



Apr 27th, 12:00 PM - 4:30 PM

The Relevance of Piagetian Theory to the Elementary Mathematics Curriculum

Vicki L. Mockaitis
Illinois Wesleyan University

James Dougan, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

Mockaitis, Vicki L. and Dougan, Faculty Advisor, James, "The Relevance of Piagetian Theory to the Elementary Mathematics Curriculum" (1991). *John Wesley Powell Student Research Conference*. 19.

<https://digitalcommons.iwu.edu/jwprc/1991/posters/19>

This is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

THE RELEVANCE OF PIAGETIAN THEORY TO THE ELEMENTARY MATHEMATICS CURRICULUM

Vicki L. Mockaitis, Dept. of Psychology, IWU, James Dougan*

Piaget characterized children into stages based on cognitive levels of development. In the second grade, children are at the level of concrete operational thought, meaning that they think in terms of real objects rather than reason abstractly. Given second grade development and the abstraction of math, programs such as "Math Their Way" which incorporates "hands-on" materials and Piaget's rationale indicate that primary school children would be better able to understand math concepts which are presented in a concrete manner. Thus, the main purpose of this analysis is to determine the effectiveness of the Piagetian-based "Math Their Way" curriculum as compared to the traditional math approach in teaching an introductory math concept.

To compare both styles of teaching, a class of second graders was divided into two equal groups of thirteen children each. On two separate occasions, each group was exposed to a total of two lessons: one traditionally taught and one taught using "Math Their Way" manipulatives. The lessons were followed with a short written quiz to assess the data between the two teaching styles.

Contrary to my proposed findings, outcomes revealed that the second graders receiving the traditional techniques performed significantly better than those who had received the "hand-on" presentation. Several variables possibly contribute to these results, indicating that more research needs to address the subject.