

Research Papers



**Relation Between Development of Shape Concept and  
Socio- Economic Status, Sex and Area of Residence**

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**Abstract**

*Present research undertaken to find out the relation between development of shape concept and Socio- Economic status, sex and Area of residence. The total sample consisted 400 subjects. 200 subject were from urban area and 200 subjects were from rural area. Male- Female ratio was 1:1. The age range of subjects was 6 to 7 years.*

*The main variables of present research study relate to concepts. High socio- Economic status subjects and low socio- Economic status subject both rural and urban areas of a Aurangabad district in Maharashtra were incorporated in the study. Hanfmann- Kassanin concept formation test was used for data collection. Results were analyzed by applying three- way ANOVA.*

The result's shows that high socio- Economic status subjects developed significantly better shape concept than the low socio- Economic status subjects. Male children developed significantly better shape concept than the female children. Urban area children were significantly developed better shape concept than the rural area children.

A concept is a basic unit of all types of learning. Human beings thought, from infancy to old age, learn new concepts and use old concepts in new situations of their daily life. Individuals differ in their level of concept formation and the basis of their level of concept formation on the basis of their age, intelligence and experience. A concept is an idea of understanding of what a thing is. Sensation, perception and concept formation are closely related. A concept is formed on the basis of various sensations and perceptions.

Understanding of cognitive development of children is important in the field of child developmental health, education and nutrition. Piaget's theoretical – frame work and tasks are the measure of cognitive abilities. Piaget's measures had been used and found to be cross- culturally valid cognitive development includes studies related to mental development and creativity. According to Piaget, cognition is not a passive imprinting process but an action an reality a process aimed at knowing the world and its reality. He often uses the terms intelligence or intellectual process synonymously with the cognitive process.

The important aspects of child mental growth involves the acquisition of concepts. In the development of concept, it is necessary for learner to recognize the essential features. A child normally acquires a number of concepts before entering school. If the child had not acquire a concept of particular word, it will be difficult for him to learn the word and he will be unable to grasp the full meaning of a

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sentence in which the word used. From his play with tricycles, carts, blocks and other toys, the child becomes familiar with common cues; which help him to perceive short distance if they are studied in relation to his body. Longer distances, because they are unrelated to his body are still very difficult to judge accurately. By the age of four years, perception of short distances is similar to that of an adult. The child's ability to perceive differences in form increases gradually from two to six years.

The development of concept is possible because of two processes, known as abstraction and generalization. The process of abstraction involves in observing similarities in different objects. Observing common similarities in a group of objects which separate them from other class of process of obstruction. When the common properties are observed in a group of objects then these common properties are applied to similar new instances as we come across. This is known as generalization.

#### **AIM OF THE STUDY :-**

Educational facilities provided in urban and rural areas differ significantly that affect concept formation. Socio- Economic status plays very important role in developing concepts. Present research aim to measure and compare the development of shape concept of children coming from different Socio- Economic status and different Area of residence.

#### **OBJECTIVE OF THE STUDY :-**

1. To find out the impact of Socio- Economic status on the development of shape concept.
2. To examine the sex differences in the development of shape concept.
3. To study the influence of Area of residence on the development of shape concept.

#### **HYPOTHESIS :-**

1. Shape concept of high Socio- Economic status children is significantly better than the low Socio- Economic- Status children.
2. Female children develop significantly better shape concept than the male children.
3. Urban children develop significantly better shape concept than the rural children.

#### **SAMPLE :-**

The effective sample consist of 400 subjects of which 200 subjects were from urban area and 200 subjects were from rural area. 50% subjects more from Low SES and 50% subjects were from High SES. Male- Female ratio was 1:1. The age range of subjects was 6 to 7 years.

#### **TOOLS :-**

Hanfmann – Kassanin Test :- This is a famous test developed by Hanfmann and Kassanin for understanding cognitive developments among the children. The test also helps to understanding the concept formation, which is an important cognitive ability among the children. This test is a performance test and since long has been used widely for understanding the concept formation and cognitive development among the children. Also it has been used for diagnostic purpose and for research . Very high reliability coefficients (.79 & .82) were reported by the authors of the test.

#### **PROCEDURE OF DATA COLLECTION :-**

In present research the subjects were selected from two different Socio- Economic Status from Aurangabad. This was done only after carrying out careful survey. While selecting the places, the environmental conditions, social and economic conditions of people and the other facilities available in into consideration. From Aurangabad a few schools were selected after carrying out careful observation. These schools were situated in Aurangabad city.

#### **VARIABLES UNDER STUDY :-**

Following variables were treated as independent variables 1) Socio- Economic Status 2) Sex 3) Area of Residence.

Following variable was treated as dependent variable : shape concept.

#### **DESIGN OF THE STUDY :-**

The data were subjected to higher order statistical techniques using a 2 x 2 x 2 balanced factorial design. Hence three independent variables namely rural – urban, sex, and differences in Socio- Economic status were used. Each was varied at two levels, and main as well as interactional effects examined.

	A		B	
	B1	B2	B1	B2
C1	50	50	50	50
C2	50	50	50	50

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**STATISTICAL TREATMENT OF DATA :-**

Following Statistical techniques were used for analyzing the data.

Stage 1- Mean and standard deviation.

Stage 2 -Three – way ANOVA.

**RESULTS AND DISCUSSION :-****Table No. I****Means and Standard Deviation of Shape concept**

	A1B1C 1	A1B1C 2	A1B2C 1	A1B2C 2	A2B1C 1	A2B1C 2	A2B2C 1	A2B2C 2
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>X</b>	17.49	16.50	18.01	18.22	17.40	16.66	18.01	17.95
<b>SD</b>	1.80	1.49	1.99	1.40	1.44	1.49	2.00	1.40

Table shows that the groups differ from each other with regards to the shape concept. Among the 8 classified groups, group A1 B2 C1 was found having developed relatively superior shape concept. If the 8 groups are arranged in hierarchical order then group A2 B2 C1 is found occupying the second position (Mean = 18.01, SD = 2.00). The third position was occupied by group A1 B2 C2 (Mean = 18.22, SD = 1.40). In the hierarchical order at the last position there was the group of A1 B1 C2 (Mean = 16.50, SD = 1.49). The highest mean score 18.22 SD = 1.40 and the lowest mean score 16.50 have difference of 2.14 which is sufficiently large enough to be significant. But the descriptive statistical techniques do not provide facilities and hence the data were treated by 3 way ANOVA.

**Table No. II****Complete Summary of 3 way ANOVA**

Source of Variation	SS	DF	MSS	F
A-SES	1.24	1	1.24	0.314
B- Area of residence	149.74	1	149.74	37.963*
C- Sex	30.04	1	30.04	7.616*
A x B	5.99	1	5.99	1.519
A x C	0.49	1	0.49	0.124
B x C	1	1	1.00	0.254
A x B x C	2	1	2.00	0.507
Within	1546.21	392	3.94	
Total	1736.71	399		

\*Significant at .01 level

**DISCUSSION :-**

The blocks used for measuring shape concept of the children were of five different kinds of shapes. The task was to ignore other characteristics and classify the blocks only on the basis of shapes. It was hypothesized that, shape concept of high SES children is better than that of low SES children. But interestingly, both high and low SES children were found having developed more or less similar amount of shape concept. In other words development-of shape concept seems to be free from SES effect. A number of objects have common shapes, and these objects have universally the same shapes, hence it seems that it is frequency of interaction with objects of different shapes and training help in developing the ability to recognize different shapes correctly. Both the high as well as low SES children might have got equal opportunities to develop shape concept.

For developing shape concept also, the environment in urban area was most useful. Well in accordance with the hypotheses, the urban children developed significantly better shape concept than the rural children. Careful examination of the results show that on all the measures of cognitive ability the urban children performed significantly better than the rural children. Developing significantly superior shape concept by urban children could be attributed to the stimulating environment in which they were grown up. Rural children are deprived of such stimulating environment, and hence they

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develop relatively poor ability of recognizing shapes correctly.

In case of shape concept the factor of sex also played significant role. Boys have significantly better shape concept than the girls. These results are not in accordance with the hypothesis, because it was hypothesized that, shape concept of female children is significantly better than that of male children. It is difficult to propose appropriate reason for such results, probably the boys might have been corrected more often when they made errors in recognizing the shapes.

The table number II shows the complete summary of 3 way ANOVA of shape concept. Contrary to the expectation the effect of SES was found to be negligible. Main effect A which represents the children of two SES high and low SES is associated with an F value of 0.31 which suggests that the children from high SES and from low SES developed similar shape concept. Thus, the assumption that shape concept is influenced by SES remained unsatisfied.

Compared to the rural subjects the Ss from urban area were found having developed superior shape concept. Main effect B which represents the area of residence yielded an F value of 37.96 which is much larger than what is required to be significant at .01 level when the df are 1 & 392. It means that the Ss from rural area and those from urban area, when the other factors are kept controlled or constant, differ significantly from each other on shape concept.

One of the hypothesis was that the female children develop better shape concept than the males. However, in present study the results were just the opposite. Male and female children differ significantly from each other on shape concept, but not the females, the males were superior. This could be seen from main effect C which has yielded an F value of 7.61, which is highly significant at .01 level. Thus, this hypothesis also remained unsatisfied.

#### CONCLUSION :-

1. High Socio- Economic – Status Subjects developed significantly better shape concept than low Socio- Economic – Status Subjects.
2. Male children developed significantly better shape concept than the female children.
3. Urban children was significantly developed better shape concept than the rural children.

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