sampling technique. Out of these 19 administrators 52.6% were female and 47.4% were male. Age range of the administrators was 30 to 67 years. 5.3% administrators were graduates, 78.9% administrators were having qualification up to Masters Level and 15.8% administrators were having other qualifications. Job experience of administrators was 3 to 27 years. 52.6% administrators were designated as vice principals or deputy directors and 47.4% were designated as principals or directors. 42.1% administrators were using federal government financial resources, 15.8% administrators were using provincial government financial resources, 26.3% administrators were using fee and service charges, 5.3%

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administrators were using donations and 10.6% administrators were using some other sources for financial assistance of their institutes.

Researchers developed a self-made questionnaire to collect the data. Seventeen different statements were asked to see the perceptions of the respondents. In eight statements respondents were given two options Yes and No. In nine statements, respondents were given multiple options.

RESULTS AND DISCUSSION

After the data collection, responses were coded by using numeric coding scheme. Data were analyzed by using SPSS software.

Table 1. Frequency distribution of the responses

Sr. No.	*Statement*	*Yes*		*No*		*Missing*	
		Freq	*%*	*Freq*	*%*	*Freq*	*%*
1	Availability of teacher's training program	11	57.9	7	36.8	1	5.3
2	Availability of foreign training program	2	10.5	16	84.2	1	5.3
3	Availability of trained teachers	10	52.6	8	42.1	1	5.3
4	Availability of allied health professionals	9	47.7	9	47.7	1	5.3
5	Architectural suitability of the building	7	36.8	11	57.9	1	5.3
6	Availability of need based furniture	13	68.4	5	26.3	1	5.3
7	Availability of weather control system	14	73.7	4	21.1	1	5.3
8	Availability of assessment facilities	16	84.2	1	5.3	2	10.6

The model responses indicate that perceptions of administrators about the availability of facilities for students with autism in Pakistani schools are as under:

The model responses indicate that perceptions of administrators about the availability of facilities for students with autism in Pakistani schools are as 57.9% administrators believe that teachers' training programs are available in the schools, 84.2% administrators believe that no foreign training programs are available for special education teachers, whereas 52.6% administrators told that trained staff is available for children with autism in schools. 47.7% administrators told that allied health professionals are available at schools for children with autism, 57.9% administrators believe that buildings of schools are not architecturally suitable for children with autism, 68.4% administrators told that need based furniture is available in special schools.73.7% administrators told that weather control system is available in schools and 84.2% administrators told that assessment facilities are available at schools.

Table 2. Building ownership

Responses	*Rented*		*Personal*		*Government*		*Missing*	
	Freq	*%*	*Freq*	*%*	*Freq*	*%*	*Freq*	*%*
	7	36.5	6	31.6	5	26.3	1	5.3

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Above table shows that according to the administrators 36.5% buildings were rented, 26.3% buildings were Government, 31.6% buildings were personal and 5.3% respondent did not respond on this statement.

Table 3. Adaptations in Lighting Facilities

Responses	*To stop perpendicular lightening*		*Tube lights or bulbs were screen covered*	
	Freq	*%*	*Freq*	*%*
	7	36.8	12	63.2

Above table shows that 36.8% respondents responded that they have made some special arrangements to stop perpendicular lightening and 63.2% responded that they have covered tube lights and bulbs.

Table 4. Sourced and Quality of Audio-Visual Aids

Responses	*PECS Material*		*Sensory Therapy Equipment*		*TEACCH equipment*		*Occupational Therapy*		*Speech Therapy equipment*		*Missing*	
	Freq	*%*	*Freq*	*%*	*Freq*	*%*	*Freq*	*%*	*Freq*	*%*	*Freq*	*%*
	2	10.5	1	5.3	2	10.6	1	5.3	1	5.3	12	63.2

Above table 4 shows that 10.5% were using Picture Exchange Communication System (PECS) material, 5.3% were using Sensory therapy equipment, 10.6% were using TEACCH equipment, 5.3% were using occupational therapy equipment and 5.3% were using speech therapy material for the teaching of children with autism were as 63.2% respondents were not using any Audio visual aids.

Table 5. Responsibility of Bearing the Cost of Transportation

Responses	*Free of Cost*		*With Cost*		*Missing*	
	Freq	*%*	*Freq*	*%*	*Freq*	*%*
	7	36.8	9	47.4	3	15.8

Above table 5 shows that 36.8% respondents responded that they were providing free of cost transport facility to children with autism, 47.4% respondents responded that they were charging cost for transport facility and 15.8% respondents did not respond on this statement.

Table 6. Availability of Technical Facilities

Responses	*TV, VCR and Multimedia*		*Computer, Audio player and CD Player*	
	Freq	*%*	*Freq*	*%*
	3	15.7	16	84.2

Above table shows that 15.7% respondents were using TV, VCR and multimedia and 84.2% were using computers, CD players, and audio players for the teaching of children with autism.

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Table 7. Availability of Specialized Services

Responses	Identification and Educational Services		Technical, Vocational and Therapeutic	
	Freq	%	Freq	%
	12	63.2	7	36.8

Above table shows that 63.2% identification and educational services were provided by the schools, 36.8% technical, vocational and therapeutic services were provided by the schools.

Table 8. Availability of Standardized Educational Program

Responses	ATEC		Portage		CARS		DSM-IV		PER-R		Adaptive Behavior Scale		Any Other		No	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
	1	5.3	2	10.5	2	10.5	1	5.3	1	5.3	1	5.3	1	5.3	10	52.6

Above table shows that 5.3% responded were using ATEC, 10.5% were using Portage guide, 10.5% were using CARS, 5.3% were using DSM-IV, 1.5% were using PEP-R, adaptive behavior scale, any other tool for the assessment of children with autism and 52.6% respondents did not respond on this statement.

Table 9. PTA Supporting Areas

Responses	Building, Transport, Teachers		Equipment, Furniture		Missing	
	Freq	%	Freq	%	Freq	%
	4	21.1	1	5.3	14	73.7

Above Table shows that according to administrators 21.1% PTA financing them for building transports and teachers, 5.3% PTA financing them for equipment and furniture and 73.7% did not respond on this statement.

Table 10 Major Problems of the Institute

Responses	Building, Transport, Teachers and Funds		Equipment and Furniture		Missing	
	Freq	%	Freq	%	Freq	%
	4	21.1	1	5.3	14	73.7

Table 10 shows that 21.1% responded that building, transports, teachers and funds are their major problems, 5.3% responded that equipment and furniture are their major problems and 73.7% did not respond on this statement.

IMPLICATION

As results indicate that there is lack of professionally trained staff for the assessment of children therefore, all special schools should have professionally trained staff for the assessment of children with autism. Specific assessment tools should be available for the

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identification and assessment of children with autism in schools. Government should take special steps to promote research activities in this field as it is now most frequent disability of the world. Seminars, conferences and workshops should be organized on massive level to create awareness about autism and its treatment among parents, teachers, and in the general community. Government should allocate special funds for foreign training of teachers in the field of autism. Only professionally trained teachers and therapists in the relevant field should be inducted in special schools for the education and training of children with autism. Least restrictive environment should be provided to children with autism therefore, all necessary adaptations should be made in the schools according to special education needs of children with autism. High functioning children with autism should be included in regular schools. Government should take measures for the capacity building of schools and staffs for the inclusion of children with autism in regular schools. Overall budget of special education should be increased so that maximum services could be provided to children with autism.

DISCUSSION

Like Pakistan in India many children with autism are also enrolled in special schools for children with mental retardation. According to Action for Autism National Centre for Autism in Indian special education schools there are not enough services to meet the needs of mentally retarded children and adults; even then they are not ignoring children with autism. In the mid-1990's, the Government of India recognized autism as a separate disability. This development is relatively recent: formerly, schools catering solely to autistic persons were not able to receive funding from the government. In India Persons with autism were also not eligible for concessions and benefits offered by the government unless they were diagnosed as mentally retarded, yet many persons with autism are not mentally retarded. At present, the needs of autistic children in India are not being met in either the regular or special education systems. With an understanding teacher or possibly an aide, a more able autistic child could function very well in a regular school, and learn valuable social skills from his peers (http://www.autism-india.org/afa_autisminindia.html).

As the prevalence of children with autism spectrum disorders increases (ASD), more and more children with ASD are in public school classrooms for services in Georgia (Yeargin-Allsopp et al. 2003). Because of their distinctive social and communication difficulties this group demands for highly specialized services in the schools and educators agree that students with ASD require specialized services in the schools (National Council 2001; Simson et al, 2005)

There are many intervention services are being used for ASD in all over the world but do not have empirical evidence of their effectiveness. Simpson and colleagues 2005 divided these interventions in to five broad categories based upon the main features of treatment. These categories were (a) Interpersonal Relationship, (b) Skill based, (c) Cognition, (d) Physiological biological/ Neurological, and (e) others (Hess, Morrier & Lvey 2007).

Hess, Morrier and lvey conducted a web based survey and found that fewer than 10 % of the above mentioned interventions used with the students with ASD in Georgia public schools are based on scientifically based practice. Controversial and unsupported treatments plague the field of autism, resulting wastage of time, energy and funds (Simpson et al.2005)

The prevalence of children with autism is increasing rapidly in Pakistan. Although Pakistani special schools are not well equipped and designed to cater this type of disability. However, children with autism in large numbers are enrolled in special schools for children with mental retardation both at public and private level. Very few are attending part time regular schools for the purpose of social inclusion. Special schools of Pakistan are less sensitive towards the

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needs of children with autism. There is not any single intervention program for children with autism developed or funded by the government of Pakistan.

As life span of persons with autism is same as for normal person therefore it is need of hour that government, stakeholders, community members and parents of children with autism should seriously think about the rehabilitation of persons with autism and plan comprehensive intervention program, accurate diagnoses, need based services, appropriate educational placement, adequate education and training facilities, trained and foreign qualified staff should be provided.

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REFERENCES

[1] Action for autism National center for autism ,services for autism in India, Retrieved March 31, 2012, from http://www.autism-india.org/afa_autisminindia.html

[2] Baron-Cohen, S. (2004). Autism: research into causes and intervention. *Paediatric Rehabilitation*, *7*(2), 73-78.

[3] Brenda, S. Jo, W. (2002). *Teaching does make a difference; autism. Australia*: South West; Texas State Univsersity

[4] Bogdashina, O. (2003). *Sensory perceptual issues in autism and asperger syndrome: Different sensory experiences-Different perceptual worlds.* London: Jessica Kingsley.

[5] Census Report Pakistan (1998), Retrieved May 24, 2011, from http://www.census.gov.pk/Disabled.htm

[6] Din, M. M. (2008), Country report, Islamic republic of Pakistan, Pakistan disabled people organization, Accessed from http://www.estanara.com.pk/CountryReportPakistanbyMobin.pdf on 24-05-2011

[7] Development of special education in Pakistan. Retrieved May 24, 2011, from http://www.telenor.com.pk/images/pdf/disabledguide.pdf

[8] Gray, C. (1995). *Teaching children with autism to "read" social situations.* In Quill, K. A. (ed.) *Teaching children with autism strategies to enhance communication and socialization.* London: Delmar Publishers.

[9] Gresham. E. M., & MacMillan. D. L. (1998). Early intervention project: can its claims be substantiated and its effects replicated? *Journal of Autism and Developmental Disorders, 28*(1), 5-13.

[10] Guralnick, M. J. (1997). (Ed.). The Effectiveness of Early Intervention. Baltimore, MD: Brookes Irlen, H. (1995). Viewing the world through rose tinted glasses. *Communication, 29*, 8-9.

[11] Krisyen, H. L., Micheal, M.J., Juuane, H. L., & Lvey, L. M.. Autism treatment survey: Servicess received by children with autism spectrum disorders in public school classrooms. J*ournal of autism and developmental disorders ©Springer Science+Business* Media ,LLC 2007 10.1007/s 10803-007-0470-5

[12] Retrieved May 31, 2011, from http://siteresources.worldbank.org/PAKISTANEXTN/Resources/pdf-Files-in-Events/Pak-Disabled-Policy.pdf

[13] Introduction of autism, retrieved from ddc.ohio.gov/Pub/ASDGuide.htm - 271k

[14] Jordan, R., Jones, G., & Murray, D. (1998). *Educational interventions for children with autism: A literature review of recent and current research*. Norwich: HMSO. (DfEE Research Report 77).

[15] Aqila, K. (2003). *A historical and evaluative study of special education in Pakistan*, University of Karachi, Pakistan. Retrieved May 20, 2011, from http://eprints.hec.gov.pk/719/1/505.html.htm

[16] Lord, C., & Schopler, E. (1994). *TEACCH services for preschool children. In L. Harris & J. S. Handleman (eds.).* Preschool education programs for children with autism. Austin: PRO-ED.

ISSN: 2223-9944, eISSN: 2223-9553

[17] Lovaas, O. I. (1981). *Teaching developmentally disabled children. The 'me' book.* Baltimore: University Park Press.

[18] Lovaas, O. I. (1987). Behavioral treatment and normal education and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology, 55*, 3-9.

[19] National policy for persons with disabilities. (2002), Accessed from Punjab Government Portal Guide, (2011), Institutes of special education in Punjab Province, Retrieved May 31, 2011, from http://pportal.punjab.gov.pk/portal/portal/media-type/html/group/788/page/default.psml/js_pane/P-10a0eafb62b-10038?nav=left

[20] National Research Council.(2001). *Educating children with autism. Committee on educational interventions for children with autism, Division of behavioral and social sciences and education.* Washington, DC: National Academy Press.

[21] Nind, M., & Hewett, D. (1994). *Access to Communication: Developing the Basics of Communication with People with Severe Learning Difficulties through Intensive Interaction.* London: David Fulton.

[22] Prizant, B. M., Wetherby, A. M., & Rydell, P. J. (2000). *Communication intervention issues for young children with autism spectrum disorders*. In A. M. Wetherby & B. M.

[23] Rutter, M., & Bartak, L. (1973). Special educational treatment of autistic children: a Comparative study, II Follow-up findings and Implications for services. *Journal of Child Psychology and Psychiatry, 14*, 241-270.

[24] Schopler, E., Reichler, R. J., DeVellis, R. F., & Daly, K. (1980). Toward objective classification of childhood autism: Childhood autism rating scale (CARS). *Journal of Autism and Developmental Disabilities, I,* 91-103.

[25] Siegel, B. (2003). *Helping children with autism learn.* Oxford University Press, Inc.

[26] Simpson, R. L., de Boer-Ott, S. R., Griswold, D. E., Myles, B. S., Byrd, S. E., Ganz,J. B., et al.(2005). *Autism spectrum disorders: Interventions and treatments for children and youth.* Thousand Oaks, CA: Corwin Press.

[27] Skinner, B. F., (1957). *Verbal behaviour*. New York: Appleton-Century-Crofts.

[28] Smith, (1999). Outcome of early intervention for children with autism. *Clinical Psychology: Science and Practice, 6*, 33-49.

[29] Stone, F. (2004). *Autism- the eight colour of the rainbow learn to speak autistic.* London. Jessica Kingsley Publishers.

[30] Volkmar, F., Chawarski, K., & Klin, A. (2005). Autism in infancy and early childhood. *Annual Review of Psychology, 56*, 315-36.

[31] Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Mental Processes.* Cambridge. MA: Harvard University Press.

[32] Whitely, P., & Shattock, P. (2002). Biochemical aspects in autism spectrum disorders: updating the opioid-excess theory and presenting new opportunities for biomedical intervention. *Expert Opinion on Therapeutic Targets, 6*(2), 175-183.

[33] Yeargin- Allsopp, M., C., Karapurkar, T., Doernberg, N., Boyle, C., & Murphy, C. (2003).Prevalence of autism in a US metropolitan area. *Journal of American Medical Association, 289*, 49-55.

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