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Cognitive Profiles of Children from English Medium Preschools and Anganwadis: A Comparative Study

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Abstract

The present study is an attempt to compare the cognitive profiles of children of English medium preschools and Anganwadis. It employs Pandey's Cognitive Development Test for Pre-schoolers, a standardised test to find out the cognitive profiles of pre-school children. Comparisons are made between the two results thus yielded. The study found that there were significant differences between the cognitive profiles of children of English Medium Preschools and Anganwadis particularly with reference to conceptual skills, visual perception and self concept and the differences were in favour of English Medium Preschoolers. However, in cognitive skills related to information and comprehension, and object vocabulary, the differences between the cognitive profiles of children of English Medium Preschools and Anganwadis were insignificant.

Keywords: Cognitive profiles, Children from English Medium Preschools, Children from Anganwadis

Introduction

In India, there are two basic types of preschool programmes. The first is the conventional preschool with its own self prescribed curriculum, which include the teaching and learning of basic rudimentary skills requisite for the concerned age group of children. These preschools are mostly privately run and set up by individuals who have a passion for early childhood care and education, and who have had some background of preschool education or professional training. The workers and teachers are individuals who have an affinity for children or are incidental teachers. The qualities of these preschools are quite good and much preferred by parents of preschoolers. However, there are, most often shortage of seats in these schools as there are not enough of these preschools around to cater to the larger population. Besides the cost of sending a child to these preschools is quite expensive.

The second and largest type of preschool is the government run Anganwadis. These Anganwadis are focal

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points for delivery of integrated child development services containing a package of six services amongst which non-formal preschool education is the most regular and important service. The workers of the Anganwadis are, most often, young unmarried women from the lower strata of economic status, with little or no prior training in early childhood education. Anganwadi centres are mostly flocked by the economically challenged sections of the society. Moreover, the buildings which house the Anganwadis are often quite small and constricted. This isn't to say that the quality of the curriculum of these Anganwadis is inferior to the curriculum of the private preschools. However, since these Anganwadis are designed and expected to cater to so many varied areas, the aspect of education, especially the cognitive aspect, cannot but take a backseat position.

The development of preschool children is expected be holistic. It should cater to the totality of development, i.e., cognitive, conative (affective) and psychomotor aspects. However, the cognitive development of pre-school children forms a very crucial aspect of the whole early childhood care and education programme and has therefore gained worldwide attention. With the fierce fight for survival going on in every corner of the modern world today, the resolve of every human being now is education and more education. The cornerstone of success today is academic proficiency, amongst other factors. This proficiency is, to a great degree determined by one's cognitive prowess.

Cognition, as it involves mental processes such as classification, reasoning, seriation and language acquisition, storing and using information, can, to a good degree be fostered. This fostering as such is effective and most meaningful, when done during the early childhood period. Studies have highlighted that the frequently used neurons in the brain become strengthened and thicker over time through repeated usage, while the lesser employed neurons die down. The more opportunities a preschool child is presented with, to manipulate his/her sense, the more advanced his/her development. The scene now, with various models of preschools springing up in every part of the globe, offers scope for preschoolers' development. For reasons precisely as this and more, parents are vying and sending their preschoolers to the latest and most expensive preschools. This rush, however, is understandable, given that most of the preschoolers from these high-end preschools often end up with better school readiness later at destined times, compared to their lesser advantaged counterparts.

Objectives of the Study

1. To compare the cognitive profiles of children from English Medium Preschools and Anganwadis.

Null Hypotheses

1. There is no significant difference between the cognitive profiles of children

from English Medium Preschools and Anganwadis.

Methodology and Procedures

The present study is a descriptive survey type study. Preschool children of all Anganwadis and English medium schools of Mizoram comprise the population for the study. The sample was 50 children each from Anganwadis and English medium preschools from Aizawl city and selection of samples was done through purposive sampling method.

The present study employs Pandey's Cognitive Development Test for Pre-schoolers, a standardised test to find out the cognitive profiles of pre-school children. Comparisons are made between the two results thus yielded.

The statistical analysis of data was done by using statistical methods like Mean, Standard Deviation, t-test and Percentage.

Analysis and Interpretation of Data

Table 1.1

Cognitive Profiles of Children of English Medium Preschools and Anganwadis

Sl. No	Parameters	English Medium Preschools		Anganwadis	
		Mean	SD	Mean	SD
1	Conceptual Skills	1.55	0.37	1	0.53
2	Information&Comprehension	2.25	0.88	2.25	0.75
3	Visual Perception	1.74	0.79	1.03	0.8
4	Memory	0.99	0.58	0.68	0.58
5	Object Vocabulary	4.35	1.26	4.52	1.26
6	**Overall**	**10.88**	**2.78**	**9.48**	**3.08**

Source: Computed

Out of all the cognitive skills tested, the children of English Medium Preschools obtain the highest mean score in object vocabulary in which the variability is also found to be high. The children are also found to be better in information and comprehension skills in comparison with other skills. The children are found to be weak in the skill of memory.

Object vocabulary is the cognitive skill in which children of Anganwadis are strongest followed by information and comprehension skills. Again memory is the skill in which children of Anganwadis are weakest.

Comparison of the Cognitive Profiles of Children of English Medium Preschools with that of Anganwadis

The differences in the cognitive profiles of children of Anganwadis and English Medium Preschools were calculated through independent t-tests and are depicted in table 1.2.

Table 1.2

Conceptual Skill-wise Comparison of Cognitive Profiles of Children of English Medium Preschools and Anganwadis

Sl. No.	Skills	Group				Mean Difference	Std. Error Difference	't'
		English Medium		Anganwadi				
		Mean	S.D	Mean	S.D			
	Conceptual Skills							
1	Concept of Shape	2.7	0.8	1.3	1.4	1.3	0.2	5.8**
2	Concept of Colours	4.9	1.4	3.1	2	1.8	0.3	5.3**
3	Concept of Time	1.2	0.8	0.9	0.7	0.3	0.2	2.1*
4	Concept of Classification	1.5	0.8	0.8	0.8	0.6	0.2	4.0**
5	Concept of Numbers	1.5	1.2	1.1	1.3	0.4	0.2	1.6
6	Concept of Seriation	0.9	0.3	0.7	0.5	0.2	0.1	2.5*
7	Concept of Weight	0.5	0.5	0.3	0.5	0.2	0.1	2.3*
8	Concept of Size	1.5	0.6	1.1	0.8	0.4	0.1	2.7**
9	Concept of Texture	0.5	0.8	0.3	0.6	0.2	0.1	1.7
10	Concept of Coins	0.3	1.1	0.4	0.9	0	0.2	0.2

Source: Computed ** Significant at 0.01 level &* Significant at 0.05 level

Table 1.2 reveals that:

1. The mean for the children of English Medium Preschools is 2.7, while it is 1.3 for the children of Anganwadis. The t-value for the significance of difference between the children of English Medium Preschools and Anganwadis with regard to concept of shape is 5.8, whereas the desired value at 0.01 levels to declare this difference is 2.63. Since the calculated value is more than the desired t-value, it indicates that the children of English Medium Preschools are better than that of Anganwadis.
2. The mean for the children of English Medium Preschools and children of Anganwadis is 4.9 and 3.1 respectively. The t-value for the significance of difference between children of Anganwadis and of English Medium Preschools with regard to concept of colour is 5.3 at 0.01 level. This indicates that the children of English Medium

Preschools are better than the children of Anganwadis in their concept of colour.

3. The mean for children of English Medium Preschools is 1.2 and that it is 0.9 for the children of Anganwadis with regard to concept of time. The t-value for the significance of difference is 2.1 and this figure is found to be significant at 0.05 level. Since this figure is higher than the required t-value, it indicates that the children of English Medium Preschools are better at telling time than the children of Anganwadis.

4. As far as classification skills are concerned, the mean for children of English Medium Preschools is 1.5, whereas it is 0.8 for the children of Anganwadis. The t-value for the significance of difference between the children of English Medium Preschools and that of Anganwadis is calculated as 4 which is significant at 0.01 level. This indicates that the children of English Medium Preschools are better in their concept of classification than the children of Anganwadis.

5. For conceptual skills in numbers, the mean for the children of English Medium Preschools is 1.5 and for the children of Anganwadis it is 1.1. The t-value for the significance of difference between the children of English Medium Preschools and that of Anganwadis is 1.6. But the desired t-value at 0.05 levels is 1.99 in order to be declared significant. This reveals that there is no significant difference between the children of English Medium Preschools and that of Anganwadis in relation to this skill.

6. The mean for the children of English Medium Preschools regarding seriation is 0.9, while it is 0.7 for the children of Anganwadis. The t-value for the significance of difference between children of Anganwadis and children of English Medium Preschools for the same is computed as 2.5, and this figure is significant at 0.05 levels. This implies that the children of English Medium Preschools are better than that of Anganwadis in skill of seriation.

7. The mean for the children of English Medium Preschools and preschool children of Anganwadis is 0.5 and 0.3 respectively. The calculated t-value for the significance of difference between the children of English Medium Preschools and Anganwadis in conceptual skills in weight has been found to be 2.3 which is significant at 0.05 levels. This means that the children of English Medium Preschools are better than the children of Anganwadis.

8. Regarding conceptual skills in size, the mean is 1.5 for children of English Medium Preschools and 1.1

for the children of Anganwadis. The t-value for the significance of difference between the children of Anganwadis and English Medium Preschools at 0.01 level is 2.7. Since this calculated t-value is significant and is more than the required t-value, it indicates that the children of English Medium Preschools are better than the children of Anganwadis.

9. The mean for the children of English Medium Preschools and children of Anganwadis pertaining to texture is 0.5 and 0.3 respectively. The calculated t-value for the significance of difference between the children of English Medium Preschools and Anganwadis and is 1.7, the required t-value in order to be declared significant though, is 1.99 at 0.05 level and is higher than our calculated value. This indicates that there is no significant difference between the children of English Medium Preschools and children of Anganwadis when it comes to texture.

10. The mean for the children of English Medium Preschools in relation to conceptual skill of coins is 0.3 while it is 0.4 for the children of Anganwadis. The derived t-value for the significance of difference between the children of Anganwadis and children of English Medium Preschools for the same skills is 0.2, which is significant at neither 0.01 nor 0.05 levels, because the required t-value is 1.99 at 0.05 levels. This indicates that there is no significant difference between children of Anganwadis and children of English Medium Preschool in this regard.

Table 1.3

Information and Comprehension Skill-wise Comparison of Cognitive Profiles of Children of English Medium Preschools and Anganwadis

Sl. No.	Skill	Preschool Children of				Mean Difference	Std. Error Difference	't'
		English Medium Preschools		Anganwadis				
		Mean	S.D	Mean	S.D			
	Information & Comprehension							
1	Information	3.2	1.9	3.2	1.5	0.1	0.3	0.2
2	Verbal comprehension	1.8	0.9	1.9	1	0	0.2	0.2
3	Listening Comprehension	1.7	0.7	1.6	0.8	0.1	0.1	0.7

Source: Computed ** Significant at 0.01 level &* Significant at 0.05 level

Table 1.3 reveals the following:

1. In information, the mean for the children of English Medium Preschools and that of Anganwadis is 3.2 and 3.2 respectively. The required t-value for the significance of difference between the children of Anganwadis and that of English Medium Preschools is 1.99 at 0.05level, but our calculated t-value is only 0.2, this highlights that there is no significant difference between the two groups in this skill.

2. The mean for the children of English Medium Preschools for verbal perception is 1.8, whereas it is 1.9 for the children of Anganwadis. The computed t-value for the significance of difference between the children of Anganwadis and English Medium Preschools however is 0.2 and this value is not insignificant at either 0.01 or 0.05 level.

3. For listening comprehension, the mean for the children of English Medium Preschools is 1.7 and it is 1.6 for the children of Anganwadis. The calculated t-value for the significance of difference between the children of Anganwadis and English Medium Preschools is 0.7. This t-value is not significant at either 0.01 or 0.05 levels. This shows that there is no significant difference among the children of Anganwadis and children of English Medium Preschools.

Table 1.4
Visual Perception Skill-wise Comparison of Cognitive Profiles of Children of English Medium Preschools and Anganwadis

Sl. No	Skill	Group				Mean Difference	Std. Error Difference	't'
		English Medium		Anganwadi				
		Mean	S.D	Mean	S.D			
	Visual Perception							
1	Differentiation/ Dissimilarities	1.7	1	1.1	1	0.6	0.2	3.0**
2	Copying button pattern	1.7	1.3	0.9	1.1	0.8	0.2	3.3**

Source: Computed ** Significant at 0.01 level &* Significant at 0.05 level

The above Table 1.4 highlights that:

1. The mean for the children of English Medium Preschools in differentiation/ dissimilarities is 1.7 while it is 1.1 children of Anganwadis. The calculated t-value for the significance of children of Anganwadis and children of English Medium Preschools is 3, which is significant at 0.01 level. This means that the children of English Medium Preschools have performed better than Anganwadis.

2. In copying button pattern, the data according to the table reveals that, the mean for the children of English Medium Preschools and Anganwadis is 1.7 and 0.9 respectively. The t-value for the significance of difference between the children of Anganwadis and children of English Medium Preschools is 3.3 at 0.01 level of significance. This reveals that the children of English Medium Preschools are better in this skill than the Anganwadi children.

Table 1.5

Memory Skill-wise Comparison of Cognitive Profiles of Children of English Medium Preschools and Anganwadis

Sl. No	Skill	Group				Mean Difference	Std. Error Difference	't'
		English Medium Preschools		Anganwadi				
		Mean	S.D	Mean	S.D			
	Memory							
1	Digits	1.2	0.9	0.6	0.8	0.3	0.2	1.9
2	Words	0.6	0.5	0.4	0.5	0.6	0.2	3.5**
3	Objects Removed	0.8	0.8	0.5	0.6	0.2	0.3	0.7
4	Story	1.4	1.3	1.2	1.3	0.2	0.1	1.7

Source: Computed ** Significant at 0.01 level &* Significant at 0.05 level

A glance at Table 1.5 tells us that:

1. The mean for children of English Medium Preschools in memory of digits is 1.2 and 0.6 for the children of Anganwadis. The derived t-value for the significance of difference as per the table in memory digits between the children of Anganwadis and children of English Medium Preschools is 1.9 and shows no significant difference as this t-value is lesser than the required t-value at 0.05 levels.

2. For memory of words, the mean for children of English Medium Preschools is calculated as 0.6 whereas for the Anganwadis, it is calculated as 0.4. The computed t-value for the significance of difference between the children of Anganwadis and children of English Medium Preschools is 3.5 at 0.01 level. This shows that the children of English Medium Preschools are better than that of Anganwadis.

3. The mean for children of English Medium Preschools in objects removed is 0.8, and 0.5 for the children of