SOME FACTORS AFFECTING TEACHER BEHAVIOR
AND PUPIL PERFORMANCE*

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The changes in education which occurred in the sixties were brought about by scientific and technological modernization, social and economic development and the democratization of the elementary level of education. These changes presented educators with new needs and demands for educational reforms (Adar, 1956; Feitelson; 1953; Naftali, 1972) in curricula, teaching methods, and the organization of the educational system. In the area of curricula the change was manifested in the development of new programs in science and mathematics for the elementary school level (Gagné, 1965; Goodlad, 1966; Karplus, 1965; Schools Council, 1970), and in the development of a variety of specific programs for the kindergarten level. \(^1\) In the field of teaching strategies were adapted to the individual differences among students (Brickell, 1964; Pinder, 1966; Standing, 1966). At the organization level, the new emphasis was on the development of alternative learning set-ups within one organizational structure and the adaptation of learning methods to the various organizational types.

However, in spite of financial resources invested in curricula development and in the implementation of innovative techniques and technologies, many of the programs failed to meet the expectations of their developers (Goodlad, 1964).

Major efforts during the sixties were directed toward changing the isolated elements in education, such as the teacher, the program

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and the physical set-up of the classroom. Each of these elements was studied separately within a limited framework (Goodlad, Von Stoephasius & Klein). Most of the innovative ideas did not penetrate an entire educational system, however, and since they were not an integral part of the system, they had only partial and limited influence.

In the present study, an empirical attempt was made to introduce a new science program into the educational system, to observe the effects of this change, to try to understand the causes, and to formulate a model which would clarify the relationships among the variables of change and their outcomes. The new science program, MATAL, differs in its goals, content, and teaching methods from the program presently existing in the kindergarten.

This new program is characterized as follows:

a) The content is related to various disciplines, in contrast to programs based on a distinct disciplinary approach.

b) Internal structure of the material is reflected in a defined system of graded concepts for learning purposes, and the activities are structured in a sequence with increasing levels of difficulty in contrast to the existing programs which are based on an eclectic, unstructured approach with the concepts submerged under much diffused information.

c) The character of the program requires a change from traditional teaching strategy. Since the program is based on activity and on learning through discovery, the teaching material must be adapted to the individual differences in the children's ways of learning. The program is graded and structured to permit the child's learning pace to be taken into consideration. The teacher is required to make a transition from collective (frontal) activity to group and individual activities and a transition from teaching aimed mostly at imparting information to the development of ways of thinking and understanding how to learn.

The program is closely coordinated with mathematical skills and there is an emphasis on language development throughout the program as children need language to react to and represent what they discover in their environment. An attempt is also made to integrate concrete experiences with the creative arts to encourage the child to spontaneously express his individual experiences with the materials of his choice.

The kindergarten classes for 5-year-olds were chosen as a target for change, since the kindergarten is a system administratively and educationally independent within the educational system and thus can be more easily controlled for experimental purposes. The kindergarten is supervised by a hierarchical structure which includes the