

Chapter IV

Discussion and Interpretation

Central Memory

It was hypothesized earlier in this study that central memory scores will increase with age. On the basis of the findings in Chapter III, this hypothesis was supported. The performance of central memory were significantly different among different age groups and increased from ages 7 - 8 to ages 20 - 21. These results are consistent with the findings of research studies done in the United States by Maccoby and Hagen¹ and Hagen,² and of research study done in Mexico by Wagner.³ The American subjects were from Urban area and were from grade 1, 3, 5 and 7, so the oldest subjects were about 12 to 13 years; the Mexican subjects were from Rural and Urban and their ages ranged from 7 - 8 to over 27 years. The Urban subjects in all three cultures Mexican,

¹ Maccoby and Hagen, loc. cit.

² Hagen, loc. cit.

³ Wagner, loc. cit.

American and Thai show similar trends in the development of central memory.

The central memory performance of older subjects was significantly higher than the central memory performance of the younger subjects. It is possible that the older subjects have higher scores because they develop their memories as they grow or because they have more education. So it is possible that school and university teaching persuade students to focus their attention selectively.

The hypothesis that there are no differences in the performance of central memory between males and females was supported by the results. These results are similar to the findings of Wagner⁴ in Mexico, but contrary to the findings of Druker and Hagen⁵ in the United States, who reported that boys had higher scores than girls. For Thai children, sex differences do not seem to have an effect on the development of central memory.

⁴ Wagner, loc. cit.

⁵ Hagen, loc. cit.

On the serial position performance, it was noted that the recency performance of all age groups on central memory scores was almost constant. Among serial position performance in all age groups, the recency performance was the highest and the gap between the performance of ages 4 - 5 and 20 - 21 was very small. The primacy performance and the middle-position performance were significantly different among all age groups; in these two types of performance by contrast with recency performance there was an improvement with age. The results are similar to Hagen and Kingsley's⁶ findings and there are no clearly observable trends in the gap between the performance of ages 4 - 5 and 20 - 21 on the primacy and middle-position performance of all age groups. These results indicated that the subjects at all age level performed significantly better on the stimulus presented last, but they do not remember well the first and middle presented stimuli. The older subjects recalled the first and middle presented stimuli better than the younger subjects. It is possible that the improvement of the memory with age results in the higher performance on primacy and middle positions for older subjects.

⁶ Hagen and Kingsley, loc. cit.

Incidental Memory

The hypothesis that there would be a curvilinear relation in incidental performance with increasing age was partially supported by the results of the present study. The performance of incidental memory increased from age 4 - 5 to 10 - 11 then declined at age 14 - 15 but increased again at age 20 - 21. The decline of the amount of incidental learning between age 11 and 15 may be due to the tendency of the older children to disregard the irrelevant stimuli. These findings are similar to Hagen's⁷ (1967). He found that incidental memory performance increased from grade 1 to grade 5 then declined at grade 7 (ages about 12 - 13). So we may conclude that the ability to learn a central task and disregard an incidented task transcends cultural differences (Thai and American). The hypothesis was that the oldest subjects would get the lowest scores on incidental memory performance. However the results showed that incidental memory performance increased again at age 20 - 21. These findings are similar to those of Siegel and Stevenson's⁸ in America. They found

⁷ Hagen, loc. cit.

⁸ Siegel and Stevenson, loc. cit.

that the performance of incidental memory increased from age 7 to 12 and declined at ages 14 but increased again at 22 years of age and over. They explained the increase on incidental performance of adults as: "the task was so extremely simple for adults that they could concentrate on both relevant stimuli and incidental stimuli."

The hypothesis that there are no statistically significant differences among males and females on incidental memory performance for all age groups was supported. These results were consistent with the findings of Wagner⁹ for Urban Mexican subjects. So we can conclude that sex differences do not have an effect on the development of central and incidental memory of Thai children.

In conclusion central memory performance increased from ages 4 - 5 to ages 20 - 21, and there was an increase of incidental memory performance from ages 4 - 5 to ages 10 - 11 but there were a decline at ages 14 - 15. A possible explanation supported by Haber is that older subjects employ an encoding strategy that

⁹ Wagner, loc. cit.

permit them to focus more exclusively on the relevant stimuli when they are instructed to learn. But the younger subjects do not focus their attention selectively so their strategies predispose them to encode all the items they perceived.¹⁰

Relationship between Central and Incidental Memory

There were no correlations between central and incidental memory scores for any age group. These findings supported the hypothesis and confirmed the findings of Wagner.¹¹

From the results of this study, it is evident that age and urban setting are two important factors in memory development for there are similar trends in the development of central and incidental memory among children in urban and partially urban areas. This in a partially urban area show similar trends to urban American and urban Mexican in the development of central and in incidental memory. This affirms the statement by a

¹⁰R.N. Haver, "Nature of the Effect of Set on Perception," Psychology Review 73(1966), 335 - 351.

¹¹Wagner, loc. cit.

well-known anthropologist, Boas¹² that:

"The functions of the human mind are common to the whole of humanity."¹³

¹² F. Boas, The Mind of Primitive Man (New York, McMillan, 1911).

¹³ J. Kagen, R.E. Klein, M.M. Haith, and F.J. Morrison, "Memory and Meaning in Two Cultures." Child Development 44(1973), 223.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย