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ABSTRACT

The capability of the very young child to learn selected reading skills and the effectiveness of the television medium to present such skills were investigated. Television as the facilitator of such an instructional program was viewed as appropriate because of its ability to reach so many children, especially the disadvantaged. Ninety children who had passed their second birthday but who had not yet reached the third month past their fifth birthday were randomly selected from a group who had responded to an invitation to be on a children's television show. The children were given the Peabody Picture Vocabulary test and were randomly assigned to an experimental or control group. The experimental group was given systematic reading instruction via 12 weekly closed circuit television sessions lasting from 15 to 20 minutes once a week. Post-testing showed that the children could be effectively taught selected reading skills. References are included. (NH)

THE EFFECTIVENESS OF TEACHING SELECTED READING SKILLS TO CHILDREN TWO THROUGH FOUR YEARS OF AGE BY TELEVISION

by

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INTRODUCTION:

For several decades we have been limited in our inquiry of early reading by the assumption that children younger than six years cannot be taught to read. The research that followed this conviction was designed to prove that teaching reading to five and six-year-old children, even if possible was certainly a waste of time. Within recent years educators have begun to question the validity of these kinds of statements, and more importantly, of the basic underlying assumptions.

The assumption that a child under the age of six is physiologically unable to read must be re-evaluated in the light of recent investigation. The current literature in growth and development of the infant and young child reflects our increasing knowledge of their visual acuity and facility. The early preference for complex patterns (Fantz, 1961); the early ability to focus and discriminate visual stimuli (Haynes, et al, 1965); and the early development of highly operable accommodation (Walk and Dodge, 1962) have made such an assumption untenable.

Basic to prior investigation was the assumption that children younger than six were intellectually incapable of reading activity. However, there have often been reported examples of reading activity by children far younger than the accepted reading age. Though in the past such activity was

explained by referring to these children as gifted, in light of current investigation by biologists, geneticists, psychologists and linguists it may be more appropriate to view such activity as the utilization of capabilities available to all children. This capability, when acutalized, may then produce a higher level of cognitive functioning (or giftedness).

The current investigation of the theory of an innate, species-specific, language acquisition device may help to explain the importance of these early years and reading activity. This theoretical construct asserts that normally during the years from two through four the human has available an innate ordering device that makes possible more efficient acquisition of language than will be evidenced at any other period throughout his life (Krech, 1969; Lenneberg, 1962; Chukovsky, 1960).

While more data is becoming available on the vast potential for learning of the very young child, and on the importance of utilizing these highly sensitive early years, little research is available to suggest ways to actualize this potential. This study seeks to add data in the area of specific implementation. The capability of the very young child to learn selected reading skills and the effectiveness of the television medium to present such skills was investigated.

The use of television as the facilitator of such an instructional program can be viewed as appropriate from two frames of reference. Many have asserted that the single most useful thing we can do for our young children, expecially the disadvantaged, is to teach them to read. While we may agree with this idea little hope remains for finding teachers and classrooms for the majority of these children. These children watch television more than any other group, an estimated 54 plus hours a week. If television could be used successfully as a facilitator for learning early reading skills these

children could be given the impetus they need toward later success in reading

To provide data that would help in making more valid decisions in the area of implementation of early reading instruction the following hypotheses were tested by this study:

I. Systematic instruction in selected reading skills by television will result in significant gains with children two through four years of age as measured by a test presenting alphabet, alphabet sounds and basic vocabulary.

II. A variation in gain on selected reading skills will occur and will have a significant relationship to age, verbal IQ, socio-economic level and time spent on follow-up activities.

Sub-hypothesis A - A significant difference in gains will be found among age groups.

Sub-hypothesis B - A significant difference in gains will be found among verbal IQ categories.

Sub-hypothesis C - A significant difference in gains will be found among socio-economic levels.

Sub-hypothesis D - A significant difference in gains will be found among time-spent-on-follow-up-activities categories.

DEFINITION OF TERMS:

Systematic reading instruction - the systematic presentation of alphabet, alphabet sounds and basic vocabulary by closed circuit television fifteen to twenty minutes once a week for twelve weeks. The approach was based on current findings (Chall, 1967; deHirsch, Jansky and Langford, 1966) favoring decoding as the most effective way of introducing reading. Elements of play are included as suggested by Fowler (1965).

Selected reading skills - skills selected were knowledge of the alphabet, alphabet sounds and basic vocabulary. Choice of these skills was based on the

work of Durrell (1958), Linehan (1958), Hildreth (1964), deHirsch (1966), and Chall (1967). The 22 words for the basic vocabulary were chosen for their high valence and inclusion in the two through four-year-old child's immediate environment as suggested by the work of Madian (1966).

Children two through four years of age - children who have passed their second birthday but have not yet reached the third month past their fifth birthday.

Verbal IQ - as measured on the Peabody Picture Vocabulary Test.

THE STUDY:

The Peabody Picture Vocabulary Test, tests of knowledge of alphabet, alphabet sounds and some basic vocabulary were given to 90 children two through fours years of age. These children were randomly selected from respondents to a letter of invitation to participate sent to 500 children whose names had been submitted to appear on a local children's television program. The 90 children were then randomly assigned to an experimental group and to a control group. The criteria for selection was age and parental cooperation providing for daily ten minute activity sessions and weekly attendance at the project. The children in the experimental group with a parent attended twelve weekly closed-circuit, videotaped presentations of selected reading skills. These parents were given a manual of activities which reinforced the presentations with instructions to use the activities at least ten minutes each day. At the completion of the series posttests were given to both groups. These tests were similar to the pretest and included the Peabody Vocabulary Test.

The tests of knowledge of alphabet and alphabet sounds were constructed following the procedures adopted by deHirsch (1966) of randomly selecting letters and letter sounds for the pre and posttest. The selection of 22 words

for a basic vocabulary followed the suggestion of Madian (1966). The PPVT was developed by Dunn (1965) as an individual test to provide an estimate of verbal intelligence.

During the pretest a data sheet filled in by parents provided information about the families.

ANALYSIS:

T tests were used to compare groups on gains made in the selected reading skills over the four month period. An analysis of variance was performed on the selected demographic and personality data obtained from each subject in the experimental group to find the relationship of these factors to the rate of gain made on the selected reading skills. The sub-groups investigated were categorized by age, verbal IQ score, socioeconomic level and time spent on follow-up activities. Significance was assigned at the .01 level.

FINDINGS:

The gains in selected reading skills by the experimental group were significantly better than the control group at the .001 level. (See Table I)

It is interesting to note that neither the relationship of age nor verbal IQ to gain in skills was found to be significant in this study. These findings challenge the emphasis on the attainment of a specific mental age as a prerequisite for success in skill level reading activity.

Socioeconomic level as assessed by family income was found to have a significant relationship with gain in reading skills. The lowest socioeconomic group made the most gain while the more middle class groups made gains with lower means. Several possible reasons present themselves; 1) the better utilization of the medium as a learning tool by this group has been reflected in the literature; 2) less initial information possessed by this group - although none of the subjects had any vocabulary knowledge initially;

3) intense motivation for successful performance of the children evidenced by the parents of this group.

Time spent in follow-up activity varied in a direct positive ratio to the gain in reading skills. (See Table II)

For mastery of the selected reading skills television is seen to be a facilitating medium of presentation.

In summary, the findings that children two through four years of age can be effectively taught these reading skills by use of the television medium is of major importance. Learning problems may be reduced or at least better assessed at an age when the child responds more quickly to remediation. Gifted children may be found at an age more advantageous for their continued guidance. The availability of this type of skill to more children may help to achieve proper utilization of the period most sensitive to language which will lead us closer to optimal development of man's learning potential.

Table 1

Differences Between Groups in Gains Made

Category of Gain	Mean		SD		T Score	Level Sign.
	Control	Exp.	Control	Exp.		
Alphabet	.920	5.370	2.261	3.390	5.417	.001
Sounds	.720	4.111	1.372	3.425	4.530	.001
Vocabulary	.680	12.444	1.783	7.135	7.860	.001

Mean of Reading Skills Gain

Control	.77
Experimental	7.308

Table II

Relationship of Four Factors to
Gain in Reading Skill

Source of Variation	df	Mean Gain	F Score	Level Sign.
Age				
2-3 years	2	6.22	3.02	None
3-4 years	9	5.77		
4-5 years	13	8.64		
Overall total	24	7.31		
Verbal IQ				
- 75	0	3.33	1.79	None
75- 89	2	5.83		
90-109	12	8.36		
110-124	5	6.11		
125	3	8.42		
Overall total	22	7.31		
Socioeconomic Level				
$ 1,000- 4,000 @ yr.	1	10.17	5.91	.01
$ 4,000- 7,000 @ yr.	7	7.33		
$ 7,000-10,000 @ yr.	6	6.89		
$10,000 and above	9	6.97		
Overall total	23	7.31		
Time Spent in Follow-up Activities				
-10 min. @ day	1	5.33	9.44	.01
10-30 min. @ day	21	7.22		
30-60 min. @ day	2	9.22		
Overall total	24	7.31		

Table III

Null Hypotheses Analyzed

Null Hypothesis	Analyses Used	Level of Significance	Disposition
I	t Test	all comparisons .001	rejected
II - A	F Test	Not Sign.	accepted
II - B	F Test	Not Sign.	accepted
II - C	F Test	.01	rejected
II - D	F Test	.01	rejected

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