

Impact of parent-based intervention program to support early development of  
children in Dhaka city

**A thesis submitted in partial fulfillment of the requirement for the degree of Master of  
Philosophy (M. Phil) in Educational Psychology**

**Submitted to:**

**Dr. Shaheen Islam**

Professor, Department of Educational and Counselling Psychology

University of Dhaka

**Submitted by:**

**Umme Kawser**

Registration No: 217

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## **Declaration**

I, Umme Kawser, MPhil student of Educational Psychology, Department of Educational and Counselling Psychology, University of Dhaka, Session: 2014-2015, declare that this thesis on “Impact of parent-based intervention program to support early development of children in Dhaka city” has been accomplished by myself under the supervision of Dr. Shaheen Islam, Professor, Department of Educational and Counseling Psychology, University of Dhaka.

---

Umme Kawser

Assistant Professor

Registration No. 217

Department of Educational and counselling Psychology

University of Dhaka

### **Certification**

This is to certify that the thesis entitled “Impact of parent-based intervention program to support early development of children in Dhaka city” submitted by Umme Kawser in partial fulfillment of the requirements for the degree of Master of Philosophy (M. Phil) in Educational Psychology, Department of Educational and Counselling Psychology, University of Dhaka, is an original work, it was done under my supervision. I recommend the thesis for examination.

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Dr. Shaheen Islam

Professor

Department of Educational and Counselling Psychology

University of Dhaka, Bangladesh

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### **Abstract**

The present study was carried out to investigate the impact and usefulness of the Learning Through Play (LTP) Calendar, a parent training program, in enhancing parental sense of child caring and support in Bangladesh. There were two parts of the study. First, conveniently recruited 90 children (Girls = 45) aged between 0 and 6 years were assessed using LTP Calendar quadrants and oval formats (child development record forms) to identify the factors that adversely affect childhood development. It was found that postnatal illnesses, psychiatric conditions in family, and the quality of interactions between children and their caregivers were significant for the development of the children. The second part of the study investigated whether a parenting education program based on the LTP Calendar would enhance the positive parenting of caregivers. For this, a LTP Calendar parenting workshop was developed where 30 parents of typically developed children and 30 parents of children with special needs participated. A mixed quasi experimental design was used to carry out the study. It was found that the workshop significantly increased parenting knowledge, improved attitude towards parenting and parenting skills of all the participants. Results further indicated that the change in parenting knowledge and attitude was significantly higher among the parents of children with special needs than the parents of typically developed children. Altogether, the findings suggest that LTP Calendar can be a potentially useful tool to improve parental sense of caring and support and parenting skills of Bangladeshi parents.

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## **Chapter 1: Introduction**

### **1.1 General Review of the Concepts**

When play offers an ideal opportunity for parents to engage fully with their children it contributes to the cognitive, physical, social, and emotional wellbeing of children and youth. Play is a crucial intermediate of development at the early childhood foundation years as it contributes to holistic well-being of children. Play also allows an ideal opportunity for parents to involve entirely with their children. If the parent has play-based knowledge, it will foster the child development. This study intends to explore the impact of a parent-based Intervention Program “Play through learning”. This study will introduce play as a learning process in child development.

#### **1.1.1 Play**

Play is a lively process that develops and changes as it becomes progressively more diverse and complicated. It is regarded as a key facilitator of education and development across areas and signifies the social and cultural contexts in which children grow. (Christie, 2001; Fromberg, 1998, 2002; Hughes, 1999, in press). Theorists, spite of their orientation, agree that play inhabits a vital role in the life of children. They also indicate that the lack of play is a barrier to the development of vigorous and innovative individuals. Psychoanalysts believe that playing is essential for coping with emotional traumas or disturbances; psycho-socialists believe that it is essential for ego mastery and learning to live with daily life experiences. Constructivists believe it is essential for cognitive development; maturations believe it is essential for skill construction and socializing tasks in all cultures of the globe; and neuroscientists think it is essential for emotional and physical wellbeing, encouragement and love of learning.

Moreover, several brain and learning study results also delineate the significance of play (Jensen, 2000, 2001; Shore, 1997). It is known that active brain creates permanent neurological links critical to learning; an inactive brain does not make the required permanent neurological links. Research on the brain shows that play is a scaffold for growth, a tool for increasing neural networks, and a means by which all children exercise skill they will need in subsequent life.

### **1.1.2 The relationship among Play, Learning and Development**

Play and learning is a significant component of early childhood. From babies, toddlers and beyond, children use play to discover and understand their world. Play is one of the main ways in which children learn and develop. Play is essential to a child's development; it is an integral part of a child's Early Years Foundation Stage and supports their learning journey too. Young children can learn many skills through the power of play. They may develop their language skills, emotions, creativity and social skills. Play helps to nurture imagination and give a child a sense of adventure. Through this, they can learn essential skills such as problem-solving, working with others, sharing and much more. In turn, this helps them develop the ability to concentrate. Providing children with a range of playthings will help them learn in many ways. Play can help children with language, fine and gross motor skills development. Play is a crucial component of developing emotional intelligence as children learn social-emotional skills through play. It has been acknowledged that there is a strong link between play and learning for young children, especially in the areas of problem-solving, language acquisition, literacy, numeracy and social, physical, and emotional skills. Play is a vital part of a child's optimal social, cognitive, physical and emotional development.

Therefore, play, learning and child development; these three concepts are reciprocally interconnected, and a dynamic process happened within a child life. To contribute to a child's life to flourish, one must understand the developmental process of a child.

### **1.1.3 Child development**

Child development involves the biological, psychological and emotional changes that take place in human beings between birth and the conclusion of adolescence, as the individual advances from dependency to increasing autonomy. It is a gradual process with a predictive sequence, yet with a distinctive path for every child. It does not advance at the same pace, and the previous developmental experiences influence each phase. Sigmund Freud believed that children are progressing through particular phases of development owing to inherent unconscious sexual drives. As a driving force in development, Erikson concentrated more on social interactions and referred to the developmental tasks as psychosocial stages. The development theory of Lev Vygotsky also concentrates on social interactions as significant in development. His concept views children in an apprenticeship position with parents mediating them through developmental tasks.

### **1.1.4 Areas of child development**

Child development is not a matter of a single topic but progresses somewhat differently for different aspects of the individual. To make it more manageable child development process usually divided into five areas or domains which helps to understand the process in a holistic way.

Five child developmental areas are given below:

#### **1. Physical development**

It includes the biological changes that occur in the body, including changes in size and strength, as well as the integration of sensory and motor activities. Neurological, or brain, development has become a significant area for research in the domain of physical development. During early childhood, children can walk on a line or small balance beam and balance on one foot. They also develop the skill to throw and catch a ball, walk up and down stairs without assistance and do somersaults. Because play often involves physical activity, it is closely related to the development and refinement of children's gross and fine motor skills and their body awareness. A primary reason to include motor play experiences in preschools is to promote physical health. Low physical activity level in the early years predicts later health problems (Dehghan, Akhtar-Danesh, & Merchant, 2005).

## 2. Social and Emotional Development

It includes all the ways one learns to connect to other individuals and interact effectively with them, understand our emotions and the emotions of others, and express and regulate our emotions.

Activities in this area target one child's ability to make and keep social relationships, both with adults and with other children. Children will learn to recognize and express their feelings more effectively. They will gain experience understanding and responding to the emotions of others. Play serves several functions in satisfying these needs and developing these social and emotional life skills. Numerous studies (Creasey, Jarvis, & Berk, 1998; Erikson, 1963; Goleman, 1995; Piaget, 1962; Rubin & Howe, 1986; Rubin, Maioni, & Hormung, 1976; Rubin, Watson, & Jambor, 1978; Sutton-Smith, 1997; Vygotsky, 1978) indicate that play with others gives children the opportunity to match their behaviour with others and to take into account viewpoints that differ from their own.

### 3. Approaches to learning (Understanding)

Children differ in how they approach new tasks, difficult problems, or challenges. These activities will spark your child's curiosity, interest, and attention and the ability to stay on task. Research suggests strong links between positive approaches to learning and success in school. Play is not only children's unique way of learning about their world, but also their way of learning about themselves and how they fit into their world, building on familiar knowledge and deepening their understanding through the recurring cycle of learning that is essential to what all children can understand and do (Erikson, 1963; Fromberg, 1998, 2002; Frost et al., 2001; Johnson et al., 1999; Monighan-Nourot & Van Hoorn, 1991; Piaget, 1962).

### 4. Cognitive Development (Thinking Abilities)

It includes changes in the way child think, understands, and reason about the world. It includes the accumulation of knowledge as well as the way we use that information for problem-solving and decision making. This area helps children to figure out how the world works and how things are organized. Evidence also suggests a strong relationship between play and cognitive development. They identify improvements to attention, planning skills, and attitudes. (McCune & Zanes, 2001; Smilansky & Shefatya, 1990; Sylva, Bruner, & Genova, 1976); creativity and divergent thinking (Dansky, 1980; Holmes & Geiger, 2002; Pepler, 1982; Sutton-Smith, 1997); perspective-taking (Burns & Brainerd, 1979); memory (Jensen, 1999, 2000; Saltz, Dixon, & Johnson, 1977).

### 5. Speech and Language Development (Communication, Language and Literacy)

These activities will help a child learn to express himself and to understand what others say. Early reading and writing skills are also targeted. There are four subcomponents in which the child must attain in order to acquire language competence. They include phonology, lexicon,

morphology and syntax, and pragmatics. Several research studies also suggest a strong relationship between play and language development (Clawson, 2002; Creasey, Jarvis, & Berk, 1998; Gardner, 1993; Howes, Droege, & Matheson, 1994).

In order to nurture and identify the developmental progress of a child, assessment is crucial.

### **1.1.5 Assessment of Child Developmental Areas**

Child assessment can be informal (conducting natural observations, collecting data and children's work for portfolios, using educator and teacher ratings) and formal (using assessment tools such as questionnaires and standardized testing). Both methods are effective and can help inform educators and parents about a child's progress.

- Observations can be made with minimal or no intrusion into children's activities. Educators can observe all facets of development, including intellectual, linguistic, social-emotional, and physical development, regularly.
- Portfolios are a record of data that is collected through the work children have produced over a period. The collection clearly shows the progress of a child's development. Portfolios can be an essential tool in helping facilitate a partnership between teachers and parents.
- Educator Ratings are useful in assessing children's cognitive and language abilities as well as their social-emotional development. These ratings can be linked to other methods of assessment, such as standardized testing or other assessment tools. (See the next question below.)
- Parent Ratings integrate parents into the assessment process. Parents who are encouraged to observe and listen to their child can help detect and target important milestones and behaviours in their child's development.

- Standardized Tests are tests created to fit a set of testing standards. These tests are administered and scored in a standard manner, often used to assess the performance of children in a program.

### **1.1.6 Worldwide Intervention of Early Childhood Developmental Issues**

The incorporation of preventive strategies to reduce the effect of mental health problems needs the adoption of a framework that goes beyond the traditional model. Whereas universal interventions are directed at all children in a locality or setting, selective and indicated interventions focus on children who are at high risk for development of a mental health problem because of the presence of either proximal risk factors or subclinical symptoms. One of the major challenges of selective and indicated interventions is the characterization of children at whom the interventions should be targeted, which should take into account not only the limited availability of resources, but also the hazards of false-positive identification of at-risk individuals. However, increasing evidence shows that some of these early interventions can benefit the mental health of children both concurrently and in the long term.

Benefits to child mental health have been shown from early childhood interventions including: early stimulation interventions; interventions to improve parents' sensitivity and responsiveness; integrated nutrition, health, and stimulation program; attendance at a high-quality preschool; and conditional cash transfers to families. These early interventions benefit children exposed to various contextual and biomedical risks, including poverty, institutionalization, low birth weight, stunting, and iron-deficiency anaemia. Nutritional interventions in early childhood have had mixed results.

School-based preventive interventions for children aged 3–8 years involving teacher training, teaching a class-wide social-emotional curriculum, or both, have shown concurrent



improvements in child problem behaviours and child competencies. Integration of a brief behavioural parent training intervention into health services for 2–6-year-old children in Iran improved parent-reported practices and child abuse.

Interventions involving structured activities have shown benefits for children aged 7–14 years in war-affected communities. A school-based physical activity intervention for 15-year-old students in Chile showed benefits to anxiety and self-esteem but not to depression. A psychosocial intervention to prevent depression in 12–16-year-old adolescents in Mauritius showed short-term benefits to depression, hopelessness, coping skills, and self-esteem. Effective interventions to prevent cognitive deficits in low-income and middle-income countries include maternal and child nutritional and micronutrient supplementation, immunization program, reduction of exposure to environmental toxins, prenatal and perinatal maternal health interventions, malaria prevention, and early stimulation program.

Parenting programs are delivered in many low-income countries to address the effects of insufficient cognitive stimulation, major social-emotional risk factors related to inadequate caregiver sensitivity and responsiveness, maternal depression, violence and biological risk factors. However, the outcomes of these programs are often untested because of methodological limitations in the existing evaluation tools available for cross-cultural research, and especially those related to social-emotional development and functioning.

### **1.1.7 Bangladesh and Early child development**

Many of Bangladesh's 61 million children suffer from malnutrition and lack appropriate stimulation and early learning opportunities. About two-fifths of the country's children younger than five years old have stunted growth, and about a fifth of new-borns have low birth weights. In Bangladesh, most parents have limited knowledge of childcare and rearing. Young children

are deprived of proper care while their parents are at work. Even though parents care much for their children's academic success, most are unaware that the absence of stimulation and safety significantly reduces a child's classroom potential. The scale of violation suffered by Bangladeshi children is alarming. Three in four children experienced psychological aggression, while two in three experienced physical punishment. Children are at most risk in slums, remote rural regions and in disadvantaged minority communities, where there is limited access to essential services. The situation is dire for mothers working in urban factories, who face challenges while balancing the responsibilities of employee and parent. Around 3.2 million women are employed in readymade garment factories. The majority of urban workers are migrants from villages, and half of all women interviewed for a recent UNICEF report on RMG factories said they are separated from their children. The challenges to the early development of children in Bangladesh are intertwined – harmful norms of violent discipline, limited access to knowledge and demand for essential services. Rapid urbanization and migration, either voluntary or forced by climate change, also pose threats to parental care.

However, it is a matter of regret that due to inadequate understanding, socio-economic inequality and some weak coordinated leadership in Bangladesh there is always a deficiency in holistic and well-structured planning to address those developmental issues of children. Parents and caregivers of children less than three are often just occupied with health and nutritional needs, but they should urgently prioritize stimulation to ensure development. Care for children over the age of three is limited to just play, education and nutrition and health. Nevertheless, protection from violence, along with sanitation and hygiene, should not be neglected. There has been no such holistic parental education program developed in Bangladesh that can encompass all areas of child development.

To promote the healthy development of children of different countries, a low-cost resource: "Learning Through Play Calendar program" had developed.

### **1.1.8 Learning Through Play Calendar**

The fresh study on child development shows that certainly more than 200 million Children's under the age of 5 in developing countries do not accomplish their full development potential (Grantham-McGregor et al. 2007).

Also, according to UNICEF's Multiple Indicator Cluster Survey (MICS 3) 2005–2007 in 28 middle and low-income nations only around 60 per cent of parents altogether play with their children, in which 35 percent tell stories and 50 percent sing songs to them (Bornstein & Putnick, 2012). It is considerably recognized that Play and other early stimulating activities give important opportunities for children to have a healthy beginning in their early stage of life.

Learning through Play is based at the Hincks Dellcrest Center in Toronto Canada. It has created multi-ethnic, pictorial developmental calendars in different languages to help parents and caregivers developing play activities and also to learn how to stimulate the growth and development of their children at all phases from age 0-6. The program' Learning through Play' is designed to promote early childhood development. The program's main characteristic is a pictorial calendar designed for parents, depicting eight sequential phases of child development from birth to 6 years with pictures of the parent-child game and other events that facilitate parental participation, knowledge and connection. Five key areas of child development are described at each phase: feeling of self, physical, relationships, understanding, and communication. Information about each area is written in an easy, clear and low literacy language, go along with by pictures that act as visual displays. The calendar is followed by a widespread training guide for professionals (The Hincks-Dellcrest Center2002), which proposes

added material on child development and methods on how to carry out groups or individual sessions with parents, applying the calendar as a centre. A principal characteristic of the 'Learning through Play' program is its stress on the quality of the communication between mother and infant, and supporting the mother to understand infant cues and develop subtle awareness towards the infant through Play, which can be enjoyable for both mother and infant. The Learning Through Play resources mainly contain Training Handbook, Parent Guide, Parent Group Training DVD along with LTP calendars and Learning Through Play Board Game. After receiving appropriate training, the program can be carried out by a non-professional group as well (e.g. Health workers, day-care employees, lay home visitors). The program is handy and can be delivered in a various set of formats both with individual parents or groups of parents (e.g. one-week workshop, combined with routine antenatal and postnatal visits, or spread over the first three years of a child's life, with parent groups conducted at regular intervals). The 'Learning through Play' calendar is a comparatively budget and available instrument that doesn't depend hugely on the parent's knowledge. In developing nations, these characteristics make it more reasonable for use. The program was implemented in 10 different countries, including India, where training was given to 30000 early childhood development employees. The program was also implemented in a rural Pakistan region in 2002. A non-randomized pre-post-intervention research showed that the program was efficient in enhancing mother's knowledge about child development and contributed to a decline in mother's psychological signs (Bevc,2004).

### **1.1.9 Resources of LTP (Learning Through Play) tool**

The "Learning Through Play" program has for many years, been successful in introducing innovative and pleasant ways for parents to foster and play with their children at each stage of development.

Each time parents warmly play and respond to their children, they create a significant difference.

### **Calendars**

The calendars help children learn through play by using one of the following age-specific monthly calendars that include daily activities. For many years, it has been enjoyable for parents using the Learning Through Play calendars, "From Birth to Three Years" and "From Three to Six Years". The pictures in the calendars include activities that parents can organise with their children in different stages of child development.

### **Learning Through Play Game**

The play involves with child development cards from birth to six years along with 80-page facilitator's guide and which focuses on five areas of development, sense of self, physical, relationships, understanding the world and communication. The facilitator can choose the definite topic areas and age ranges that are most helpful for their potential population. It is suggested that the game always be played with a trained and skilled facilitator.

### **Parenting Magnets**

The very interesting Parenting Magnets come in both English and Spanish language. It can be found separately or in sets of 8. It helps parents with common parenting issues. The 8 themes of the magnets are: When a Child Misbehaves, Why Children Misbehave, Preventing Misbehaviour in Children, Making Rules for Young Children, Parents are Special, Praise Child and Communicating with Children.

The calendars, games and magnets altogether are filled with expressive activities that can benefit children and their parents and are treasured instruments to assist parents.

The most innovative parts of the LTP programs are: (a) its focus on parent-child warm interaction as a means to promote learning and attachment; (b) its use of a practical approach that emphasizes knowledge through hand on practice; (c) its simple, easy, pictorial presentation of information about consecutive stages of child development; (d) its sensitivity with respect to content and process; and (e) its accessibility in various languages.

### **1.1.10 The Adapted Learning Through Play Calendar**

Children develop at different rates and have individual differences. The developmental profile of children with disabilities is often unique and unpredictable. It is a matter of great concern that these children with special needs are held separately, and their development is regarded to be diverse, with a particular concentrate on disability and the "normalization" of the baby. Learning through Play Calendar is a tool that can address this special need. In 1998, BalaMandir Research Foundation (BMRF), Chennai, India, started to adapt the calendars for use in India. In relation to that an interesting next step was to apply the tool with families and with professionals functioning with children with special needs. In 2002, in collaboration with VidyaSagar, an NGO devoted to working with special needs children and adults, BMRF initiated a plan to study the practicality of the calendar for adults working with children with special needs. This has been conducted in three ways – Parent information and empowerment, training new professionals and professional review. Initial studies using calendars with parents and professionals have revealed the need of adaptation of the calendars to represent the unique factors involved working with children with special needs and their families. The calendars have been reshaped into two sets of 14 phases each from birth to 6 years. Each of the 14 phases includes five columns, messages and images showing the child's sense of self, physical development, relationship, understanding, and communication at that point. This reformatting allows the developmental profile to be multi-

segmented and allows the emergence of an individual holistic profile where a child can be concurrently at distinct stages of development in the different domains. The profile acquired attention to be exclusively focused on the five domains separately, from which further effort can be carried out. Some of the pictures have been improved to depict special needs in children to make them more accessible and significant. The implication of the family history of the child, birth history and other demographic information were considered in dealing with children with special needs and it helped to develop suitable supporting material. Therefore, a Quadrant which is a record sheet was developed to record the family and birth history and other demographic details, and an Oval was to record the activities of the child in the various domains. This has resulted in a full, prepared tool for professional use, composed of a Quadrant, an Oval, and the two calendars. Also both Quadrant and Oval have ready reference checklists. The Quadrant allows the special educator to collect the child's detailed history of birth, family and development on one page, so that there are no breaks while the parent is speaking. The Oval allows the interviewer figure out the child's accomplishments and capabilities in a graphical way, so that, at one glance, one can see the child's level in the different domains and plan tasks that will improve each domain. It would also work as a ready reference to follow the progress of the child's growth and development. A new panorama has launched in a upfront move to segment the calendar columns, allowing the exclusive picture of a child to emerge. It shifts from embracing a child into an ill-fitting "normal" pattern to allow him to shape his own pattern. In this current study, it used this adapted version of Learning Through Play Calendar in order to testify its impact on parents of special and typically developed children in Bangladesh.

The objectives of the LTP program are:

- (a) to provide parents with information on the healthy growth and development of young children (birth to 6 years), focusing on the physical, intellectual, linguistic, and socio-emotional aspects of development;
- (b) to teach parents play activities that enhance child development; and
- (c) to promote attachment through active parental involvement in their child's development.

### **1.1.11 The emergence of the present problem**

The adapted learning through the play calendar thus becomes a cohesive tool for all children with a world-wide design applied across cultures.

The program was initially created for use by lay home visitors working with at-risk multi-ethnic families and kids in Toronto, Canada and later it was attuned for use in many developing nations (Bevc 2004). This parent-based program started in the last trimester of pregnancy and offered centre-based parent groups as well as individual home visits every fortnight. Furthermore, attempts were produced to mobilize self-help groups of mothers to help each other and participate in an enjoyable child-focused activity using the program as a focal point.

Yale researchers have discovered that make-believe play enhances school-readiness abilities in kids, especially those from low-income households.

Dorothy and Jerome Singer, directors of the Yale Family Television Research and Consultation Center, discovered that teaching low-income parents and inner-city day-care educators to participate three- to five-year-olds in make-believe game could considerably enhance children's ability to succeed in school. Nearly, a third of U.S. kids begin kindergarten without fundamental learning skills, particularly kids from poor households.

Playing is enjoyable, simple to do, requires no individual instruction, expenses nothing and can assist children, particularly those at risk for school failure, succeed in school, "says Jerome



Singer, who is also a psychology professor and a professor at the Yale Child Study Center. "After training parents and caregivers for just two weeks, the children showed measurable gains in key school-readiness skills ranging from enhanced vocabulary and language used to counting, fine motor control, and social and emotional growth."

According to Jerome Singer, learning through Play is intrinsically motivating, unlike rote learning, which is not much pleasant. He claims it is entertaining for children's and parents. Additionally, he explains, Play can miniaturize a portion of the complicated world experience of children, decrease it to understandable dimension, manipulate it, and assist them to start to comprehend how it operates.

"Through the shared laughter and joy of play, adults, even those with limited literacy skills, can become full partners in children's development," says Jerome Singer. "The activities that are the easiest, cheapest and most fun to do, such as singing, playing games, reading, story-telling, and just talking and listening, are also the best for child development."

To teach parents and caregivers, the husband-and-wife team created a video-based training program called Learning through Play for School Readiness, along with Emmy Award-winning producer and director Harvey F. Bellin of the Media Group of Connecticut. The video was financed by a grant from the U.S. Department of Education Early Childhood Institute.

The program teaches adults learning games adapted from the Singers' book, "Make Belief: Games and Activities to Foster Imaginative Play in Young Children." The games can be played with everyday household objects such as cardboard boxes, bags and socks in homes, preschools or other childcare settings. Each Play involves kids in a simple make-believe tale with multiple opportunities to exercise ready-to-learn skills.

The program was extensively revised and refined through two years of experimentation with low-income households and preschools in the inner city. Testing started in New Haven with the parents of 103 children. Testing continues to proceed with 107 additional kids whose caregivers and parents passed through the training program. When parents and caregivers were trained to play learning games, the Singers discovered even more of an improvement.

The final phase of the study included 77 educators at 29 daycare facilities in Atlanta and Los Angeles and proved the efficiency of the training program in other low-income communities.

At the end of the experimentation, 2,700 free copies of "Learning through Play for School Readiness" were sent to Head Start centres, public libraries, PBS Ready-to-Learn directors and other organizations that serve low-income communities across the nation.

"Any parent, relative, preschool teacher, home care provider or other caregivers can easily apply our research findings on their own," says Dorothy Singer, a research scientist in psychology and at the Yale Child Study Center." Play make-believe tales with kids — a lunar journey, a birthday celebration, a visit to the local public library, zoo or post office. Find opportunities in the story to practice new words, counting, social skills such as politeness and sharing, movements, and using school supplies such as drawing pictures with crayons."

However, our knowledge is still inadequate as there is no data from the view of a collectivistic community like Bangladesh in this respect. Therefore, the current research seeks to examine whether it would be useful in the culture of Bangladesh.

### **Literature Review**

International research has acknowledged that the beginning years of a child's life have much impact on their development and future academic potentials (Fleer, 2001). In recent studies of neuroscience it was found that brain development is faster and broader in the early years of life

than in the past. During childhood high levels of stimulation in exciting and vibrant learning environments contribute to enhance brain development (Shore, 1997; Mustard & McCain, 1999).

Using the Edinburgh Postnatal Depression Scale (EPDS) at 3 and 6 months after baseline in Karachi, Pakistan the maternal depression symptoms were measured of a total of 247 women who were assigned at random to either LTP Plus or routine care and at three months, there was a significant reduction in the EPDS scores in the intervention group compared to the routine group. This outcome was continued at six months. These women also reported less parental distress and disability. There was also a major progress in maternal knowledge about child development at six months.

In a rural sub-district of Rawalpindi, Pakistan, 'Learning Through Play' program was provided for 163 mothers from 24 villages using a cluster-randomized design with villages as a unit of randomization whereas 146 mothers from 24 villages acted as controls. Twenty-four community health workers received training to carry out the program. Specially developed 15-item Infant Development Questionnaire and the 20-item Self-Reporting Questionnaire (SRQ) were used to assess. Here was also a significant increase was found in mothers' knowledge and positive attitudes about infant development in the intervention group in comparison to the control group.

In India 1998, Bala Mandir Research Foundation (BMRF), Chennai adapted the calendars for use in their country. From the very beginning the focus was to expand the focus from biological parents to intentionally embrace all key adults and caregivers whose understanding of children's potential and development would impact the quality of the child's upbringing and life experiences. In 2002, BMRF in partnership with Vidya Sagar, an NGO committed to working with children and adults with special needs started a project to study the effectiveness of the

calendar for adults interacting with children with special needs. One hundred young children with disabilities were recognized, and the calendars were used for appraisal, program development and parent instruction. The project was led by a team of 10 professionals from VidyaSagar, who each worked with ten children and their parents. The usefulness of the material was explored in training two categories of professionals, 26 new community-based rehabilitation workers and 26 additional staff at a school .A group of 50 outstanding educators and therapists from VidyaSagar, and a group of 13 skilled community-based rehabilitation workers were oriented to the calendars. Initial trials in using the calendars with parents and professionals revealed the need to take decision to adapt the calendar format when working with children with special needs and their families. The calendars were restructured into two sets, each covering 14 stages from birth to 6 years. Each of the 14 stages contain in 5 columns, messages and images demonstrating the development of the child's sense of self, physical development, relationships, understanding, and communication at that stage. In the adapted version, the five columns are segmented to be not dependent of each other across the 14 stages. While dealing with children with special needs, the significance of taking child's family history, birth history and other demographic data were acknowledged, leading to the development of suitable support material. To record the family and birth history and other demographic details A Quadrant, and to record the child's activities in the different domains an Oval was thus developed. A group of 16 experts in different areas of child development and disability were asked to use the package and provide an important evaluation. The package enables the professionals to use their expertise while conveying information and skills to the parents. In a clear-cut move of segmenting the columns of the calendar, a new view has opened, helping a child's unique profile to come into sight.

Nina Kurniah(2014) study showed that the application of “make-believe play” in learning, can widen intrapersonal intellect to make characterize early days. Participants of this study were 24 children aged 5-6 years old, in Al-Muhajirin kindergarten Bengkulu City in Indonesia.

Susan H. Landry, Karen E. Smith, Paul R. Swank, and Cathy Guttentag (2008) study examined the finest timing (infancy, toddler–preschool, or both) for promoting stimulating parenting and the intervention impacted on maternal interactions and in social and communication skills for children who vary in biological risk. The intervention during infancy, Playing, and Learning Strategies (PALS I), showed significant changes in maternal effective–emotional and cognitively responsive behaviours and infants’ development. Families from the PALS I phase were re-randomized into either the PALS II, the toddler–preschool phase, or a Developmental Assessment Sessions condition, resulting in 4 groups. Facilitation of maternal warmth occurred best with the PALS I intervention, while cognitive responsive behaviors were best supported with the PALS II intervention.

Play Therapy Africa (PTA) trained 60 people to integrate early childhood development activities into dietary support in a three-year pilot project in the SNNPR region of Ethiopia. 28 government trained health extension workers, and 32 youth volunteers (selected by the Kebeles) were trained in emotional stimulation and responsive parenting. A controlled comparison was made with children not receiving emotional stimulation and only receiving nutrition. The intervention appeared to lead to faster weight gain: 40.7 % children who got psychosocial stimulation were discharged from TFU and OTP by the end of the fifth week, compared to no discharge before the sixth week for those who just got food. Besides, children in the stimulation group had better cognitive and developmental outcomes.

In conclusion, it could argue that such a study of a parent-based intervention program would be valuable in knowing the tendency of caring and supporting parents and its impact on early childhood development. Particularly in a culture like Bangladesh, the results would help improve parents' sense of caring and assisting children in the early phase of life.

### **1.3 Research questions**

The proposed study is intended to address the following questions:

1. What is the impact of the "Learning through play tool" on the parental sense of caring and support for their children?
2. Do child's early life skills vary with caring and support from adults learned from the tool?

### **1.4 Rationale of the study**

1) The first years of life figure a child's future into adulthood. It is when the most significant brain development takes place, particularly in the first two years of life. Lack of play and communication, known as "under-stimulation", can have long-term negative consequences on a child's learning and physical and mental health. Roughly 80% of brain development is completed by the age of three and 90 % by age five. This means a child cannot wait for primary school for learning to begin. It is crucial to recognize the vital role that play has in early childhood development. The study aimed to test the effectiveness of Learning through Play (LTP) program for enhancing parent capacity to promote early child development in Bangladesh.

2) Learning Through Play (LTP) is a cost effective, low literacy program. It is designed to offer parents and caregivers with information, equipment and instruction on both the physical health, growth and mental health of their children (from birth to 6 years of age). The LTP resources are pictorial developmental calendars which depict the child development stages, with activities that parents can engage with their children, according to their development stage. The activities boost

child development while at the same time promoting attachment security by building parents' ability to read and teaching them how to be sensitive to their children's needs. The LTP materials are culturally adapted for worldwide. The LTP program has been translated into 35 different languages and delivered globally. This study addresses the clear need for a systematic review of low cost parenting interventions for lessening insensitive or abusive parenting and escalating positive parenting practices, in developing countries like Bangladesh.

3) Moreover, the associates in a baby's brain are most adjustable in the first three years of life. These associations, also called neural circuits, are the foundation for learning, behaviour, and health. As time passes these connections become harder to change. Particularly for a child, intervention is likely to be more efficient when it is provided in advance in life rather than afterwards. If it is autism, waiting for a child to 'catch up on his own' will not work. It can also prevent frustration so common in children with communication difficulties from turning into more challenging behaviours. As outcomes of secondary interest, the study was to test the efficacy of Learning through Play (LTP) program for enhancing parent capacity to promote early child development in individual children.

### **1.5 Objectives of the study**

1. To assess the child's current performance levels in all areas of development in order to understand a child's profile and potential holistically.
2. To offer some recommendation and guideline for parents based on holistic assessment.
3. To find out any change in parenting knowledge among parents due to parent-based intervention.
4. To find out any change in parenting attitude among parents due to parent-based intervention.

5. To find out any change in parenting skill among parents due to parent-based intervention.
6. To figure out a similar picture of effectiveness between two groups (special and typically developed) due to the parenting program.



## **Chapter 2: Method**

This study was divided into two phases: assessment (Phase 1) and intervention (Phase 2)

### **2.1 Phase 1: Assessment**

#### **2.1.1 Design**

Cross-sectional design was used in this phase.

#### **2.1.2 Place of the study**

The participants were recruited from Dhaka South City Corporation and North City Corporation.

#### **2.1.3 Participants**

In the assessment phase of the study, a total number of 90 children (Girls = 45) aged between 0 and 6 years were recruited conveniently. Parental consent was taken for this purpose. The demographic features of the participants are shown in Table 1.

#### **2.1.4 Measures**

##### **1. Learning through play Calendar (LTP Calendar adapted to include all children)**

The Learning Through Play program is a cost effective and low literacy resource for parents and caregivers facilitate them to apply interesting ways of nurturing their children at each stage of development (from birth to 6 years of age). It was really developed by The Sick Kids Centre for Community Mental Health which is a center dedicated to promoting the healthy development of children in Toronto, Canada, and internationally. The Learning Through Play (LTP) resources are pictorial, simple, clear, for a child's important developmental stages and needs, from birth to six years. It provides with brief descriptions telling parents and caregivers how to promote positive child development by simple play activities. They are called "calendars" because parents can literally hang them on the walls in their homes as easy reference. These calendars are

Table 1

*The Distribution of Participants by Age, Gender and Development*

Age	Frequency	Percentage	Boy	Girl	Children without disabilities	Children with special needs
0-1	7	7.8	4	3	5	2
1-2	12	13.3	5	7	10	2
2-3	12	13.3	7	5	11	1
3-4	25	27.8	11	14	22	3
4-5	19	21.1	10	9	14	5
5-6	15	16.7	8	7	10	5
<b>Total</b>	90	100	45	45	72	18

culturally adapted for international contexts. The LTP program has already been used in more than 25 countries and translated into 35 different languages and delivered globally. They focus on the five domains for all-round development: sense of self, physical skills, relationships, understanding and communication. This allows for an individual profile to emerge, where a child can be different developmental levels in the different domains. These calendars were used to assess the children.

### **The Quadrant and the Oval formats**

Children have different developmental profiles and often hidden potential. The Quadrant and Oval Formats are designed to enable easy recording of relevant information regarding the child and to view many factors simultaneously. These help to understand a child's profile and potential holistically.

When filled they would have at a glance in two sheets of paper:

- The background information of the child
- The child's current performance levels in all areas of development
- The program plans alongside the current performance levels.

#### **2.1.5 Quadrant Format**

The Quadrant Format was completed first and provided relevant background information regarding the child. In this Format, participant's caregivers were asked about the demographic information of the child like family history, developmental history, birth/medical history (prenatal, perinatal, postnatal), Parental needs/recommendations. The first quadrant recorded the child's family history and offered information of the type of lack of support systems available. The second quadrant recorded the child's birth history and offered information that would help both in understanding the causes for the disability and for future parental guidance regarding management. The third quadrant recorded the child's birth history and offers information on the child's strengths and areas of improvements. The fourth quadrant provided information on parent's expectations and allowed for parent and professional to work together.

#### **2.1.6 Oval Format**

The oval format was completed next. It is differently designed, in keeping with the brain's natural style of radiant thinking. It follows the principles of mind mapping that enables a graphic

representation of this holistic radiant thinking. The innermost ring in the oval was divided into the different areas of a child's development. The i.e. sense of self, health, sensory areas, self-care, physical, social relationships, understanding communication. The second ring radiates from the inner ring of the oval and provides space to note down the child's current performance level (what the child can do). All information on the oval format was written horizontally. It was filled up based on direct observation of the child and information from the parent. The second ring needed not to be filled all at one time, rather over a period to allow opportunity to observe a child closely in various settings. Direct observation yielded information regarding the child's play, language and social skills. Totally completed the second ring of the oval gave a holistic profile of the child which is the current performance level. The third ring of the oval was provided to make a program plan for the child.

### **2.1.7 Procedure**

Standard data collection procedures were followed in the present study. At the beginning the parents of the children were approached for their kind participation and each respondent was briefed about the general purpose of the study and requested to cooperate with the researcher. The respondents were informed that the investigation is purely academic, and their responses would be kept confidential. Then the above-mentioned instruments were administered to the participants after having their consent. The researcher opened both calendars to the child's chronological age and worked backwards or forwards as required taking one area of development at a time in adapted calendar 2 and from the child's SPRUC profile. The researcher always checked for gaps in development. After successful completion the researcher thanked the participants for their valuable time and effort.

### **2.1.8 Data Analysis**

After collecting the data, it was analyzed by using the chi-square test. It was a non-parametric test.

## **2.2 Phase 2: Intervention**

### **2.2.1 Design**

Mixed quasi experimental design was used in this phase.

### **2.2.2 Place of the study**

The participants were chosen from Dhaka South City Corporation and North City Corporation.

### **2.2.3 Participants**

Total 60 participants were included to conduct this study, in which 30 participants were parents of typically developed children and another 30 parents were parents of special children. Every parent was selected by purposive sampling technique (who had 0 to 6 years child).

### **2.2.4 Measures and Documents**

1. Consent Form

A consent form was prepared to take consent of the participants and their personal details.

2. Demographic information sheet

Personal information involves name, age, sex, occupation, number of children, educational status, socio-economic status, house number(address), mobile number, etc.

3. Parenting knowledge and attitude questionnaire

We developed the parenting knowledge and attitude questionnaire (see Appendix ?) to assess the effectiveness of the parenting workshop that we designed based on LTP Calendar. It consisted of 10 items for evaluating parenting knowledge and attitude on the grounds of a 5-point Likert scale (1 = not skilled, 2 = less skilled, 3 = moderate, 4 = high skilled and 5 = very high skilled). There

were four items to assess parenting knowledge and the remaining were to assess parenting attitude.

#### 4. Parenting skill rating scale

We developed an 18-item parenting skill rating scale (see Appendix ?) to assess changes in parenting skills after participating in the (LTP Calendar based) parenting workshop. The parenting skills were rated on a scale ranging from 0 to 10 (1 = not at all applicable, 10 = highly applicable). Items 4, 5, 8 and 10 indicated unfavorable parenting skills and thus their scores were reversed (i.e. 10 = 0, 9 = 1, 8 = 2, 7 = 3 ..... 1 = 10) to calculate the total score.

### **2.2.5 Procedure**

At first it was necessary to obtain approval from the school authority to give proper space and location to conduct workshops at their schools and to invite parents through their students within a reasonable time and date. In that flexible date and time, the process began with parents at the start they were advised on how to engage in the study, and then it was necessary to obtain informed consent from the to involve them in this research. Then a pre-test assessment of parenting knowledge, attitude and skill was administered among parents with demographic information. After that, the intervention segment began with the parenting workshop. After two weeks of intervention, the posttest measurement of parenting knowledge, attitude and ability was taken. Their duties were to give a tick mark to the option most suited to them.

### **2.2.6 Statistical analysis**

Given that the questionnaires measuring knowledge and attitude about parenting, and parenting skills generated ordinal data, Wilcoxon signed-rank test was used to determine whether participants' parenting knowledge and attitude, and skills changed due to the training.

## Chapter 3: Results

### 3.1 Part 1: Assessment

Table 2

*Comparison of child development related factors by the level of development of children*

Variables/Factors	Level of development			Chi square tests of independence
	Delayed	Normal	High functional/Advanced	
Consanguinity <i>n</i> (%)				$\chi^2(2) = 5.08$
Yes	5 (16.7)	1 (2.2)	2 (13.3)	$p = .08$
No	25 (83.3)	44 (97.8)	13 (86.7)	Cramer's V = .24 $n = 90$
Illness at postnatal period <i>n</i> (%)				$\chi^2(2) = 12.50$
Yes	12 (40.0)	6 (13.3)	0 (0.0)	$p = .002$
No	18 (60.0)	39 (86.7)	15 (100)	Cramer's V = .37 $n = 90$
Birth cry <i>n</i> (%)				$\chi^2(2) = 9.040$
Immediate	20(66.7)	41(91.1)	14(93.3)	$p = .011$

Delay	10(33.3)	4 (8.9)	1(6.7)	Cramer's V= .32
				$n = 90$
Family History of Psychiatric Illness				$\chi^2(2) = 9.36$
$n(\%)$				$p = .009$
Yes	10(33.3)	3(6.7)	2(13.3)	Cramer's V= .32
No	20(66.7)	42(93.3)	13(86.7)	$n = 90$
Interaction with caregiver $n (\%)$				$\chi^2(2) = 13.04$
				$p = .001$
Yes	20(66.7)	43(95.6)	14(93.3)	Cramer's V= .38
No	10(33.3)	2(4.4)	1 (6.7)	$n = 90$

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In Table 2, in terms of Consanguinity (row-1) and Birth cry (row-3) p value is 0.08 and 0.011 respectively which indicates that consanguinity and birth cry has no significant impact on level of development of children. In Table 2, in terms of Illness at postnatal period (row-2), Family History of Psychiatric Illness (row-4) and Interaction with caregiver(row-5), p value is 0.002, 0.009 and 0.001 respectively, which indicates these factors has significant impact on level of development of children.



### 3.1.1 Qualitative Data Analysis

In qualitative data analysis quadrant and oval formats were used to develop a unique profile for each child participated in this study in the assessment phase, based on which some recommendation provided for parents and caregivers. Examples of children profile are given in Figures 1 and 2.

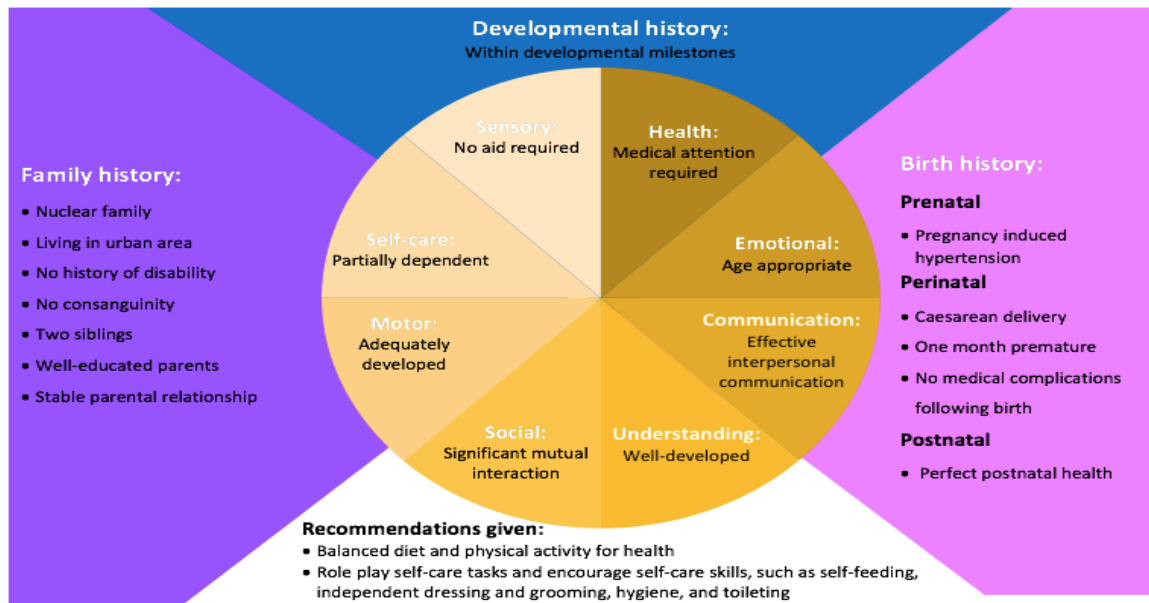


Figure 1: A Profile of typically developed child/children with no disability

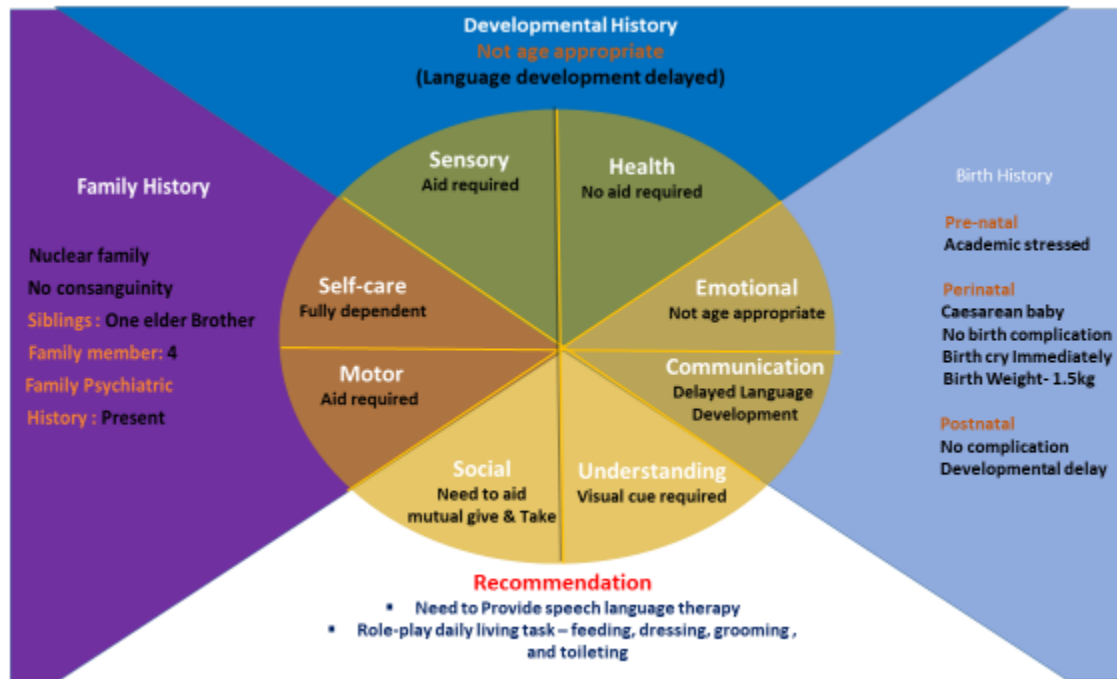


Figure 2: A Profile of special child/children with disability

By using this assessment formats of learning through play calendar one can easily help a child by addressing their need and can provide parents with some recommendation or parental guidance.

## 3.2 Part 2: Intervention

### 3.2.1 Parents of Typically Developed Children

#### *Changes in knowledge about parenting*

Knowledge about parenting significantly increased after the training, ( $Mdns = 9$  and  $12$  for the pre-test and post-test phases respectively),  $z = -3.57$ ,  $p = .001$ ,  $r = .63$ .

#### *Changes in attitude about parenting*

Attitude about parenting became more positive after the training, ( $Mdns = 25$  and  $29$  for the pre-test and post-test phases respectively),  $z = -3.45$ ,  $p = .001$ ,  $r = .61$ .

#### *Changes in parenting skills*

Participants' parenting skills increased significantly week after the training, (*Mdns* = 97 and 112 for the baseline and follow-up phases respectively),  $z = -2.56$ ,  $p = .02$ ,  $r = .45$ .

Table 3

*Comparison between parenting knowledge, attitude, and skills before and after the training for the parents of typically developed children*

Training effects on parenting	Median		Wilcoxon signed-rank test
	Before	After	
Knowledge	9	12	$z = -3.57$ $p = .001$ $r = .63$
Attitude	25	29	$z = -3.45$ $p = .001$ $r = .61$
Skills	97	112	$z = -2.56$ $p = .02$ $r = .45$

### 3.3.2 Parents of Special Children

#### *Changes in knowledge about parenting*

The training significantly increased knowledge about parenting, (*Mdns* = 9 and 13 for the pre-test and post-test phases respectively),  $z = -3.09$ ,  $p = .002$ ,  $r = .63$ .

*Changes in attitude about parenting*

Attitude about parenting was more positive after the training, (*Mdns* = 22 and 29 for the pre-test and post-test phases respectively),  $z = -3.07$ ,  $p = .002$ ,  $r = .63$ .

*Changes in parenting skills*

A significant improvement in parenting skills was found a weak after the training, (*Mdns*= 110 and 116 for the baseline and follow-up phases respectively),  $z = -2.36$ ,  $p = .02$ ,  $r = .48$ .

Table 4

*Comparison between parenting knowledge, attitude, and skills before and after the training for the parents of special children*

Training effects on parenting	Median		Wilcoxon signed-rank test
	Before	After	
Knowledge	9	12	$z = -3.09$ $p = .002$ $r = .63$
Attitude	25	29	$z = -3.07$ $p = .002$ $r = .63$
Skills	97	112	$z = -2.36$ $p = .02$ $r = .48$

### 3.2.3 Comparing the parents

#### *Changes in knowledge about parenting*

Knowledge gain about parenting due to the participation in the workshop was significantly higher for the parents of special children ( $Mdn = 4$ ) than the parents of normal children ( $Mdn= 3$ ),  $U = 48.5$ ,  $z = -2.31$ ,  $p = .02$ ,  $r = .44$ .

Table 5

*Comparison between the parents of special and normal children with reference to the changes in parenting knowledge, attitude, and skills due workshop participation*

Training effects on parenting	Median for the parents of		Mann-Whitney test
	Special children	Normal children	
Changes in knowledge	4	3	$U = 48.5$ $z = -2.31$ $p = .02$ $r = .44$
Changes in attitude	7.5	4	$U = 39$ $z = -2.67$ $p = .01$ $r = .50$
Changes in skills	4.5	15	$U = 56.5$ $z = -1.84$ $p = .07$ $r = .35$

*Changes in attitude about parenting*

Attitude about parenting due to the participation in the workshop became significantly more positive in the parents of special children ( $Mdn = 7.5$ ) than the parents of normal children ( $Mdn = 4$ ),  $U = 39$ ,  $z = -2.67$ ,  $p = .01$ ,  $r = .50$ .

*Changes in parenting skills*

Changes in parenting skills due to the participation in the workshop did not differ between the parents of special ( $Mdn = 4.5$ ) normal ( $Mdn = 15$ ) children,  $U = 56.5$ ,  $z = -1.84$ ,  $p = .07$ ,  $r = .35$ .

## Chapter 4: Discussion

The current study is intended to address the impact of “Learning Through Play Calendar” tool on improving the parental sense of caring and support for their children, especially in a culture like Bangladesh. The participants were chosen from Dhaka South City Corporation and North City Corporation.

### **(Part one: Assessment)**

In the first segment of the study, cross-sectional survey design was used here. In this part, a total number of 90 children (Boy=45, Girl=45) aged between 0 and 6 years with parental consent took part in the assessment. In the beginning, the parents of the children were approached for their kind participation. Each respondent was briefed about the general purpose of the study and requested to cooperate with the researcher. Then the quadrants and oval formats were administered to the participants after having their consent. The researcher opened both calendars to the child’s chronological age and worked backwards or forwards as required taking one area of development at a time in adapted calendar two and from the child’s SPRUC profile. The researcher always checked for gaps in development. After collecting the data, it was analyzed by using the chi-square test, which was non-parametric.

In table-2, in terms of Consanguinity (row-1) and Birth cry(row-3), the p-value is 0.08 and 0.011 respectively which indicates that Consanguinity and birth cry has no significant impact on the level of development of children. In table 2, in terms, of Illness at the postnatal period (row-2), Family History of Psychiatric Illness (row-4) and Interaction with caregiver(row-5), the p-value is 0.002, 0.009 and 0.001 respectively, which indicates these factors has a significant impact on the level of development of children.

**(Part two: Intervention)**

In this second segment, mixed quasi-experimental design was used. Total 60 participants were included to conduct this study, in which 30 participants were parents of typically developed children and another 30 parents were parents of special children. Every parent was selected by purposive sampling technique (who had 0 to 6 years child). At first, it is necessary to obtain approval from the school authority to give proper space and location to conduct workshops on their school and also to invite parents through their students within a reasonable time and date. Then a pre-test assessment of parenting knowledge, attitude and skill were administered among parents with demographic information. After that, the intervention segment began with the parenting workshop. After two weeks of intervention, the posttest measurement of parenting knowledge, attitude and ability was taken. Given that the questionnaires measuring knowledge and attitude about parenting, and parenting skills generated ordinal data, Wilcoxon signed-rank test was used to determine whether participants' parenting knowledge and attitude and skills changed due to the training.

In table 3, P-value for knowledge, attitude and skills 0.001, 0.001 and 0.02, respectively, which means parenting knowledge, attitude and skills significantly changed due to training in parents of normal children. In table 4, P-value for knowledge, attitude and skills 0.002, 0.002 and 0.02, respectively, which means parenting knowledge, attitude and skills significantly changed due to training in parents of special children. In table 5, Knowledge ( $p = .02$ ) and attitude ( $p = .01$ ) gain about parenting due to the participation in the workshop was significantly higher for the parents of special children ( $Mdn = 4$ ) than the parents of normal children ( $Mdn = 3$ ).



## Chapter 5: Summary

From the above discussion, it is clear that illness at postnatal period, family history of psychiatric illness and interaction with a caregiver has a significant impact on the level of development of children than the others factor-like consanguinity and birth cry. Moreover, the “Learning Through Play Calendar” tool had a significant impact on improving the parental sense of caring and support for their children, especially in a culture like Bangladesh, which is congruence with several previous research. For example, 163 mothers from 24 villages in a rural sub-district of Rawalpindi, Pakistan, received the ‘Learning Through Play’ program, whereas 24 community health workers were trained to carry out the program. There was a significant increase in mothers’ knowledge and positive attitudes about infant development in the intervention group, compared with the control group. However, the workshop had a comparatively more significant impact on parents of special children than the parents of healthy children which is suited to another previous research in India. In 2002 Balamandir Research Foundation (BMRF) in partnership with Vidyasagar, an NGO dedicated to working with children and adults with special needs, launched a project to examine the utility of the calendar for adults interacting with children with special needs. The calendars were reformatted into two sets, each covering 14 stages from birth to 6 years. For many parents, seeing their child’s abilities highlighted so clearly is a new experience, and they feel more positive and less worried about their child’s potential. As in this current study, it used that adapted version of LTP, so it is cleared that this tool is more productive for special child’s parents as like its previous research findings concluded.

## **Chapter 6: Limitations and Recommendations**

There are some limitations to the current study. The first limitation is that there is no control group in this experiment as it was seen several previous researches of LTP tool. If there is a control group that will not receive any treatment and the findings demonstrate a significant distinction in enhancement owing to the interference between the control group and the experimental group, the efficacy of the LTP tool can be more highly claimed. The next limitation is that the sample size is comparatively small to generalize these results, with more heterogeneous variables such as rural parents and urban parents, which is not considered in this research. Further studies may, therefore, be conducted, considering the above factors.

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## **Appendices**

1. Consent form used for parents
2. Demographic Information of parents
3. Structured format questionnaires: Parental knowledge and attitude
4. Structured format questionnaire: Parenting skill
5. Parent guide
6. Table (Descriptive statistics of the variables assessed using through learning Calender)
7. Assessment tools used (Oval and Quadrant)