

DOCUMENT RESUME

ED 137 769

CS 003 403

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 TITLE Magical Thinking, Causation and Prediction: Psycholinguistic Implications for Reading Skills in Disturbed Children.
 PUB DATE May 77
 NOTE 9p.; Paper presented at the Annual Meeting of the International Reading Association (22nd, Miami Beach, Florida, May 2-6, 1977)

EDRS PRICE MF-\$0.83 HC-\$1.67 Plus Postage.
 DESCRIPTORS Elementary Education; *Emotionally Disturbed Children; Gifted; Miscue Analysis; Oral Reading; *Reading Comprehension; Reading Processes; *Reading Research; *Thought Processes
 IDENTIFIERS *Magical Thinking

ABSTRACT Operant magical thinking (belief that thought can significantly alter reality) and reading comprehension were examined in samples of Pupils 7 to 13 years old identified as either gifted, normal, or emotionally disturbed. Sixty-eight children were sampled in a school for gifted children, in a regular suburban elementary school, and in an in-patient residential treatment center. A reading miscue inventory was used to analyze oral reading comprehension skills. Children with lower levels of operant magical thinking scored higher in comprehension; those with higher levels of magical thinking scored lower in comprehension. Gifted children demonstrated less magical thinking and better reading comprehension; disturbed children showed more magical thinking and less adequate reading comprehension. Regardless of population, magical thinking was significantly related to reading comprehension processes. (Author/AA)

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MAGICAL THINKING, CAUSATION AND PREDICTION:
PSYCHOLINGUISTIC IMPLICATIONS FOR READING
SKILLS IN DISTURBED CHILDREN

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MAGICAL THINKING, CAUSATION AND PREDICTION:
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SKILLS IN DISTURBED CHILDREN

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Background

Any analysis of case material of atypical cognitive/social development reveals that some children do not have a fully integral language-thinking system. Depending upon various genetic, emotional, physio-psychological or specific environmental factors, the system can operate at a less than efficient level, with concurrent evident symbolic/language-thought processing problems.

Of particular concern to this researcher were young children, age 7 to 13 years, who were diagnosed as emotionally disturbed. These children demonstrated a propensity to utilize "magical thinking" well beyond its normal developmental epoch-limits, age 5 to 7. (Magical thinking in this study is defined as an attempt to alter reality in the real world by believing that what one thinks can bring about significant changes). Frequently the result for these children was an impaired conceptual-logical framework that continually reduced the possibility of anything but "magical concepts" (inaccurate causation/prediction statements) from being constructed and utilized in the child's life-space.

An interesting concurrent development among these "magically-thinking" children was a resistance to and difficulty

with the reading process. The general question posed for this research asked if magical thinking and poor prediction were significant types of interference to the development of a complete language-thinking-reading system?

Previous Research

Emotionally-disturbed children have historically presented symptom patterns that could be directly associated with their academic performance (Bower and Lambert, 1971). Many of these symptoms have been linked to abnormal developmental epochs, unresolved crises and unsatisfied needs (Rexford, 1966). Fenichel (1945) and Greenacre (1950) identified several developmental-lag characteristics of these children: early traumata, fixations on orality and tension intolerance, an alloplastic readiness, a special emphasis on visual sensitization, and a largely unconscious belief in the magic of action.

Gardner (1966) indicated these factors also had a marked influence on basic psychological processing modalities, particularly a specific immaturation in word-usage resulting in verbal symbolization failure. The combination of an unconscious belief in the magic of action and verbal symbolization immaturation appeared in research findings by Reiser (1966), viz., that speech was a relatively late developmental achievement in very young disturbed children and it was reflected in the language-thinking impairments of latency-aged disturbed youngsters.

The frequent coincidence of "magical" powers attributed

to thought and action in disturbed children relative to specific language impairments can also be traced into an analysis of the reading process. Goodman (1967, 1969, 1970) developed a theoretical model for reading behavior that indicated reading was an extension of the oral-language process and involved the selection of appropriate cues and the prediction of grammatical and semantic component-concepts based upon those cues and the information stores of long and short-term memory. In effect, the reader was being called upon to "go beyond the information given to him" (Bruner, 1957) in order to hypothesize and test a further conceptual format and arrive at meaning. Essential to this behavior (and seemingly understated by Goodman) is the psychological and logical capability of predicting.

Methodology

This study was designed to explore the possible relationships between magical-thinking behavior and in-process reading comprehending in young children. The reading model generated by Goodman indicated that hypothesizing and predicting are required psycholinguistic pre-reading abilities. If that is the case, then presumably the poorer a child can predict based upon necessary/sufficient cues, the poorer he will be forced to read.

Sample

To test this key hypothesis, a research design was formulated involving 68 children in three populations arranged in two experimental and two control groups: Experimental

Group A, 14 children (ages 7-9) diagnosed as emotionally disturbed, and Experimental Group B, 14 children (ages 11-13) diagnosed as emotionally disturbed, all residing at Hawthorn Center; Control Group C, 15 children (ages 7-9) assessed as gifted and attending Roeper City and Country School; and Control Group D, 25 children, (ages 7-9) enrolled in regular elementary school classrooms in Mt. Clemens, Michigan.

Seven to nine year old children were used for this study for two reasons: they had already been exposed to some early reading, and they were developmentally at an age where magical thinking behavior should have progressed into "artificialistic" or "physicalistic" thinking (Piaget, 1929, 1930). The gifted children were included as a control group due to their propensity for "creative-divergence" in thinking, while the older disturbed children were included as an experimental group to investigate the residual-tendency of magical thinking in the disturbed population.

Instruments and Procedures

Four assessment procedures were performed with each subject: the Similarities and Comprehension Subtests of the Wechsler Intelligence Scale for Children, the Magical Thinking Assessment (developed previously by the researcher and based on Piagetan theoretical constructs), and the Goodman-Burke Reading Miscue Inventory procedure. Standard scaled-score procedures were utilized for the W.I.S.C. Subtests and the Magical Thinking Assessment. Each subject also read one oral reading selection. (Scott-Foresman Reading Systems) and had

all oral miscues coded through the RMI. Particular attention was given to the component of Grammatical Acceptability as a means of analyzing in-process reading comprehending. Scores from the Wechsler subtests and the Magical Thinking Assessment were transformed into a Reading Predictor Score which became the basis for correlations between assessments of magical-thinking/predictiveness and reading comprehending.

Findings

The findings of this exploratory research were drawn from the testing of seven hypotheses. The key findings were significant and indicated a strong correlation in all subjects ($r = .48$, $p = .01$) between the child's developmental cognitive stage of either animism, artificialism or physical determinism (Reading Predictor Score) and his in-process reading comprehending as evidenced by the semantic and grammatical acceptability of oral reading miscues. The central findings were that magical thinking and reading comprehending were related in such a way that:

1. More efficient (less magical) predictors were more proficient readers.
2. Less efficient (more magical) predictors were less proficient readers;
3. Gifted children were less magical than their normal or disturbed peers;
4. Disturbed children were more magical than their gifted or normal peers; and
5. Disturbed children show a tendency to remain more magical (and thereby less proficient readers) for a longer

period of time than their normal or gifted peers.

Conclusions

The implication of this research bears significant impact for the theoretical and practical applications of reading instruction for both disturbed children and their more normal or gifted peers. It is clear that prediction and logical-thinking are essential cognitive pre-requisites for the symbolization and language information processing skills essential for reading. At the same time, however, further research is indicated for the relationship of conceptualization to prediction in early readers of all types.

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