



# CHILD INTERACTION: AN ANALYSIS OF COGNITIVE PERSPECTIVE OF CHILD'S DEVELOPMENT AT UMLING C & RD BLOCK

<sup>1</sup>Welbirthstone L. Nonglait, <sup>2</sup>Annie Christine Shadap, <sup>3</sup>Baphyllatamnaki Maring, <sup>4</sup>Bashongdor Namsaw, <sup>5</sup>Banhunlin Shylla, <sup>6</sup>Madona Dolo

<sup>1</sup>Lecturer in Education, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India, 793102

<sup>2</sup>Student-teacher, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India-793102,

<sup>3</sup>Student-teacher, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India-793102,

<sup>4</sup>Student-teacher, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India-793102,

<sup>5</sup>Student-teacher, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India-793102,

<sup>6</sup>Student-teacher, District Institute of Education and Training (D.I.E.T.), Nongpoh, Meghalaya, India-793102,

## Abstract

*The study deals with the issue of child's cognitive development in the light of child's interaction with one's own environment. Descriptive method, with qualitative approach was used in the process of conducting the research. The population consisted of 62 children, which 10 children were drawn as the sample from the population using convenient sampling technique. The findings of the study revealed that each child used both physical skills (fine and gross motor skills) as well as psychological skills (verbal and non-verbal) throughout the interaction. It was also found that these skills help a child to grow physically as well as develop mentally. Therefore, the finding showed that each child's interaction with one's own environment develop and enlarge his/her cognitive ability. In this regards the study suggested that it is mandatory to each one who are parts of child's life to understand and learn the foundation and strategies on how to encourage and promote child's development.*

**Key Words:** Child Interaction, Cognitive Perspective, Child's Development

## Introduction

In Piagetian concept, a child cognitive development emerges from interaction with objects around him/her (Mangal, 2002). Throughout, the process, a child involves himself/herself in two ways- (i) physical interaction, and (ii) psychological interaction/communication. The physical interaction involves of both motor skills: fine motor skills such as writing, typing on a keyboard, handling of fine objects; and gross motor skills such as, sitting up, walking and swimming. These kinds of interaction help a child in building up physical strengths and at the same time experience new information and acquired knowledge through activities interacted. On the other hand, child cognitive development also grows up through psychological interaction in the form of expression the ideas towards others- in order to fulfill the needs and requirement of life. Vygotsky in his theory was in the opinion on the importance of social interaction which helps a child to develop in social relationship and internalized of knowledge for self development through sharing with others (Crain, 2011). This way of interaction could be expressed in the form of verbal communication such as speech, singing, whispering; and non-verbal communication such as gestures, movement and other physical cues. Hence, the actions and reactions interlace between the child and his resourceful environment is crucial for an overall child's development.

## Review of related literature

Studies found that each child goes through the stages in the same order, and child development is determined by biological maturation and interaction with the environment (McLeod, 2018). In addition to the development of cognitive skills, children showed increased confidence and modes of communication and interaction and that these were associated with the varied activities and routines established within the early years settings (Kington, Gates, & Sammons, 2013). It is viewed however, that the constructivist principle of the higher mental functions lies outside the individual—in psychological tools (such as 'language') and interpersonal relations (Reusser, 2001). On the other hand, findings indicated that on average children's interactions with teachers were higher in teacher-structured settings, such as large group. However, children's interactions with peers and tasks were more positive in child-directed settings, such as free choice (Booren, Downer & Vitiello, 2015). Further analyzing the contemporary world, Jones (2009) revealed that children interaction increases in wide experience with phones, gaming devices, and music players. It is revealed that early exposure to media content developed for young children (i.e., foreground media) and content developed for older children and adults (i.e., background media) have differing effects on parent-child interaction and child cognitive factors at young ages (Tiffany, Alexis, & Lauricella, 2017). Finally, with regards to gender it was observed that there were differences of interactions between children within small group (Booren, Downer & Vitiello, 2015).

Child interaction with the environment involves the ability to make movements using the small muscles in ones hands and wrists. With this regards, it was found that there is a significant association between fine motor skills with respect to visual-motor skills of hands and social competence and maturity in children. As a result, fine motor skill can be used as an important factor along with other effective factors in improving social skills of children who have defects in the social field (Dehghan, Mirzakhani, Rezaee & Tabatabaee, 2017). Children may be lagging in fine motor skills acquisition. Study showed that 36% of children tested did not meet expected fine

motor milestones (Issartel., et al., 2017, as cited in; Marnell, 2018). Further, researchers reported that children who engaged in greater than 60 minutes of weekly touch-screen, computer play had weaker fine motor skill when compared to children who engaged in less touch-screen time. These results suggest that today's increased use of technology may be negatively impacting fine motor development in kids (Lin et al., as cited in; Marnell, 2018). On the other hand, findings support causal evidence of effects of physical activity on both motor skills and cognitive development in preschool children (Zeng, Ayyub, Sun, Wen, Xiang & Gao, 2017). Thus, students participating in the creative movement programme in gross motor skills scored significantly higher than those in the control group. There also was a higher significant difference in locomotion score on the test in the experimental group than those in the control group. In addition, there was no significant difference in object manipulation and stationary scores on the test between the two groups (Wang, 2009). It was found that majority of subjects had an average level of overall gross motor skills. Girls had significantly better locomotors skills which boys had significantly better object control skills than their counterparts. Thus, gross motor skill development of five year old children involves gender-based differences in locomotors and object control skills (Aye, Ahuja, Sato, Sadakiyo, Watanabe, & Maruyama, 2018). In short, the findings demonstrated that both gross and fine motor skills are related to children development and learning outcomes (Gonzalez, Alvarez, & Nelson, 2019).

Child interaction towards environment does not end up only with physical interaction; however it ranges out towards social and emotional interaction which both affects mental functions. This includes both verbal and non-verbal interaction. Kington, Gates, and Sammons (2013) in their study observed that non-verbal interactions were usually occurred with the situation of single-child, child-child and adult-child situations. It was found that when gestures accompanied their explanations, the children with SLI expressed information uniquely in gesture more often than did the typically developing children. Further, the children with SLI often expressed more sophisticated knowledge about conservation in gesture than in speech. The data suggest that for the children with SLI, their embodied, perceptually-based knowledge about conservation was rich, but they were not always able to express this knowledge verbally (Evans, Alibali & McNeil, 2001). We communicate with much more than words: when we interact with someone, our body has a language of its own. The way we sit, the gestures we make, the way we talk, how much eye contact we make – all of these are non-verbal ways of communicating that impact the messages our words are sending. Only a small percentage of our overall message comes from the words we used- 55% of our message comes from body language 38% of our message comes from tone of voice - Only 7% of our message is conveyed by the words we used (Mehrabian, 2007 as cited in; Verbal VS Non-Verbal Communication, nd). Therefore, it is clear both physical and psychological interaction including of verbal and non verbal communication are crucial for the child cognitive development.

### **Need and Justification**

Cognitive ability is human capacity to understand the environment. Its development in each child bears responsibility through various angles. A child lives first at home, community and then to the larger society. Within the early period of childhood one may interacts with various facets available within his environment. These facets endow opportunities for a child to grow and develop pacing together with the level of culture one lived in.

Throughout, the process of growth and development, a child interacts with various objects, human and other assets surrounded him/her's everyday's life. Thus, the spontaneous progress and development of a child both physically and psychologically depends much on the way a child experienced and interact with one's own environment which may included of parents, siblings, neighbourhood and others. It is through the information and sharing of knowledge with them, the mental capacity of a child keep broadens which; side by side- the physical involvement with various facilities around develops one's motor skills and build up one's physical strength. No doubt, the ways that child interacts with his/her own environment influences an all-round cognitive development. Therefore, the study on, "Child interaction: An analysis of cognitive perspective of child's development at Umling C & RD Block" would provide knowledge on how a child develop within the community. With the reasonable findings the study would be able to provide timely implications and remedial suggestions which are very helpful in the field of education.

### OPERATIONAL DEFINITION OF THE TERMS USED

**1. Child Interaction:** It refers to the actions and reactions taken by a child towards one's environment in striving to grow and develop himself/herself. It includes of physical interaction which consisted of motor skills interaction and psychological skills which involves of both verbal and non-verbal interaction.

**2. Cognitive Perspective:** It refers to the point of view related to the child capacity of understanding the environment. This involves the capacity of logical and abstract thought; memory and creativity and other mental capacities that help child's psychological development.

**3. Child's Development:** It refers the overall development including of both the physical and psychological development of a child.

### RESEARCH QUESTIONS

1. How does a child interact with his/her environment?
2. How does a child express himself/herself?

### OBJECTIVES:

1. To find out the child physical interaction with the environment
  - (a) Fine motor skills
  - (b) Gross motor skills
2. To examine the child emotional expression
  - (a) Verbal expression
  - (b) Non-verbal expression

### DELIMITATION

The present study was delimited only to 10 children of Saiden village in Ri Bhoi district within the age group of 5 to 10 year.

## METHOD OF THE STUDY

Descriptive method was used in the process of conducting the study. The population consisted of 62 children under the age group of 5-10 year, which the samples of 10 children, five male and five females were drawn from the population using convenient sampling technique. Further, overt-form of non-participant observation was used as a tool for observing the behaviour of the child interaction. The investigators repeatedly observed thrice for each child at the gap of one week for each observation where the necessary information was recorded as prepared in the self-made observation schedule. Since, the information recorded was more of qualitative in nature, the investigators followed the process of encoding and decoding of the information along with descriptive interpretation for the data analysis.

## ANALYSIS AND INTERPRETATION

### Objective 1: To find out the child physical interaction with the environment

*Research Question 1: How does a child interact with his/her environment?*

In order to find out the child physical interaction with the environment the data was analyzed in two categories:

**(a) Fine Motor Skills:** Each child has his/her own interest in doing different activities. Few are interested in spending more time in fine motor skills activities while others are interested in gross motor skills activities. The investigators found that children interacted differently with their own different environment and situations. This was seen in various activities such as the manner of, “holding of utensils, attaching themselves with their relatives and grapping of materials in and around one’s own environment”. It was also observed that children like plays such as “sharpening of stick while digging hole”, “building houses in a group of friends which some bring water, sticks, mud while others preparing tea and marketing activities” and “playing with bubble blower” that made them happy, connected and gain knowledge at the same time. Further, it was found that each individual child has curiosity, creativity and highly mental capacity which learn and express themselves through drawing, writing and painting.

**(b) Gross Motor Skills:** The environment a child lived demands ones to develop both fine and gross motor skills, if one has to progress and survive normally in this world. Therefore, apart of the fine motor skills, every child has to interact with things around him/her using gross motor skills. Through this physical interaction skills a child learn, understand and adjust himself/herself towards the surrounding. The observation revealed that there were many ways that children involved themselves through gross motor skills while interacting with ones’ environment. In one of the situation it was found that, “a boy climbed up a tree joyfully which sometimes made his mother scared of”. This kind of attachment to nature enables a child to further learn other skills on how to adapt himself to his surroundings. It also strengthened the muscles and made him understand better how to adjust himself with his environment. Generally, in most of the boys’ and girls’ everyday’s life games is the most occurring activities that they performed. From the observation, it was found that one of the children, “while playing marbles with other moved from one location to another, he bends his body, twist his legs and balance himself properly”. The study also found that each child involves himself/herself in various gross skills activities

such as, “running in the compound or while playing hide and seek, jumping, skipping, riding a bicycle, playing ball made out of plastic, hitting nails on a piece of wood” and so on. Therefore, one can conclude that physical activities are important to each child not just for physical growth but also for mental and social well beings.

Based from the findings of the study it was understood that each child has different physical abilities. These abilities enable a child to build up his/her own all-round development. Further the results also indicated that while a child physically interacts with one’s own environment, one has to go through both fine and gross motor skills. It is amazed to say that this kind of physical interaction plays a vital role in developing the cognitive ability within the child. It is true that while a child interacts physically, mostly it strengthen the physical well-being especially with regards the development of muscles and health. However, indirectly physical interaction with one’s environment helps a child to learn skills such as self-managing skills, leadership skills, adjustment skills, interpersonal skills and many more. All these abilities that a child acquired, learned and understood through one’s interaction with the environment develop one’s cognitive ability that becomes a treasury of skills for the future life.

## **Objective 2: To examine the child emotional expression**

*Research Question 2: How does a child express himself/herself?*

Emotional expression is another way of interaction with things around the individual. It is through expression, one is able to convey the message or intention towards others in a meaningful ways. This form of interaction is divided into two types and these are:

**(a) Verbal expression:** Every normal child was born into this world along with the potential of speaking or produces voice language. However, these skills of interaction between human differ from place to place in the form of language and symbols. The observation conducted found that children expressed themselves in different ways such as talking, laughing, singing and giggling that depends on the situation, mood and activities. These kinds of interaction are very important for conveying the message in a clearer sense. It was found that the verbal expression was learnt mostly from home and community that the child lived in. The observers reported that, “there are children converse in Hindi not in mother tongue”, instead of saying a “u dieng” (Tree) in mother tongue, he says “per” (Hindi). Some other words that children spoke were like “bhukan” (Earthquake), “jhula” (Swing) “Barish” (Rain) and others. It was found that these words that children expressed were learned from interesting child television programmes such as “Chota Bheem”, “Motu and Patlu”, “Oggi and Cockroaches”. The words children learnt were also used for communicating with other whenever they feel necessary. Apart of this ways of communication, “children also employed verbal sound such as whistles while calling their peer group members to get ready for the games”. One of the children was found that, “while playing with a plastic doll, she communicate and talk to it like human being” which “sometime children enjoy playing alone and talking to themselves as they were with other children”. Moreover, while children enjoyed themselves in constructing houses, automatically they also interact nicely with one another. However, when someone obstructed their will, their emotion was mostly expressed in the form crying. Children showed the cognitive ability with understanding of language that is used for communication. In one situation it was observed that, “as soon as the visitor arrived, his mother asked him to offer the stool. The child ran very quickly inside the house and brings it where the visitor was standing”.

This therefore shows that children could communicate easily not only with the family members but also with other people who came into contact with them because it was seen that, “the child replied to the questions asked by various visitors correctly”.

**(b) Non-verbal expression:** Majority of the interactions were included of non-verbal expression. This involves through various means such as actions, reaction, gestures and non-verbal cues. Considering the child interaction with both physical and social environment involved of various kinds of expressions. The observation conducted showed that, “the particular child observed, showed different sign languages such as shaking of heads when one resisted of doing things but nodding while showing the agreement”. This implies that not only the child observed expressed in this way but other children also exposed their willingness or unwillingness through their non-verbal cues. It was also found that in some situations, “when children came into conflict with each other one of them started crying, facing downward staring at them with a big and bold eyes, showing angry face”. This showed that various gestures were used in order to reveal the feelings deep inside of the mind. With regards to the ways children received messages from other in the process of interaction it was found that non-verbal expression is very important. In one of the situation it was observed that, “many children could not understand the words while watching television but they learn from the actions of the animated characters”. This means that while trying to listen the message sent through media, children used other’s non-verbal expression as a means of understanding.

The findings revealed that each individual child grows with the help of language whether it is in the form of verbal or non-verbal mode. Through the medium of language one could communicate easily towards other. It was seen that various languages whether mother tongue; local, foreign language plays an important role in developing the cognitive ability of the child. While interacting with his/her own environment whether with some higher animals or human being, a child communicated in two ways- either through verbal or non-verbal interaction. Therefore, it is understood that any form a child expresses himself/herself whether in written or voice form, help one to develop the mental capacity. This occurred because each step a child learnt to interact is also an opportunity to learn information and modify self-behaviour.

## DISCUSSION

The study revealed that the cognitive development of a child begins at home with several interactions. This ranges from fine motor skills to gross motor skills activities which helps a child to grow physically, learn, acquire skills and educated him/her unconsciously. These kinds of finding is in tune to the finding made by Kington, Gates and Sammons (2013) which stated that in the process of child interaction with the environment it was associated with the varied activities involving of physical skills. It was also similar to the finding made by Zeng, Ayyub, Sun, Wen, Xiang, & Gao, (2017) which revealed the significant of physical activity on both motor skills and cognitive development in the children. The present finding is also in line with the findings made by Gonzalez, Alvarez and Nelson (2019) which demonstrated that both gross and fine motor skills are related to children development and learning outcomes. Therefore, it is understood that child interaction with his environment through both fine motor and gross motor skills help in developing his/her cognitive ability apart of other benefits.

The study also found that a normal child interacts with others through verbal and non-verbal expression. This involves of various means such as speech language and symbol or sign language. The child learns these

means of interaction mostly from what he interacts with things around him/her such as family members, friends, social media, objects and many more. It is also found that while interacting a child learn information, acquired knowledge, understand and apply it to other situations. Further, this learning develops his/her mental capacity and increases one's leadership, adjustment and self-regulation. The finding of the study is relevant to the finding made by Kington, Gates, and Sammons (2013) which stated that both verbal and non-verbal communication are important for child interaction. Similar to the present findings, Mehrabian (2007) stated that we communicate with much more than words: when we interact with someone, our body has a language of its own. The way we sit, the gestures we make, the way we talk, how much eye contact we make – all of these are non-verbal ways of communicating that impact the messages our words are sending. Only a small percentage of our overall message comes from the words we used- 55% of our message comes from body language 38% of our message comes from tone of voice - Only 7% of our message is conveyed by the words we used. On the other hand research also supported the finding of the study that early exposure to media content developed for young children (i.e., foreground media) and content developed for older children and adults (i.e., background media) have differing effects on interaction and child cognitive factors at young ages (Tiffany, Alexis, & Lauricella, 2017). However, the finding of the present study refuted the result made by Lin et al. (2018) which seen that today's increase use of technology had a negatively impacts on the fine motor development in kids.

## CONCLUSION

The study shows the significant role of interaction in the life of each child. Without interaction there is no higher expectation for a child to grow and develop in a normal life. The various means of interaction such as physical interaction that is included of fine motor and gross motor skills and psychological interaction such as verbal and non-verbal interaction plays a role in the child learning outcomes. Apart from this the situation or child's environment also places various contributions to each one development. Therefore, the present study supplied crucial knowledge about child's interaction, the styles, the capacity, the means and the strategies of encouragement which all are necessary for each one who are parts of child's cognitive development.

## REFERENCES

- Mangal, S. K. (2002). *Advanced educational psychology*. Delhi. PHI Learning Pvt. Ltd.
- Crain, W. (2011). *Theories of development: Concepts and Applications (6 Ed.)*. New York. Pearson publication.
- McLeod, S. (2018). Jean Piaget's theory and stages of cognitive development. *Simply Psychology*. Retrieved from <https://www.simplypsychology.org/piaget.html>
- Kington, A., Gates, P., & Sammons, P. (2013). Development of social relationships, interactions and behaviours in early education settings. *Journal of Early Childhood Research* 11(3) 292–311.
- Reusser. K. (2001).Co-constructivism in Educational Theory and Practice. *International Encyclopedia of the Social & Behavioral Sciences*. Retrieved from <https://www.sciencedirect.com/science/article/pii/B0080430767024086>
- Jones, M. (2009). Mobile technology for children. *Science Direct*. Retrieved from <https://www.sciencedirect.com/science/article/pii/B9780123749000000065>



- Booren, L. M., Downer, J. T., & Vitiello, V. E. (2015). Observations of Children's Interactions with Teachers, Peers, and Tasks across Preschool Classroom Activity Settings. *Early Educ Dev.* 23(4). 517–538. doi: 10.1080/10409289.2010.548767
- Tiffany, A. Alexis, P.& Lauricella, R. (2017). Cognitive development in digital contexts. Retrieved from <https://www.sciencedirect.com/science/article/pii/B9780128094815000031>
- Dehghan, L., Mirzakhani, N., Rezaee, M., Tabatabaee, M. (2017). The relationship between fine motor skills and social development and maturation. *Iranian Rehabilitation Journal*, 15(4). 407-414. <https://doi.org/10.29252/NRIP.IRJ.15.4.407>
- Marnell, L. (2018). Handwriting help for kids!. Retrieved from, <https://www.handwritinghelpforkids.com/single-post/2018/01/16/Research-Round-Up-A-Look-at-Childrens-Fine-Motor-Skills-in-2018>
- Zeng, N., Ayyub, M., Sun, H., Wen, X., Xiang, P., & Gao, Z. (2017). Effects of physical activity on motor skills and cognitive development in early childhood: a systematic review. *Hindawi BioMed Research International*. 1-13.
- Wang, J. H. (2009). A study on gross motor skills of preschool children. *Journal of Research in Childhood Education*, 19(1). 1-12.
- Aye, T., Ahuja, T. K., Sato, T., Sadakiyo, K., Watanabe, M., & Maruyama, H. (2018). Gross motor skill development of kindergarten children in Japan. *The Journal of Physical Therapy Science*, 30. 711-715
- Gonzalez, S. L., Alvarez, V., & Nelson E. L. (2019). Do gross and fine motor skills differentially contribute to language outcomes? A systematic review. *Frontier in Psychology*. <https://doi.org/10.3389/fpsyg.2019.02670>
- Kington, A., Gates, P., & Sammons, P. (2013). Development of social relationships, interactions and behaviours in early education settings. *Journal of Early Childhood Research* 11(3) 292–311.
- Evans, J. L., Alibali, M. W. & McNeil, N. M. (2001). Divergence of verbal expression and embodied knowledge: Evidence from speech and gesture in children with specific language impairment. *Language and cognitive process*. 2(3). <https://doi.org/10.1080/01690960042000049>
- Verbal VS Non-Verbal Communication. (nd). Managing mental health. Retrieved from [https://www.workplacestrategiesformentalhealth.com/mmhm/pdf/full\\_communicating\\_0.pdf](https://www.workplacestrategiesformentalhealth.com/mmhm/pdf/full_communicating_0.pdf)