CHAPTER 4

SCOPE OF SCHOOL RECREATION AND PERCEIVED BENEFITS

Being active, acknowledging and enjoying recreational activities in the school and bonding with the school as well as peer in the school – these three themes recurred often in the interviews of the students and school personnel in the present study. There were also recurring references to new ideas, creativity, opportunities and experiences while school recreation and curriculum development were talked about. In spite of the financial constraints faced by the families of the students in their schools, the schools proudly told about the awards and certificates obtained by the students. The predominant socio-economic status (SES) of students in all the schools covered in the study was either low SES or low-middle SES.

Brief Profile of the Schools that Participated in the Study:

The Principals in all the schools covered acknowledged the role of the school in the provision of opportunities to the students. They all have provision for specific co-curricular subjects, other recreational events such as festival celebrations and competitions. There was a difference in the stand taken by Principles of different schools on after school hours for recreation or co-curricular activities. In terms of frequency of students’ participation in school recreation activities, there was minimum of 25% of participation which meant that the students, in addition to the co-curricular subjects which were part of school syllabus, were also involved in minimum one fourth of the activities organised by the school. None of students were involved in activities lesser than 25% of the total number of activities organised.

The table given below gives the school profiles in brief:
<table>
<thead>
<tr>
<th>Name of the School</th>
<th>Type of School</th>
<th>Total Number of Students</th>
<th>Number of Student Participants in the Study</th>
<th>Pre-dominant Socio-economic Background of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bombay Institution for Deaf and Mute</td>
<td>Semi-aided</td>
<td>145</td>
<td>59</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Vikas Vidyalaya for the Hearing Handicapped</td>
<td>Semi-aided</td>
<td>70</td>
<td>16</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Rochiram Thadani School for Hearing Handicapped</td>
<td>Semi-aided</td>
<td>225</td>
<td>66</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Mook Dhwani Vidyalaya, Utkarsh Mandal</td>
<td>Semi-aided</td>
<td>89</td>
<td>52</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Disha School for the Deaf</td>
<td>Semi-aided</td>
<td>56</td>
<td>25</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Sanskardham School</td>
<td>Semi-aided</td>
<td>46</td>
<td>15</td>
<td>Low and Middle SES</td>
</tr>
<tr>
<td>Rotary Sanskardham School</td>
<td>Private</td>
<td>70</td>
<td>11</td>
<td>Low, Middle and High SES</td>
</tr>
</tbody>
</table>
There were some school recreation activities (including co-curricular subjects) which were common to all the schools. The figure given below shows the school recreation activities which were conducted in all the seven schools covered in the study:

**Figure 4.1: School Recreation Activities Conducted in Special Schools**

Besides these, there were certain activities which were conducted only in some of the schools. These activities were:

**Literary Activities:** Debates and discussions, Story Writing, Recitation, School Magazine

**Celebrations:** Festival Celebrations, Celebration of Days of National and International Importance

**Aesthetic and Cultural:** Music, Dance, Drawing, Painting, Sculpture, Dramatics, Exhibition

**Common School Recreation Activities**

**Excursion Activities:** Picnics, Field or Educational Trips

**Physical Development Activities:** Games, Indoor and Outdoor Athletics, Mass Drill, Parade
1. Photography: once in a year in one school, regularly in one school
2. Sculpture: once in a semester in one school, regularly in one school
3. Swimming – in two schools
4. Yoga – in two schools
5. Karate – in two schools
6. Malkhamb – in one school
7. Chess – in one school
8. Archery – in one school
9. American Football – in one school
10. Tailoring – in one school

The study explored the benefits of these activities for the development of students with hearing impairment perceived by the students and the school personnel. The benefits were linked to the four areas of development – physical, emotional, social and cognitive.

**Frequency of Participation in School Recreation**

The participation in school activities has two aspects. One is the number of times or activities the students are involved in and the other is the kind or nature of involvement of students. The first refers to frequency of participation and the second, to the level of participation in the current study. The graph given below shows the frequency of participation of students in the school recreation.

Graph 4.1: Frequency of participation of students in school recreation.
As the above graph shows, the participation of students in school recreation was high, with 90% of students participating in 51% or more activities (other than the regular co-curricular activities). Only 10% of students participated in 26% - 49% of activities organised by the school.

There was hardly any difference in the frequency of participation by gender, as shown in the graph below:

Graph 4.2: Gender-wise proportion of frequency of participation

The students gave reasons for not participating in all of the recreational activities organised by the school. The table given below gives the reasons for non-participation.
Table 4.2: Reasons given by the students for non-participation in some of the school recreation activities

<table>
<thead>
<tr>
<th>Reasons for Non-participation in Some Activities</th>
<th>Percentage of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am not selected by the teachers for the rest of the activities.</td>
<td>47.95%</td>
</tr>
<tr>
<td>2. I am not interested in these activities.</td>
<td>22.13%</td>
</tr>
<tr>
<td>3. I don’t have talent or skills required to participate in these activities.</td>
<td>20.49%</td>
</tr>
<tr>
<td>4. The timings of the activities or practice sessions are not suitable to me.</td>
<td>14.75%</td>
</tr>
<tr>
<td>5. Participation in these activities interferes with my studies.</td>
<td>12.70%</td>
</tr>
<tr>
<td>6. These activities (which I don’t participate in) are not graded.</td>
<td>11.06%</td>
</tr>
<tr>
<td>7. I feel participating in these activities a waste of time as it has no value for our future.</td>
<td>6.15%</td>
</tr>
<tr>
<td>8. I am afraid of failure.</td>
<td>3.28%</td>
</tr>
<tr>
<td>9. My parents are against my participating in co-curricular activities.</td>
<td>1.23%</td>
</tr>
</tbody>
</table>
Previous research (Stewart & Ellis, 1998) has shown that parental involvement is a strong influence on the child’s participation in school recreation. The more involved the parent is in the school recreation, more are the chances that the child will become involved in it too and gain maximum benefits from the experience. That is why even though only three students (1.23%) said that there was opposition from their parents to their participation in school recreation, it is necessary to pay attention to it.

As seen from the table above, the reason given by majority of students (48%) for not participating in some of the recreational activities organised by the schools was that they were not selected by the teachers to participate in these activities. It was mainly the teachers who selected students for competitions. In some of the schools, the class teachers have also selected students for co-curricular subjects other than physical education, drawing and painting, craft, based on their subjective assessment of the unique talents of the students in their class.

Majority of the students (97 out of total 244, or 97%) gave only one or two barriers to the recreation participation in school. There was one student who cited seven barriers to recreation participation. As one can deduce, the frequency and level of participation of this student in school recreation was low. The graph given below shows the aggregate or total number of barriers perceived by the students in the selected special schools for participating in the school recreation, mainly the extra-curricular activities (as co-curricular activities are compulsory in these schools).

- **Graph 4.3: Total barriers perceived by the students for recreation participation in the school.**
Level of Participation in School Recreation

Level of participation or what is the nature of students’ participation is an important indicator whether the relationship of the student with the school recreation is an active or passive one. In the present study, the level of participation of the students in various school recreational activities were assessed on five levels:

- **Disinterested participation** – At this level, students participate in the school recreational activities only because they are forced to. This participation is mostly limited to co-curricular subjects which are graded.
- **Enthusiastic participation** – At this level, students participate in the school recreational activities enthusiastically, on their own will.
- **Contributive participation where students give suggestions** – At this level, students not only participate in activities when told to, but also give suggestions. The suggestions were not only limited to the activities which were organised by the schools; sometimes new co-curricular activities were also suggested. Some of the students also suggested ideas about content or planning aspect of the school recreational subject or activity.
- **Contributive participation where students share responsibility** – At this level, students share the responsibilities during the organising of a school recreational activity. None of the students said that they share chores in the organisation of a school recreational activity.
- **Contributive participation where students evaluate the activities** – At this level, the students evaluate the quality of school recreational activities in the school. None of students selected this option.

The graph given below shows the percentage of students at different levels of participation as perceived by students and school personnel:
Graph 4.4: Proportion of students at different levels of participation as perceived by students and the school personnel.

None of the school personnel felt that any student participated disinterestedly in the school recreational activities; whereas eight percent of the students said that their participation in the school recreational activities was disinterested.

As is indicated by the graph above, none of the students contributed more than sharing responsibilities while organising recreational events; i.e. no student said that they are involved in evaluating recreation. When in the group interviews, some of the students said that they did give feedback to the teachers after a recreational event or about a co-curricular subject but it was not in the form of evaluation. The feedback was more in terms of suggestions than evaluating school recreation on particular criteria. All the students who said that they gave suggestions also said that their suggestions were taken into consideration by the school. If the suggestions could not be implemented, the teachers gave them reasons for non-implementation. Nineteen students out of total 244 (8%) said that they share responsibilities during school recreational activities.

There was not much difference in the levels of participation by students in different classes or standards. None of the students who were in classes above 6th standard said that their participation in the school recreational activities was disinterested. This indicates the possibility of duration of the school experience
being related to the enthusiasm student shows in participating in school recreation. Further research is needed to confirm this indication. The graph given below shows the class-wise distribution of students at different levels of participation.

Graph 4.5: Class-wise distribution of students on different levels of participation in school recreation.

As was the case in frequency of participation, even in level of participation, there was hardly any difference based on the sex of the student. The graph below shows the gender-wise proportion of levels of participation:
Graph 4.6: Gender-wise proportion of levels of participation

There was a positive association between very high participation, i.e. participation in 76 – 100% of activities by the students and contributive participation, i.e. contribution by the students in planning and organising the activities. The following table shows this association:

Table 4.3 Association of very high frequency or very high participation with contributive participation.

<table>
<thead>
<tr>
<th></th>
<th>Contributive Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Very High Frequency of Participation</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>43 (41.0%)</td>
</tr>
<tr>
<td>No</td>
<td>31 (22.3%)</td>
</tr>
<tr>
<td></td>
<td>74 (30%)</td>
</tr>
</tbody>
</table>

Missing values=0; $\chi^2 = 8.984$; df=1; $p<0.001$; **SIGNIFICANT** (For both Chi square test and Fisher’s exact test)
The statistically significant Chi-squared value denotes an association between very high frequency of participation and contributive level of participation in school recreation. The proportion of contributive participation being 41% for very high frequency of participants and 22.3% for not very high frequency of participation; the students who participated in $\frac{3}{4}^{th}$ or more of the school recreational activities were more likely to contribute to the planning and organising of these activities than those who did not.

On the other hand, the students who had relatively low participation, i.e. those who participated in 25 – 50% of activities, did not show enthusiasm in taking part in the activities. When the association between low participation and disinterested participation was studied, the following result was obtained.

Table 4.4 Association of low frequency or low participation with disinterested participation

<table>
<thead>
<tr>
<th>Low Frequency of Participation</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19 (76%)</td>
<td>6 (24%)</td>
</tr>
<tr>
<td>No</td>
<td>1 (0.46)</td>
<td>218 (99.54%)</td>
</tr>
</tbody>
</table>

Missing values=0; $\chi^2= 170.1; \ df=1; \ p<0.001$; SIGNIFICANT (For both Chi square test and Fisher's exact test)

The proportion of disinterested participation being 76% for low participation and 0.46% for not low participation and the chi-squared value being significant at .01 level of significance; the students who had low frequency of participation did not take interest while partaking in the school recreational activities.

**Benefits for Physical Development**

Influences of school recreation on the physical fitness and activity levels of children have been well documented in the research literature, and the present study also highlighted the perception that school recreation is beneficial for the physical development, health and fitness of children. As the graph given
below shows, the physical development and health benefits that were given by majority of the students were physical exercise, quick and accurate physical reflexes and responses and health.

Physical health was understood as the student’s ability to function physiologically on a daily basis without undue fatigue, flexibility, ability of quick physical responses and mobility skills. Regular physical activity participation as caused by daily school recreation activities was seen to enhance such physical fitness.

Graph 4.7: Perceived Benefits of School Recreation for the Physical Development of Students

Physical exercise, predictably, was the benefit perceived by maximum number of students (88%). The students were less likely to remain inactive because all the schools had physical activities and training as a part of daily schedule and thus provided a structured environment for the same. Developing quick reflexes or ability to give quick physical responses to stimuli was the second most frequently cited benefit by the students (86%), followed by ‘better health’ (84%) and ‘developing creative and productive skills’ (70%).
There was a difference in the benefits perceived by majority of students and those perceived by majority of the school personnel. Sharpening of old skills was the benefit for physical development perceived by most of the school personnel (88%), followed by learning importance of preparation and practice (83%), developing tolerance of minor hurts (83%) and ‘better health’ (79%). Seven percent of the school personnel said that school recreation also helped the students develop a sharp judgment in motor skills.

Some of the benefits perceived by the students can be linked to the expected accomplishments of middle childhood based on the framework provided by Maturational Theories as well as Erikson’s Theory of Psychosocial Development.

According to Erikson, this is the age-group when children are all for experimentation and exploration. These pursuits also contribute to the search for a ‘role’ that ‘fits’ with their interests and abilities (McDevitt, 2009, p. 201). Therein lies the relevance of the perceived benefits such as creating things and skill development.

The benefits for physical development can also be linked to the concept of self-regulation strategies of social learning theory of Bandura. Understanding importance of preparation and practice, tolerance of minor hurt facilitate the strategies of planning and persistence of self regulation.

One of the major agencies that plays an important role in strengthening and supporting children with hearing impairment in their everyday life is school. Children with hearing impairment do not have as much access to groups and agencies organising recreation or recreation professionals as hearing children
in India (National Association of Deaf, 2011). Motor development is one area that might be affected in case of children with hearing impairment, not so much because of deafness as of environmental factors including activities that facilitate health and fitness (Lieberman, Volding and Winnick, 2004).

Environmental support is needed that would provide for other modes of communication as well as visual observation opportunities to learn the motor skills. Present study also found support for other three environmental factors inherent in a school recreation programme – practice, training and encouragement – as contributing factors for motor skills development. Thus, some of the benefits perceived by more than eighty per cent of the students such as physical exercise and understanding importance of preparation were both – perceived effect as well as possible facilitators of physical development of the children with hearing impairment.

Seventy two students (29.5%) said that school recreation also gives them opportunity to learn and play music. Further research into this aspect might be useful to understand the relevance and role played by music in the lives of children with hearing impairment. The study, while providing information on the various physical and health related benefits of school recreation also indicated the importance and need for more in-depth investigation of effect of school recreation on specific measures of physical development like body fat and cardiovascular endurance.

**Benefits for Emotional Development**

Some of the development theories regard middle childhood as early adolescence. Early adolescence (10-14 years old) is a time of many physical, mental, emotional, and social changes. With increase in the academic and social demands, middle childhood can be a stressful and overwhelming time. The graph given below depicts the number of students who have mentioned different benefits of school recreation related to emotional development.
Graph 4.8: Perceived Benefits of School Recreation for the Emotional Development of Students

The emotional benefits of school recreation perceived by majority of the students (89%) and all school personnel was ‘happiness’.
The other two benefits cited by many students and school personnel were confidence (78% of the students and 86% of the school personnel) and developing a sense of accomplishment (87% of the students and 71% of the school personnel). Eighty-seven percent of students said that school recreation helped them to overcome the fear of failure. According to eighty-three percent of the school personnel, one of the major emotional benefits of school recreation for students was that it helps them to relieve stress. One benefit that was observed by 10% of the school personnel but none of the students was improvement in the students’ perseverance and patience.

According to Erikson's Theory of Psychosocial Development, during these years the students experience mixed feelings about where they fit into society. Some of the benefits identified by the students like developing confidence and a sense of accomplishment are therefore important for the children in this age-group.

Erikson’s theory also talks about the emotional challenges – self doubt, embarrassment, feeling awkward and isolated – faced by children in middle childhood. In this context, some of the benefits expressed by the participants such as ‘overcoming fear of failure’, ‘sense of accomplishment’, ‘happiness’ and ‘confidence’ assume importance.
The Social Model of disability locates the problem not within the individual and his/her disability but within the environmental and structural barriers. It is the ‘Ablism’ that is responsible for a low social acceptance and social position of persons with disability. The social contexts where the person with hearing impairment is considered and treated equally, are empowering and lead to positive social identities, both individual and collective, for persons with hearing impairment. School recreation seems to be one of such social contexts in which, as perceived by 63% of students, a positive self image is created, 61% of students feel they are able to see themselves as a unique person, much more than just physiological capacities and a sense of equality – feeling that they can do as well as others – is enhanced as per forty eight per cent of students.

Education has certain advantages for the emotional development of children, including self esteem (Holte & Dinis, 2001). One of effect of being viewed as ‘less than’ is its detrimental influence on the self-esteem of the person (ibid). The social interactions and relationships with the other children with hearing impairment gives them a sense of equality and empowerment. They also reduce the impact of earlier family communication problems. The four top ranking factors that have in the past found to be related to self esteem were support of others, introspection and cognitive changes, taking action and education (ibid). Judging from the perceived benefits in the current study, school recreation seems to facilitate these factors.

Ability and opportunity to express themselves rationally and emotionally increases people’s capacity to deal effectively with emotional upheavals and have good mental health (Van Eldik et. al.; 2004). School recreation then plays an important role in the emotional development of children with hearing impairment as it is perceived to lead to enhancement of communication skills and ability to express negative feelings appropriately.

Benefits for Social Development

A story is often told to highlight the social opportunities or, rather lack of them for the children with hearing impairment. The story goes like this - there was a little boy who was crying really hard. His parents had decided to pay him a surprise visit in the school but instead, they themselves were shocked to see their child crying so much on the school ground. When he was asked by them as to why he was crying, he replied that he was afraid to die. They hastened to reassure him that nothing of the sort was going to happen and he was still very young and had many years to live. But the boy was adamant. He questioned, ‘If it is so, how come I have not met any deaf adults?’ In the other version of the story, the boy is convinced that he would become hearing as he grew up (Mindel & Vernon, 1987; cited in Wilkens
& Hehir, 2008). The story also highlights one of main strengths of a special school – opportunities to mix and interact with other children with hearing impairment and be a part of positive collective identity.

The development of social competencies during childhood is vital for developmental outcomes later in life. The peer group is the arena where children acquire social skills, practice them, and test their effectiveness in producing the desired results. The school and the activities therein are therefore an important context for the social development of children. The school is expected to provide a context for recreation that includes physical space, environment, shared features among the children such as language, and time.

Children with hearing impairment often face the risk of social isolation and therefore, the social benefits perceived by the students with hearing impairment become an important part of the study.

Graph 4.9: Perceived Benefits of School Recreation for the Social Development of Students

As one can see in the graph above, the four top benefits for social development, according to students, were ‘forming new friendships (84%)’, ‘enhancing ability to work in and with a group (78%)’, ‘readiness to appreciate others (75%)’, and ‘communication skills (75%)’. There was not much difference in the
social development benefits perceived by the students and school personnel, the three benefits cited by many of the school personnel being communication skills (86%), forming new friendships (83%) and enhanced ability to work in and with a group (79%). In addition, majority of school personnel (86%) also said that school recreational activities taught the students to express artistically. A benefit that was perceived by the school personnel (10%) but not the students was that school recreation helps students develop presentation skills. They learn to go on stage and present a creative or intellectual piece either individually or in a group, in front of an audience.

As per the Social Learning Theory of Bandura, people are not just the products of their life circumstances, they have the ability to change, influence, and contribute to it.

Out of the four primary strategies given by the social learning theories, mastery learning can be linked to the benefits mentioned by the students in terms of learning specific social skills like working with a group, accepting group norms, accept differences of opinions and challenging group decision. That social persuasion plays an important role in the social development of children is also reflected in the benefits of school recreation such as learning to help others, leading, appreciating others and acknowledging that one’s actions have influence on others.

Perceived benefits of the school recreation for the social development of children in special schools presents a possibility of an insight into the dynamic and multiple realities surrounding the intersection of the three experiences – that of being in middle childhood, of disability and of school recreation. Erikson’s theory points out the risk of feeling isolated during this period. The opportunity offered by school recreation not only for increased interaction among peers, but also for making new friends is, therefore, valuable.
Social interaction with family members, friends, neighbours, teachers and care-givers form an important component of the socialisation of children and eventually becomes a major influence in their lives (Antia et. al. 2011). Research conducted with children with hearing impairment indicates that their interactions with other children of the same age and hearing status are less frequent and of shorter duration, especially in mainstream situations (Antia, Kreimeyer & Eldredge, 1993).

Social skills such as greeting behaviour, extending and responding to invitations to join activities with peers, conversational skills are some of the skills found valuable in social interactions (Antia, Kreimeyer & Eldredge, 1993). Vogel-Walcutt, Schatschneider and Bowers propose (2011) that children with hearing impairment view their ‘peer status’ differently than hearing children wherein hearing children perceive themselves more often of having same number of peers as others where as children with hearing impairment believe that they have equal or more friends than others. The second important difference these researchers found in the social interactions of hearing and hard of hearing population was the children who have hearing impairment find it more difficult to make new friends (ibid).

Friendships are a vital part of an individual’s life. While families provide security and nurturance, it the friends – companions of the same or similar age- that broaden the experiences of children and youth, helping them grow beyond family (Luckner & Rudolf, 2009). Opportunities offered by school recreation to form new friendships, engage in group activities, appreciate of others’ qualities and accomplishments
and communication skills, as perceived by students in the present study, are an important part of the social development of these children.

Societal attitudes act as a barrier to provide for the social development and social networking of children with hearing impairment which continues well into the adulthood. Even in employment, hearing impairment is perceived by deaf people to cause communication stress, social isolation and lack of social support (ibid). This highlights the importance of creating and facilitating social networks of children with hearing impairment within deaf and hearing populations.

The social benefits identified by participants also highlight the potential of school recreation to challenge the deficit perspective of disability. The social development of children is linked to important social outcomes for children like peer acceptance and a feeling of belongingness with the school. This is discussed in detail in chapter 5.

**Benefits for Cognitive Development**

Earlier research has pointed out the association between school recreation and academic performance. In this study, the perceived benefits by the students identified certain cognitive skills that are enhanced by school recreation. The recreational activities involve certain interpretations, predictions, understanding the exchanges, intentions and knowledge as these help the students direct their own actions and make decisions. This is reflected in the kind of benefits for cognitive developed identified by the participants. The four major cognitive benefits perceived by majority of students included opportunity to learn through visual presentation (84%), getting new experiences and opportunity to explore (77%), time management (76%) and learning problem solving skills (68%). The four top beneficial effects on cognitive development of students perceived by the school personnel were enhancement of problem solving skills (91%), developing independent thinking capacity (83%), improved awareness of surroundings (81%) and an opportunity to learn through visual presentation (79%)
Graph 4.10 Perceived Benefits of School Recreation for the Cognitive Development of Students

According to Piaget, children in middle childhood develop the capacity to consider more than one aspect of an object or situation at a time. That is why; debates and discussion are part of school activities for these children. Their thinking becomes more complex and they are able to understand that there can be more than one type of explanation for an event or phenomenon. This is also reflected in the responses of 94 students who said that school recreation helps them to realise that there are different ways to understand as well as solve a problem. The fact that many of these activities are group activities also facilitates this understanding.

The other tenet of socio-cognitive theories is that the children’s understanding is based on their concrete experiences. Probably that is why, one of the aspect that 77% of the students appreciate about school recreation is that it offers them visual presentation of phenomena or events (like science exhibitions, photo exhibitions, art exhibitions) that helps them to learn new things better. School recreation also gives
them new experiences (as per 77% of students) and makes them more aware of surroundings (as per 48% of students).

As per the psychosocial theories, the children in middle childhood are engaged in self evaluation, exploration of one’s abilities and trying out new things that leads to identity formation later. As per some of the students, school recreation facilitates development of a realistic idea of one’s own strengths and weaknesses (n = 99) and independent thinking (n = 167). Sixty six percent of students feel that it leads to new ideas about their future.

A major theme in Vygotsky’s Socio-cognitive Theory (Vygotsky, 1978) is that social interaction plays a crucial role in cognitive development. His theory proposed that no child, on his / her own, realizes the maximum potential. There is always a gap between what a child knows and what he / she can be taught. He defined this state as a ‘temporary maximum achievement’. According to him, there is not much distance to go from this state to the ‘zone of proximal development’ but would need a teacher or a guide. The zone of proximal development represents problems and ideas that are just a little too difficult for the child to understand on his / her own. This exploration needs an adult supervision and guidance. Therein lies the importance of training and involvement of the school personnel, especially teachers, in school recreation. This also reflected in the factors students gave as most important considerations while organising a recreational programme, subject or activity. The detail discussion of the same is in chapter 6.

Research has shown that children with hearing impairment have similar nonverbal intelligence as the hearing population and it is the environmental factors rather than physical capabilities that determine the cognitive development of a child with hearing impairment (Mayberry, 2002). Braden (1994, cited in Miller, 2008) did a meta-analysis of more than 300 studies and concluded that ‘the distribution of IQ in deaf people is nearly identical to the IQ distribution of hearing people’ (p. 103).

Factors related to the individuals’ real experiences make up cognitive development (Miller, 2008) and therefore, the variance and quality of experiences a child has in a secure environment such as school assume such importance. Breadth and depth of knowledge of a culture, informational declarative knowledge, procedural knowledge, ability to reason based on previous learnings are some of the important aspects of general intelligence (ibid). Some of the benefits cited by the students such as increased awareness of external environment, creating things and skills development are closely associated with these aspects of cognitive development.

Studies have shown that language is the main challenge faced by the children with hearing impairment due to limited access to information and stimulation (Mayberry, 2002; Wilson, 2005; Yoon & Kim,
A study conducted with sixty two Korean students in a Vocational Training Institute by Yoon and Kim (2011) demonstrated that people with hearing impairment are more dependent on their visual organs and there is a heavy reliance among them on the visual information while studying.

Therefore school recreation that provides them opportunities to learn through visual presentation, gives them new experiences and explorations and process information based on previous knowledge to find alternative ways of tackling a situation, is a valuable resource for children with hearing impairment. It has also been found that a constant barrage of content-laden curriculum that does not take into consideration the characteristics of deaf learners leads to lack of interest to learn among them. This, in turn, leads to low literacy skills where content is emphasised the most (Yoon & Kim, 2011).

Thus, two main pathways through which environmental factors pose hurdles for optimum cognitive development of the children with hearing impairment are the use of language in communication and learning motivation of the students. This, along with the findings of the present study in terms of benefits for cognitive development build a strong case in favour of developing curriculum that will integrate the academic subjects with non-academic subjects, better.

Though the students and school personnel perceived benefits in all the four domains of development – physical, emotional, social and cognitive, based on the ‘total votes’ – sum of the total benefits in each of the domain cited by students and school personnel, one can say that maximum votes were for the benefits related to the social development. The graph below gives the visual presentation of this data.

Graph 4.11 Total votes for benefits of school recreation in the four domains of human development
The data obtained from the participants demonstrate three main types of benefits:

1. Facilitative (like school recreation facilitates independent thinking, problem solving skills),

2. Protective (like school recreation protects from lack of exercise, ill health, high anxiety), and 3. Productive (like school recreation leads to production of creative things, builds positive image of the students and for the school)

The figure given below shows the types of benefits:

![Diagram showing types of benefits]

Figure 4.2: Types of Perceived Benefits of School Recreation.

**Satisfaction with the Benefits of School Recreation**

The students were asked whether they were satisfied with the benefits accrued from the school recreation; and if yes, then how much. The four levels of satisfaction were –

1 – Yes, to a great extent

2 – Yes, to some extent
3 – No, not much

4 – No, not at all.

The graph below shows the percentage of students who have given different levels of satisfaction:

Graph 4.12: Percentage of students with different levels of satisfaction

The graph shows that majority of students are satisfied to a great extent with the school recreation. The various benefits perceived by them of school recreation reflect in the satisfaction level expressed by them.

There was a positive association between high participation, i.e. participation in more than half of the recreational activities by the students and satisfaction level of the students with the benefits accrued from school recreation. The following table shows this association:
Table 4.5 Association of high frequency of participation with level of satisfaction.

<table>
<thead>
<tr>
<th>High Frequency (More than 50%) of Participation</th>
<th>Great Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes 193 (88%)</td>
</tr>
<tr>
<td>No</td>
<td>No 0 (0%)</td>
</tr>
</tbody>
</table>

193 (79%) 25 (21%) 244

Missing values=0; $\chi^2 = 88.084; \text{df}=1; p<0.001$; **SIGNIFICANT** (For both Chi square test and Fisher’s exact test)

The proportion of great satisfaction being 88% for highly frequent participation and 0% for not highly frequent participants; the students who participated in more than half of the school recreational activities were greatly satisfied with the perceived benefits of these activities.

**Effect of School Recreation**

Majority of the students who participated in the study (92.21%) said that school recreation had overall positive effect on their development. The graph below shows the percentage of students who said that the effect was positive, negative or neutral:
The perceived effect of school recreation was associated with the frequency of participation of students in the activities. The perception that school recreation had an overall positive effect for oneself and others was associated with more than 50% of participation in these activities. The opposite was true for negative perception of the effect of school recreation. The following table reflects this association between negative perception of the effect of school recreation and low participation:

Table 4.6: Association of frequency of participation with the negative perception of the effect of school recreation.

<table>
<thead>
<tr>
<th>Perceived effect of recreation negative</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disinterested participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>223 (99.6%)</td>
<td>1 (0.4%)</td>
<td>224</td>
</tr>
<tr>
<td>No</td>
<td>2 (10%)</td>
<td>18 (90%)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>225 (92.2%)</td>
<td>19 (7.8%)</td>
<td>244</td>
</tr>
</tbody>
</table>

Missing values=0; \( \chi^2 = 192.786 \); df=1; \( p<0.001 \); SIGNIFICANT (For both Chi square test and Fisher’s exact test)
The proportion of perceived effect of recreation as negative being 99.6% for disinterested participation and 10% for not disinterested participation; the students who participated without any interest in the activity perceived the overall effect of school recreation as negative.

**Risks or Negative Effects of School Recreation Perceived by the Students**

The fact that the majority of students were satisfied with the benefits of school recreation or perceived school recreation to have positive effect did not mean that there were no risks perceived of these activities by the students and school personnel. The students perceived more negative effects than the school personnel.

The risks or negative effects of school recreation perceived by the research participants were:

1. School recreation leads to more injuries and strain on the health of the students.
2. School recreation creates more peer pressure and performance anxiety.
3. School recreation increases envy and jealousy among students.
4. Because of school recreation, students develop a wrong notion of the practical realities.
5. School recreation leads to teasing and segregation.
6. School recreation leads to fights and conflicts.
7. School recreation leads to favouritism as only achievers get all the attention and praise.
8. School recreation creates competition among friends and affects friendship negatively.
9. School recreation affects studies and academic performance negatively.
10. School recreation increases expenses for the parents.

The percentage of students and school personnel who perceived these negative effects is shown in the graph below:
Graph 4.14 Negative effects of school recreation perceived by the students and school personnel

As the graph shows, peer pressure and envy of students who have won competitions are the risks identified by majority of students.

Picture 4: “My friend fought with me when I won… I didn’t want the trophy anymore…” Drawing by a child in Class IV

The close third is the anxiety related to injury or physical strain of these activities.
Picture 5: Injury due to Sports and Additional Hospital Expense for the Parents – Drawing by a child in Class IX.

The school personnel did not perceive as many negative effects or risks as the students, as reflected in the graph below:
Graph 4.15: Proportion of students and school personnel who perceived school recreation to have no negative effects or risks.

There was not much difference in the number of benefits perceived on an average by the students and that by the school personnel. However, the mean number of negative effects perceived by students was higher than that by school personnel. Majority of the school personnel (67%) said that there was no negative effect of school recreation, whereas only 30% of students did not perceive any negative effect of school recreation. The graph below shows the means of these two groups on the variable of ‘total benefits’.

Graph 4.16: Mean number of benefits and risks of school recreation perceived by students and school personnel.

At the $\alpha = 0.05$ level of significance, the t test score is less than the minimum required critical value for 284 degrees of freedom; so the null hypothesis ‘the difference between the mean number of total benefits perceived by students and that by school personnel is not statistically significant’ cannot be rejected. There is no statistically significant difference in the average number of total benefits perceived by the students and that by the school personnel.

However, at the $\alpha = 0.01$ level of significance, there exists enough evidence, $t(284) = 4.668, p < .001$, to conclude that the difference in the mean number of negative effects of school recreation perceived by the students and that by the school personnel is statistically significant. Therefore, the school personnel needs to take cognizance of these risks while planning the school recreation programme and plan preventive or corrective measures to minimize them.
There was a considerable difference in the total number of benefits perceived by the research participants as against the total number of risks or negative effects. The graph given below shows the categories of aggregate of benefits and negative effects or risks and the percentages of participants who perceived them:

Graph 4.1: The total or aggregate of benefits and negative effects of school recreation perceived by the students.

As the graph shows, the benefits are much more than the perceived negative effects of school recreation. This highlights the importance of school recreation as one of the main stakeholders of the school system – children – perceives it to be beneficial for their development.

**Conclusion**

There is an interlinking web of benefits of school recreation in different development domains; one domain cannot be completely separated from the other. For instance, social skills help prevent problem behavior; emotional benefits boost the physical health as well as cognitive abilities and the experience and identification with a positive collective identity gives a person with hearing impairment a stronger self-concept and a higher confidence. All these factors have often been mentioned in disability movement or empowerment literature and research.
One of the main findings of the present study is that school recreation has certain internal positive benefits as well as external social and environmental benefits at the individual and group level. The internal benefits were emotional wellbeing, social skills, physical health, motor development and cognitive stimulation. At the same time, the benefits also pointed out the external assets built though school recreation – social support, friendships, awareness of surroundings and learnings in the exhibitions and field trips. The next chapter discussed this ‘connectivity’ and school recreation in more detail.