

## ***This Week's Citation Classic***

Reese H W. Verbal mediation as a function of age level.  
Psychol. Bull. 59:502-9, 1962.  
[University of Buffalo, Buffalo, NY]

**Performance in many tasks can be 'mediated' (facilitated or suppressed) by verbal behavior such as naming the stimuli presented. Preschool children often fail to exhibit predicted mediational effects, thus exhibiting 'mediational deficiency' (failure to use potential mediators). Older children exhibit mediational deficiency in some situations. [The Social Sciences Citation Index® (SSCI®) indicates that this paper has been cited over 165 times since 1966.]**

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"The hypothesis that the mediating effect of words on behavior is deficient in an early stage of concept formation was suggested by Margaret Kuenne in the *Journal of Experimental Psychology* in 1946,<sup>1</sup> but it was ignored because experimental psychology at that time dealt with animals and college students rather than children, and developmental psychology had not yet become experimental. I mentioned her hypothesis in my master's thesis in 1955, but I did not recognize its developmental significance until later. On February 11, 1960, I addressed a seminar at McMaster University on behavioristic theories of cognition, and discussed Kuenne's hypothesis as a possible explanation of why parrots can talk but not think—a problem for these theories mentioned by Dollard and

Miller.<sup>2</sup> Later that month, the hypothesis was independently revived by Kendler, Kendler, and Wells,<sup>3</sup> but with respect to stages of ontogeny rather than of concept formation. I began a review of the literature, and as a sort of pilot study decided to reanalyze my master's thesis data after dividing the samples into younger and older preschoolers. I had not made any age split in the thesis, but I discovered that I had matched the experimental groups on median age and consequently the study provided not merely pilot data but a particularly convincing test in that the data were collected five years before the outcome was predicted. The results supported the hypothesis. The literature review had become too long to serve as the introduction to the report of the results, and therefore I submitted it for separate publication. It was accepted without revision (except for changing 'these Ss' learning' to 'the learning of these Ss') and eventually became the Citation Classic under discussion here. "The impact of the paper may be attributable to its timing. Experimental child psychology had only recently emerged as a distinct movement—the journal of *Experimental Child Psychology* began publication in 1964—and although age differences in learning were already well established, the mediational deficiency hypothesis was the movement's first developmental principle with enough scope to be generally interesting. It led to much research, and production and mediational deficiency (John H. Flavell's<sup>4</sup> refinements of my general term) are still active and fruitful topics of investigation. Recent reviews have been published by Kendler<sup>5</sup> and Zivin.<sup>6</sup>"

1. Kaenne M K. Experimental investigation of the relation of language to transposition behavior in young children. *J. Exp. Psychol.* 36:471-90, 1946.
2. Dollard J & Miller N E. *Personality and psychotherapy: an analysis in terms of learning, thinking, and culture.* New York: McGraw-Hill, 1950. 488 p.
3. Kendler T S, Kendler H H & Wells D. Reversal and nonreversal shifts in nursery school children. *J. Comp. Physiol. Psychol.* 53:83-8, 1960.
4. Flavell J H. Developmental studies of mediated memory. (Reese H W & Lipsitt L P, eds.) *Advances in child development and behavior.* New York: Academic Press, 1979. Vol. 5. p. 181-211.
5. Kendler T S. The development of discrimination learning: a levels-of-functioning explanation. (Reese H W & Lipsitt L P, eds.) *Advances in child development and behavior.* New York: Academic Press, 1979. Vol. 13. p. 83-117.
6. Zivin G, ed. *The development of self-regulation through private speech.* New York: Wiley, 1979. 369 p