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The Qualitative Report

Volume 20 | Number 2

Article 1

2-2-2015

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Arisha Qayyum

Aga Khan University, arisha.qayyum@gmail.com

Ayesha Zahid Khan

Aga Khan University

Rizwan Ali Rais

Aga Khan University

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Recommended APA Citation

Qayyum, A., Khan, A. Z., & Rais, R. A. (2015). Exploring Play of Children with Sensory Impairments in Special Schools at Karachi, Pakistan. *The Qualitative Report*, 20(2), 1-17. Retrieved from <http://nsuworks.nova.edu/tqr/vol20/iss2/1>

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Abstract

Prevalence of disabilities in Pakistan is 2.4 % (3.2 million), with 7 % population suffering from hearing impairments. This study focuses on many aspects of development including physical development, which have never been studied exclusively in developing countries. This pilot study was aimed to explore play pattern of children with hearing & speech impairments in school settings, Karachi, Pakistan. In this article play behaviors of 53 children with sensory impairments aged 8-12 years were explored. Observations were recorded through semi-structured checklist, using norm-based time sampling procedure, recording various types of behavior in a group play context. Three major play categories were observed and recorded under: a) Social Play; proximity and attentiveness b) Cognitive Play; level of child's involvement and purpose for engaging in the activity c) Non- Play; marked by absence of focus. Frequently observed play behavior was; group play under cognitive play; games with rules and functional play behavior; engagement of child in physical activities for the enjoyment of physical sensation and in non-play behavior active conversation, rough and tumble play, recorded. Study findings reveal the importance of play as an essential component for healthy child development. Dire need of capacity building of school staff and of caregivers regarding child development and importance of play was felt at larger scale.

Keywords

Child's Play, Sensory Impairments, Play Pattern, Special Schools, Play Settings, Naturalistic Observation

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Exploring Play of Children with Sensory Impairments in Special Schools at Karachi, Pakistan

Arisha Qayyum, Ayesha Zahid Khan, and Rizwan Ali Rais
The Aga Khan University, Karachi, Pakistan

Prevalence of disabilities in Pakistan is 2.4 % (3.2 million), with 7 % population suffering from hearing impairments. This study focuses on many aspects of development including physical development, which have never been studied exclusively in developing countries. This pilot study was aimed to explore play pattern of children with hearing & speech impairments in school settings, Karachi, Pakistan. In this article play behaviors of 53 children with sensory impairments aged 8-12 years were explored. Observations were recorded through semi-structured checklist, using norm-based time sampling procedure, recording various types of behavior in a group play context. Three major play categories were observed and recorded under: a) Social Play; proximity and attentiveness b) Cognitive Play; level of child's involvement and purpose for engaging in the activity c) Non- Play; marked by absence of focus. Frequently observed play behavior was; group play under cognitive play; games with rules and functional play behavior; engagement of child in physical activities for the enjoyment of physical sensation and in non-play behavior active conversation, rough and tumble play, recorded. Study findings reveal the importance of play as an essential component for healthy child development. Dire need of capacity building of school staff and of caregivers regarding child development and importance of play was felt at larger scale. Keywords: Child's Play, Sensory Impairments, Play Pattern, Special Schools, Play Settings, Naturalistic Observation

World Health Organization (WHO, 2002) reported an estimate of disability to be about 10% of the world's population with the prevalence of childhood blindness and low vision of 1.5 million (WHO 2002). From these, 90 percent are living in Asian and African countries (UNESCO, 2005). According to census report of Pakistan (1998), 2.5% population suffers from some form of disability. About 20,000 children with disability are aged between 5-20 years, of them only 2.4% are enrolled in special schools (Bureau of Statistic Pakistan, 1998; Shahzadi, 2000). Over the past few decades, there have been a number of human rights statements and national/international charters focusing on the rights of Persons with Disabilities (PWD), emphasized on inclusive education and the right to equal participation in sport and recreational activities (Formberg, 2002; Forsyth, 2002; Kanter, 2006; Majnemer, 2008).

Participation in day-to-day activities is vital for children. Unlike other forms of developmental assessment, relatively little research has been done in the area of play assessment of the children with hearing and speech impairments. The limited information reflected from the literature was used for clinical assessments and clinical interventions. In most of the developing countries only census data are available for reference. Unfortunately in Pakistan there is also a pronounced lack of available research data regarding children with hearing impairments. Hence, to researcher's knowledge very limited researches have been conducted in the area of play, especially of the children with disabilities. Therefore, all the references taken to build the rationale for this study are not related to the cultural context of the Pakistan. Based on the international data available, there were many gaps related to the

tool/checklist, differences in methodologies which were used in different studies. Hence, based on limited literature reviewed on, pure exploratory study was found. Most of the studies were done through structured observational checklists and other clinical tools to validate it for future researches, nonetheless were found actual tool for recording the observation of the children with disabilities.

In this study play of children with hearing and speech impairments was explored in terms of identifying their cognitive development, level of social interaction with peers and also with their early development of communication (Bernda, 1984; Law 2006, Majnemer 2008; Michael, 1997; REID, 2002; Westby, 2000). By definition “Play” has defined as an intrinsic motivation, a process of orientation with different things, a pleasurable activity and an exploration based process (Christensen, 2010, Guralnick, 2009; Stagnitti, 2004; Venuti 2009). Lack or absence of play is an impediment to the development of healthy and inventive individuals along with the significant impact in later years of life (Erikson, 1963; Shahzadi, 2000,). The consequence of participation of children with disabilities in sports and recreational activities promote inclusion, decrease their secondary deformities, increase their physical functioning, and enhances overall wellbeing and development. Despite these benefits, children with disabilities are more restricted in their participation. Profound discrepancy was also found between participation of children with physical and multiple disabilities from the general population. The magnitude of the differences in participation varied between countries, cultural values and traditions reflect the extent to which environment in the different countries promote participation of children with disabilities (Law, 2006; Michelson, 2008; Richardson, 2002; Venuti, 2009).

Little research has been done in the area of play of the children with hearing and speech impairments. In previous studies play has extensively used as a screening assessment of behavioral and emotional problems of the children with hearing and speech impairments and also for clinical interventions. Literature also support the evidence that children with different disabilities have different pattern of play, and play of children with physical disabilities including visual impairments, speech impairments and hearing impairments is similar to those of typically developing children. Current pilot study is an attempt to not only explore the play behaviors of children with hearing and speech impairments but also understand cultural practices and perceptions of key stakeholders towards the participation of children in play activities. Therefore it is important not only to explore the play of children with hearing and speech impairments but also to understand their play in the context of special schools settings in Karachi, Pakistan.

Objectives

The objective of the study was to “Explore and understand the play of children with hearing and speech impairments in special school setting.

Methodology

Study Design

It was an exploratory study used qualitative methods of observations, in-depth interviews and focus group discussion for data collection.

Study Setting

Study was conducted into two especial schools in Karachi with the children with hearing and speech impairments.

Ethical Consideration

Ethical approval for the study was sought from The Aga Khan University-Ethical Review Committee. Permission letters explaining the purpose and duration of the study was sent to selected schools and permission was sought for study participation. Consent was also sought from the teachers for collecting data through in-depth-interviews with them. Consent forms were sent to student's parents to seek their permission for their participation in focus group discussion. In consent form for parents, it was explained clearly that their children will be observed during play timings in the schools and no child will be approached for individual interaction.

Study Participants

For data collection on observational checklist, it was decided to select only one section of each class as in both the school they have three sections of class I & class II. Students of class I & II of both the schools were selected for observing their play behavior during leisure timing. Demographic information regarding the level of impairments, age, gender and socioeconomic status from class teachers of class I & class II respectively in both the schools was obtained. Number of students in each class (I & II) were also studied from the perspective of class teachers in both the schools.

The average age of the students of class I of school 1 was 10 years and of class II was 9 years, whereas in school II, the average age of the students of class I was 9 years and of class II it was 12 years. The differences in ages of children in two classes in both schools were explained by the teachers based on following reasons including; late admissions, failure and transfer from one school to another.

Principals of both the schools, class teachers of two classes (class I & class II) in two schools were also selected as a key informant for in-depth interviews. Mothers were invited for focus group discussion in two schools, but only four mothers in one school were able to attend the focus group discussion held in one school.

Students with medical condition, with severe or profound impairments, other than speech and hearing impairments were excluded. Since with severity of the impairments children's behavior varies and cannot be captured through the study tools.

Data Collection Tools

Following tools were used for data collection: In-depth interview guide, Focus group discussion guide and Semi-structured checklist for recording observation based on "Play Observation Scale" (POS).

Key Informant Interview and Focus Group Discussion Guide

Key informant interview guide for conducting interviews with class teachers and principals, and focus group discussion guide for collecting data from mothers of children with hearing and speech impairments was developed to explore the information in the following areas: Explore the understanding of teachers, principals and mothers about the play of the

children with hearing and speech impairments ,Understand the types of play, children with hearing and speech impairments play in school setting and at home, Importance of play and effect of play on the children with hearing and speech impairments in school setting and at home. Also the factors that facilitate and the factors that create obstructions in their play were explored.

For Observation of Play Behavior

Based on limited literature search it was found feasible to construct an unstructured observational checklist for recording the observation of play of the children with hearing and speech impairment in two special school settings. The structure of this checklist was adapted from Play Observation Scale (POS), originally developed by Rubin in 1989 (Rubin, 2001), using a norm-based time sampling procedure in which various types of behavior in a playgroup context were evaluated. The scale has been used extensively by Coplan and Rubin (1998), who also established its inter-rater reliability, factor structure, internal consistency and convergent validity. It is basically a teacher rating scale, designed to assess the multiple forms of young children's solitary behaviors. The scale is divided into two major categories of a) Play Behavior and b) Non-play Behavior which further consisting of five major play behaviors Reticent behavior , Solitary-passive behavior , Solitary-active behavior, Social play and Rough-play .

For developing the semi-structured observation checklist for this study, the manual of "Play Observation Scale" (POS) was reviewed. The items of the available checklist were modified in terms of their usage, as the scale was used for recording the observation of an individual child play behavior in several researches; whereas the scale in this current study was used to record the observation for the group of students of class I & class II. In addition, the scale was divided into four categories of (1) initiation of play, (2) energy expended in play, (3) concentration during play, and (4) content of the play. For the analysis the items in semi-structured checklist used in this current study were divided into two major categories (a) Play Behavior and (b) Non-play Behavior.

It was an unstructured observation checklist according to which observation was not restricted to the defined sub categories of this scale. Additional information was added whenever an unusual behavior was observed in a group of children with hearing and speech impairments. Field notes were also taken of observed behavior. For final categorization and refinement of the results of the play behavior, "The Play Observation Scale" manual was consulted.

Data Collection Procedure

Pre Testing of the Tools

Prior to actual data collection through the semi-structured observation checklist and in-depth interviews, all tools were piloted in a small sample. Minor editing and addition were done. After the finalization of the study tools, data collection procedure started in two schools separately on alternate days. Total students of class I of school I were 20, and of class II was 18. In average there were 11 students in each observation of class I, whereas, average student of class II were 10. The total students of class I and class II of school II were 15 and 11. In average 9 students of class I and 07 students of class II were observed for three observations of each class separately

Table 1. Shows the demographic characteristics of students in two special schools in Karachi, Pakistan

# of students for observation	School I Total # of students 20				School II Total # of students 15 & 18			
	Class I		Class II		Class I		Class II	
	M	F	M	F	M	F	M	F
# of students on Day I	7	5	6	2	5	3	5	6
# of students on Day II	7	4	8	4	4	4	5	4
# of students on Day III	7	4	5	4	4	4	5	6
Average age	10		9		9		12	
Average # of students in each observation	11		10		9		7	

For observation as per condition it was decided to select a time period during which students can have their free play, without any interference by the teachers. Hence, break time was selected for observational purposes. The break is of 30 minutes duration in both the schools. Literature showed diversity for recording the observations from 1 minute sampling till 30 minutes to record the play behavior of children during leisure timings. The time decided for recording the observation was totally the researcher's choice for collecting the observations during the break. Therefore the first observation of school I, class I was done during the first 15 minutes of the break, the second day it was done during the second half (or 15 minutes) of the break, the third observation was also done during the first fifteen minutes of the break. In the same way observations were completed of class II of school I on three alternate days. The same pattern for recording the observations was selected for class I & class II of school II.

The observations were completed with all the students present on the day of observation, hence caused the variation in number of students available for observation on each observation day. Observation was done in-group settings. Observations were recorded in terms of actions which indicate play, based on above mentioned areas and according to the interpretation defined in the manual. In total twelve observations were recorded of two schools; six for each school and three for each class section (class I & class II) separately and respectively.

The actual demographic information regarding parent's education, socioeconomic status and occupation could not be sorted from the schools because of their restricted criteria. Whereas, it was reported by the principal of two schools that students of school I belong to middle class and upper middle class families and the average education level of parents were graduation and post-graduation. Whereas, students from school II belongs to poor families and from middle class and lower middle class families. The average education of the parents was reported to be between matriculation and graduation.

In-depth interviews were also conducted with the class teachers of class I & II of both the schools and with the school principals. Prior to data collection *pilot testing* was done to check the content of the questions. Based on the pilot testing few probe questions were added in the guide along in addition to demographic information about the teachers. In total six in-depth interviews were conducted. The guideline consisted of questions to obtain information on following areas.

- Understanding about the play of children with hearing and speech impairments

- Types of play of the children with hearing and speech impairment
- Facilitating factors for these children during play or for play
- Importance of play for the children with hearing and speech impairments
- Barriers for play for the children with hearing and speech impairments in school settings

One focus group discussion was conducted in school II with the group of mothers. The information was explored in the similar areas as were explored from the group of teachers.

Data Management

Data collected through observations, in-depth interviews and focus group discussion were in qualitative form. All the observations recorded on a checklist and field observation notes, all the tape recorded data of in-depth interviews and focus group discussion were transcribed and translated into word document and then into Rich Text Files (RTF), for further analysis on NVIVO 2.0 version software. All the transcriptions of in-depth interviews were shared with the respective key informants and suggested slight editing was done.

Observation recorded through observational checklist was entered into MS Excel sheet and imported to SPSS to run descriptive level analysis including frequencies of specific play behavior, gender vs. play behavior and school vs. most frequently observed play behavior amongst the students of class I & II in both the schools.

Data Analysis Procedure

The data was then coded under the emerging tree nodes. Initially there were 16 tree nodes identified during preliminary node coding. After the preliminary analysis, the tree nodes were then refined while merging the similar node under one leading emerging theme. All the data received through IDIs were further analyzed under the following themes:

1. Understanding about play
2. Understand the type of play
3. Importance of play
4. Facilitating factors for play
5. Barriers for play

The same analysis procedure was followed to analyze the information collected through focus group discussion conducted with the group of mothers in school II. During the preliminary analysis there were 15 nodes, and the similar nodes were merged under one emerging leading theme. Following themes were then identified for further discussion:

1. Understanding about play and type of play
2. Understanding about facilitating factors for child's play
3. Barriers in play for children with speech and hearing impairments

From the data received through observational checklist frequencies of specific activity in terms of observed play behavior was recorded and analyzed.

Results

The data was collected both in qualitative and quantitative form; (a) Observations through observational check list along with observational field notes, (b) In-depth interviews from key informants, and (c) focus group discussion with caregivers in school settings were conducted. Key informants for qualitative data collection were identified from Research Data Base (RTB). Therefore, the first set of analysis concerned with the findings from observational checklist Play Observation Scale (POS).

Play Observation Checklist (POS) Analysis

General characteristics of the students observed and number of observations were mentioned in table 1. Based on the analysis of observational checklist four major categories were identified of play behavior observed among the students of class I & class II in two schools. It was divided into two major categories of (a) Play Behavior and (b) Non-play Behavior, as per defined in the observational scale's guidelines (see Table 2). The most frequent play behavior observed was social play (group play) followed by non-play behavior (active conversation) and cognitive play (games with rules), on the other hand the least play behavior was the cognitive functional play. No difference was observed among the pattern of play between the groups of two different classes of two schools.

Table 2. Categories and sub-categories of play

<u>Under play behavior</u>
1. Social Play: Group play
<u>Cognitive Play</u>
1. Functional Play
2. Games with Rules
<u>Non-play behavior</u>
1. Onlooker Behavior
2. Active Conversation
3. Rough and Tumble

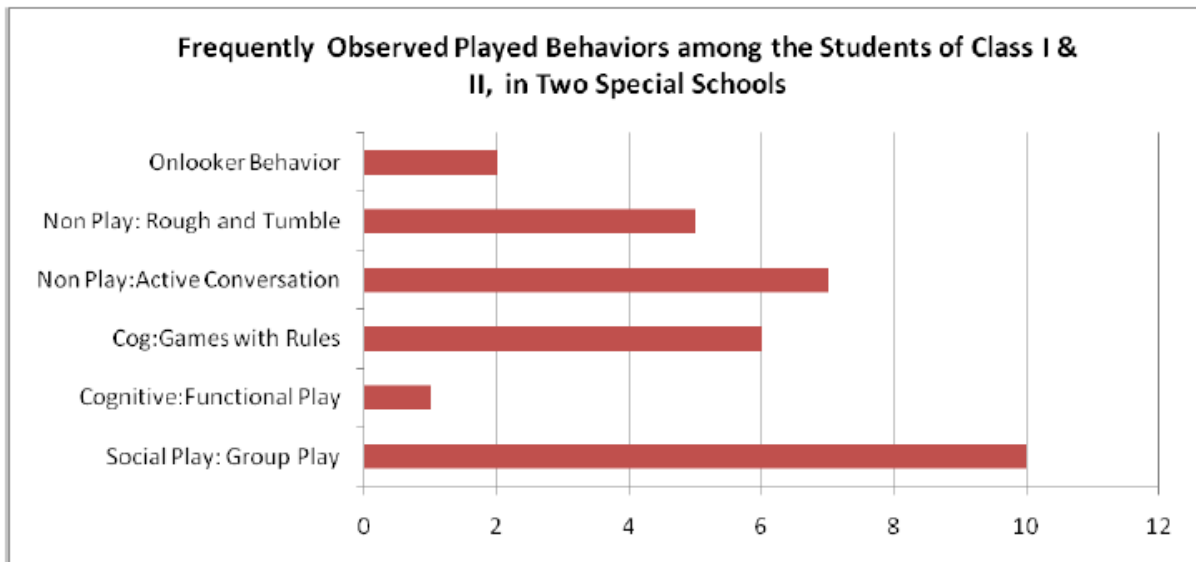
Based on the definitions of different terms it was reflected that under social play group come activities like playing cricket, run and bug, ball catch and circle game. Whereas, as per the defined criteria of the term discussion in the guide, active conversation was observed more frequently among girls as compared to boys, with no difference in schools. Under the third most frequently observed category, cognitive play: games with rules cover the games played in group settings while making the rules and following them till the end of the game was "circle game". In this game, children identified a leader among themselves, who then make the rules for the game and communicate to others. In this game the leader chooses another child, who makes some signs and communicates to another child in the game and throw the ball. If the child, to whom the second leader chooses, could not answer or catch the ball, the child is disqualified from the game and stand behind the group, engaged in playing (all the description of this play was explained by the class teacher).

However, gender difference was found during play, as in school I girls, boys play separately more frequently, and girls mostly involved in discussion and circle game (ball pass

game). On the other hand in school II girls and boys play together in-group. The most frequent play was social play: group play (circle game, and run and bug; see Graph 2).

Graph 2. Frequencies of Play Behavior in Two Schools

Graph 1: Showing type of play behavior most frequently observed & recorded during observation in school setting



Analysis of In-depth Interviews: Teachers and Principals of Two Special Schools

In-depth interviews were conducted with four class teachers of two schools (of class I & II) separately, and with the school principals respectively. The teacher's qualification was reported to be graduation and post-graduation. From the information extracted through in-depth interviews it was found that play of the children with hearing and speech impairments are different from the normal kids and vary from the children who have mild hearing and speech impairments. Whereas, teachers perceived play as a way of expressing their energy, monitor their behavior and a mode of socialization.

Reflections from Teacher's Group

Understanding about play. Teachers have explained that the games children play reflects the type of social play, in terms of group play, and peer conversation. As social play in and itself, is an important and unique factor in children's social and emotional development and for their socialization.

"Play is an activity and we can observe child's energy that he is normal."

It was found from teacher understanding that most of the children involved in social games, they like to talk with other children, mostly engaged in group play and also engage other children in play as well. They also consider play as an important thing for these children. It was also found that teachers consider to play following games e.g. badminton, football, cricket and indoor activities like puzzles.

Teachers' also perceived play as a method for the children to ventilate pent up emotions, as most of the time these children are neglected at homes by their parents. As most of the parents are not able to understand what their child is saying in sign language.

“Every child needs something for entertainment and everybody needs something for the relaxation and for these children play is very important”.

Type of play. Most common games observed by the teachers were *Social Play* (bat ball, ball throwing) and *Functional Play* (circle around the rods). Most obvious play behavior observed and reported were *Social Play*. Very few students play tiptop, touch and freeze, which most of the normal children play they do not play.

“Boys prefer to play cricket as compare to hockey and football. Girls usually play physical games and spend their time while discussing things and talking to each other in sign language.”

Teachers also perceived that play is associated with child's holistic development.

“Play has positive effect on these children.”

“Play build their personalities, it increases their confidence level self-esteem and achievement level as well. “

Difficult play or barriers to play. Teachers also reflected that all children follow the same pattern of development whether they are disabled or not. Their growth and learning also occurs in same manner. Irrespective of impairment or disability, all children deserve and require the same kind of environmental stimulation for acquiring lifelong skills and abilities. Children with disabilities are victims of social attitudes. They are deprived from having equal access to development opportunities. As reflected from the teacher's account that they do not play those games, which they cannot understand, or sometimes they are not exposed to them.

“They feel difficulty while playing and joining puzzles and blocks. Girls totally don't take interest in such games.”

“There is little difference because children who can listen the voices and they perform. Like normal children can do, these children never heard any voices; therefore they cannot perform without hearing and watching the activity. They play only those play which they have seen. There are so many plays, which require listening. If, for example I wanted them to play musical chair, I cannot make them play until I use some visual object through which they can notice the next action (whether the music has terminated or not, and when to sit on the chair). It is not possible for them to play these games. Or if the hearing frequency of all the children with hearing impairments are equal only then it is possible to continue the game.

We cannot also make them to play gho gho (run and catch), until you touch the student to go only then the students realized that he has to run and now it has his turn.”

Barriers were also explained in terms of physical fitness and are directly related to the type of disability the child is suffering from:

“It is our perception that this child is not playing and not participating in the play, sometimes children do not like the play and sometimes they don’t have enough energy to participate in the play. There are so many kids who are sick and who are suffering from other diseases like epilepsy or belong to very deserving families that they could not get even proper food, juices and milk, or they use to go to work after going back from school, and never been exposed to play therefore they don’t know what is play and how to play games, hence caused their decrease interest in play activities in school.”

Teachers in school B perceived financial crisis or poverty as a major hurdle for the play of the children and lack of opportunities and exposure to different play and play activities.

Facilitating factors for play. Teachers reflected that if:

“Proper encouragement, competition, winning prizes and proper involvement of parents and teachers are the main factors for their continuous involvement in play.”

“If teacher involve herself with the class the whole class then starts taking interest in the game no matter what we play e.g. marriage ceremony of the doll or any game. There is no difference between the play of the boys and girls.”

“Teacher student coordination is must and is essential part of the bonding. Through this with teacher the whole class involved and no matters whatever the play are they all play with equal participation and enjoyment.”

“Some children take more interest in games and I think this is the result of their family’s support that pay attention to them and encourage them to participate in different activities.”

“They also like to play in group, they don’t play individually, and they develop interest according to the direction of the group. They like to play in mix gathering. They do not play individually they play in groups. They enjoy most when they all play together the same game.”

Peer interaction and peer involvement is reported to be the greatest support for these children and for their play behavior. Playing in groups is also reported as a facilitating factor for these children with hearing and speech impairments in school settings.

Gender and play. Gender difference was reported among the play of girls and boys by the teachers, it was also reflected form teachers account that:

“Girls usually do not involve in such activities they prefer to involve in other activities. As you know among normal girls there are very few who take interest in sports the same way. Here very few girls who are interested in sports and participate in it. Mostly they play hockey, badminton and cricket like boys do.”

“Boys prefer to play cricket as compared to hockey and football. Girls usually play physical games and spend their time while discussing things and talking to each other in sign language. They usually discuss things and copy things and acts.”

“They take interest in group games; girls copy the activities of their mothers whatever they observed at home they follow the same in the class (wearing lipsticks and clothes). Whatever they do they don't let anybody know what they are up to, you suddenly observe the change in the class.”

Based on teacher's report, most of the children are involved in discussing media and like doing this. Irrespective of their type of disability children who are with visual impairments they enjoy the dramas through hearing and discuss it with each other in schools. It also reflected that type of disabilities does not restrict children to expose them to the environment and receive information.

Importance of play. Importance of play was also reflected through the teachers and principal's account directly:

“Play reduces their aggression as when they are at home people are talking to each other and the child cannot understand what they are talking. He takes out his frustration in aggression and fighting and behavioral problems. I observe children who play and those who don't play, they are very composed and confident and more constructive than those who don't participate in play and other activities.”

“Play is not only important for normal children but also important for disabled children equally and it helps them to learn and understand things around them, it is a positive energy which helps them to become as normal person of the society as others are. Play should be an essential part of their lives and it should be encouraged at every level.”

“There is a major difference amongst those who play and those who don't play. As those students who play they are more active physically and mentally. And those students who participate in games they respond quickly and finish their work quickly and understand easily. Those students who are involved in games their minds are very sharp. And those who do not play they are very dull.”

“Through play they become fresh as all the time studying make them dull and bore, play reenergizes them.”

It was also reflected by one of the school's principal that:

“Play is not a waste of time it is a constructive activity that help children to learn and build their personalities it also helps them resolve their conflicts”.

Findings

Focus Group Discussion of Mothers of Children with Hearing and Speech Impairments in School II

Focus group discussion was conducted with four mothers of children with hearing and speech impairments. From the focus group discussion, it was found that mothers perceived play an important method of learning and discipline for these children. Mothers also considered play as an important aspect and element for the overall development for their children. Most of them considered play as a supporting factor for their child's learning, mental growth and socialization. Mothers also shared that their participation in the play of their children is the most facilitating factor for their children as they learn more quickly and easily. Moreover, one mother showed that she does not take interest in his child's play, hence also correlated with the child's least involvement and interest in play activities at home and in the school.

Reflections of Mother's Group

Play and type of play. Mothers understanding about the play of their children with hearing and speech impairments (see Table 3) can be explained by reviewing their own verbatim:

"I think play is very important for the child, in whatever activity your child is interested, you should help your child in that direction."

"Through play child's development increased."

"He plays cricket and also wanted to play all games."

There was only one mother who reported that she does not consider play as an important activity, and children should not be involved into play. Her thoughts also reflected her insecurity related to her understanding with her child, as she also mentioned that most of the time she is unable to understand what her son wanted to communicate to her.

"I do not consider play is a good thing, child should focus on education."

Facilitating factors for the children to play.

"I sit with my son and when he starts the game and completes it successfully then I step back and watch him playing."

Bullying. Another major factor that limits the child's play is the opportunity of playing with peers, which a mother perceived very threatening and insecure. Since there are chances of being physically abused by the peers without hearing and speech impairments (normal children of the area).

"When he goes outside, other children tease him therefore I do not allow him to go outside, he watches cooking shows on TV, and I let him cook whatever he wants to cook."

Table 3. Verbatim of Mother's and Teacher's Group Regarding their Understanding about Play of Children with Hearing Impairments and Speech Impairments

Mother's Understanding about Play	Teacher's and Principal's Understanding about Play
<p><i>"I think with play child's mental ability increases, as children who play, they experiment with the play and learn."</i></p> <p><i>"I know the more my son will play the more he will take interest in the study and will progress."</i></p> <p>Type of Play <i>"I think play is very important for the child, in whatever activity you child is interested you should help your child in that direction".</i></p> <p>Barriers to Play <i>"When he goes outside, other children tease him therefore I do not let him to go outside, he watches cooking shows on TV, and I let him cook whatever he wants to cook."</i></p> <p>Participation <i>"I sit with my son and when he starts the game and completes it successfully then I step back and watch him playing."</i></p>	<p><i>"Chatting with each other, sharing experiences with each other is also play. "</i></p> <p><i>"They also play while making circle, usually girls prefer this game boys most of the time play cricket. They are also interested in coloring and take much interest in fine arts".</i></p> <p><i>"Most of the time they play cricket, football, head or tail (coin tossing) name, thing, place game. They also play cross matching (kaatam keetee)".</i></p> <p>Type of Play <i>"Boys prefer to play cricket as compared to hockey and football. Girls usually play physical games and spend their time while discussing things and talking to each other."</i></p> <p>Facilitating Factors for Play <i>"Proper encouragement, competition, winning prizes and proper involvement of parents and teachers are the main factors for their continuous involvement in play."</i> <i>"If teacher involve herself with the class the whole class then starts taking interest in the game no matter what we play (marriage ceremony of the doll). There is no difference between the play of the boys and girls."</i></p> <p>Gender and Type of Play <i>"Girls usually do not involve in such activities they prefer to involve in other activities. As you know among normal girls there are very few who take interest in sports the same way here very few girls who are interested in sports and participate in it. Mostly they play hockey, badminton and cricket like boys do."</i></p> <p>Importance of Play <i>"Play reduces their aggression as when they are at home people are talking to each other and the child cannot understand what they are talking then he gets frustrated and then they channelize their aggression through fighting and behavioral problems. I observe children who play and those who don't play, they are very composed and confident and more constructive than those who don't participate in play and other activities".</i></p>

Discussion and Recommendations

Our study was conducted with the groups of children of class I & II with hearing and speech impairments of two schools. Data was collected by respective class teachers and from a group of mothers of the children. In this study we tried to explore the play of children through mixed method approach, using an observational checklist for recording the frequency of play behavior in children with hearing and speech impairments. In addition to this, we also explored the type of play through the perception of teachers and mothers of the children with hearing and speech impairments. To the author's knowledge there was no such study conducted which explored the understanding of play of children with hearing and speech impairments through the perceptions of teachers and mothers, in school setting in Pakistan.

Our study is different in respect to the work done previously with the children with disabilities and especially with the children with hearing and speech impairments. We have conducted this study in natural setting with no restriction on the activities of the children with hearing and speech impairments during their leisure timings/break. Whereas, previously, most of the researches done in clinics/laboratories or in control settings. They aimed to measure the effect of play as a therapy in relation to the child's disability and development, while using psychodiagnostic or other screening tools (Majnemer, 2002, 2008; Peter, 2003). In addition to this, different types of disabilities were studied in different settings.

One of the major challenges we faced for the study was the selection of a tool for observing the play behavior in group-settings. Different tools were explored for play observation of the children with disabilities. Eventually, "*Play Observation Scale*" was identified as suitable observation checklist (Goldstein, 1992; Majnemer, 2008). The observational checklist was adapted and modified for the current study.

Findings from observational checklist were consistent with the previous literature showing that the play pattern of the children with physical disabilities including visual impairments, speech impairments and hearing impairments is similar to those of typically developing children (Stagnitti, 2004). The findings from observational checklist showed that the most frequent play behavior was social play (group play) followed by non-play behavior (active conversation) and cognitive play (games with rules). On the other hand, the least play behavior was the cognitive functional play, as these games required better understating of rules through listening. Hence, no difference was observed among the pattern of play between the schools and classes I & II respectively. It was also reflected that plays, which require listening to rules before start of play, were not understood well by the children with hearing and speech impairments. Whereas, play, which only requires visual cues, were much better played by the children with hearing and speech impairments.

Our findings reflected from qualitative data are consisting of: understating of play, its importance for the children with hearing and speech impairments, facilitating factors for the play of children with hearing and speech impairments and the major barriers perceived by both the teachers and mothers towards the involvement of these children in different play activities.

It was found that teachers perceived play of the children with hearing and speech impairments as a method of expressing their energy through their involvement in different play and perceived it as a mode of socialization. Previous studies also support similar sentiments. Strong group cohesion was also reported to be the main quality of the play of these children with hearing and speech impairments (Berk, 2002; Harding, 2009; Lakhan, 2009; Piaget, 1962).

Our data, based on maternal perception also reflected the importance of play as an important aspect and element for the overall development and socialization for their children. Parental involvement specifically maternal involvement in the play of children with hearing and speech impairments was perceived as a major facilitating factor for learning different aspects of the play including rules and the discipline being followed during the play. This finding was also supported by the literature that showed that with the increased level of caregivers involvement in the play activities of the children with disabilities increases their participation level as well (Stagnitti, 2004).

Findings from the current study also showed that with the involvement of teachers in children's play activity makes them more composed and target oriented as compared to when they are playing on their own or by themselves.

Whereas, the major barrier was ignorance and negligence of the social needs by the parents of these children with hearing and speech impairments at home. As most of the times parents found it difficult to understand what the child is trying to communicate. It was also reflected that children with disabilities are victims of social attitudes. They are deprived from

having equal access to development opportunities. In addition to this, financial crisis or poverty was also found to be a major hurdle towards the involvement of the children with hearing and speech impairments in play including lack of opportunities and exposure to different play and play activities.

Irrespective of such broader perception of mothers about the play and the involvement of their children with hearing and speech impairments social barriers including bullying by peer group and lack of conducive environment were perceived as invincible barriers.

Based on the findings of this study, it was felt that awareness-raising session should be conducted with the caregivers of the children with hearing and speech impairments to develop an understanding about the sensory impairments and the psycho-social needs of the children with sensory impairments and with physical disabilities. It was also felt that there is a need to build the capacity of the institutions to develop a strong network of support for the parents for developing an insight into the developmental phases of the children with physical and sensory disabilities. The current study is also an attempt to initiate and explore a tool that can help researchers to investigate the play of children with hearing and speech impairments in resource poor country like Pakistan. Since at present there is no single tool that can be used in-group settings to understand play of children with special needs, specifically with physical disabilities.

Little researches have been done in the area of "Play," especially of the children with hearing and speech impairments. Apart from the fact that play has a major role not only in holistic development of the children with disabilities but also a strong tool for strengthening their potentials and builds their behaviors and personalities. Such investigations can help to discover new areas of the subject to explore; also it can assist in charting for further research. It is hoped that in this vein the present study will contribute.

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Author Note

Arisha Qayyum have been affiliated with The Aga Khan University-Human Development Programme as a Research Officer. She is a clinical Psychologist holds M.A and Post Magisterial Diploma in Clinical Psychology (PMDC) from the Institute of Professional Psychology, affiliated with Bahria University Karachi campus. Her main area of interest for research is in childhood disabilities, learning disabilities and child assessment techniques. Correspondence regarding this article can be directly addressed to Arisha Qayyum at Email: arisha.qayyum@gmail.com

Ayesha Zahid Khan Msc Home-Economics, Practicing Nutritionist since 1987, presently working as Senior Research Officer- Nutrition with the Human Development Programme of Aga Khan University. Involved in community based nutrition research. Developing and implementing nutrition related interventions.

Rizwan Ali Rais, M.Sc. Statistics, working in the capacity of Data Analyst with The Aga Khan University – Human Development Programme, Karachi. His area of interest revolved in and around different issues related to the designing, analyzing and implementation of different research project related to early childhood period.

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Article Citation

Qayyum, A., Khan, A. Z., & Rais, R. A. (2015). Exploring play of children with sensory impairments in special schools at Karachi, Pakistan. *The Qualitative Report*, 20(2), 1-17. Retrieved from <http://www.nova.edu/ssss/QR/QR20/2/qayyum1.pdf>
