"In the past two decades two educational movements—early childhood and middle school—have stressed the growth and development philosophy of continuity in learning." A better understanding of the developmental philosophy by those in middle school work may help to strengthen and extend the effectiveness of such programs in actual practice.

Psychologists and educators agree that learning should be continuous. There are, however, at least two views of continuity. One view is a knowledge-based philosophy. That is, if children learn addition of single digit numbers in the first grade, they should learn two digit addition in the second grade. The knowledge should be transmitted regardless of the child's ability to comprehend the information. A second view of continuity is based on principles of human growth and development. Knowledge should be presented that is consistent with an individual's capabilities. Each learning occurs as the child demonstrates competency to understand.

Historically, public school—elementary, junior high, and high school levels—have followed the knowledge-based philosophy. However, in the past two decades two educational movements—early childhood and middle school—have stressed the growth and development philosophy of continuity in learning. Primarily because of structure (early childhood at the beginning of a continuum), early childhood has been able to expound on the developmental philosophy and place it in practice. The middle school, however, has been restricted in the use of developmental philosophy because understanding by those in the field is
rudimentary, and because of pressure from the elementary and high school levels. Recent studies such as the Boyce Medical Study conducted in Upper St. Clair, Pennsylvania School District, may suggest ways to overcome the lack of knowledge of human development presently demonstrated in the field. With greater understanding of development, perhaps it is now time for early childhood and middle school programs to place pressure for change on the elementary and high schools. Since early childhood has been free to generate a developmental curriculum, the middle school may look to early childhood for some guidance in creating a suitable developmental model.

Popular Aspects of Early Childhood Programs/Using a Human Development Theory Base

There are a variety of early education programs that utilize a human development theory base. All of these programs rest on two foundational concepts:

1. Learning must be based on developmental abilities.

2. Learning occurs through action.

The first concept requires the educator to take a close look at the activities in which a child is expected to engage. If a child is to be taught to count, abstract numerals and rote recitation have little meaning for the concrete operational child or the child in transition. If a child is to learn about the characteristics of animals, a picture is of little value. If a child is to learn the transformation rules that govern grammar and usage, a branch chart carries only the meaning of lines and symbols. Abstract activities present valueless information to the young child. As a matter of fact, the overreliance on abstract materials in public schools may account for the common conceptual errors children make. For example, a child is shown several pictures of animals and is asked to sort them into groups. The pictures include: dog, goldfish, parrot, cat, whale, angelfish, sparrow, horse, duck, and catfish. Who can blame the child who creates the group to include: goldfish, angelfish, catfish, and whale? They all live in water, don’t they? But so does a duck; which is sorted with the bird group. The only mutually exclusive categories are mammal, fish, and bird. Yet, the child does not have the concrete experience to determine that a whale is a mammal and not a fish. In order for concrete operational children to learn successfully, they must be allowed to experience concrete information and must be allowed to participate in activities that have a concrete (as opposed to abstract) basis.

Also included in basing learning on development abilities is Hunt’s (1961) concept of the “intellectual match.” The concept is quite rudimentary, but is often ignored by the classroom teacher. If the activity is too easy, the child will not attempt it because of overpractice (boredom). If the activity has no grounding in past experience, the child will not have any notion of how to approach the task and will not make an attempt. The task must be based on past experience yet novel enough to challenge the child to develop new experiences. Thus, the child builds upon what he/she already knows.

The second concept of early programs based on developmental thought is that the child learns by doing. This means that the classroom environ-
ment, and the extra-classroom environment, must be designed to offer intellectually stimulating alternatives. Learning is an active rather than a passive endeavor. In order to be active, choices must be offered that invite action. In early childhood, this mandate is met by providing several centers that include manipulative materials (for example, sand and water tables, dress-up center, block centers, science centers which include a variety of materials).

Similar to the young child, the transescent learns by doing. While the rationale for active learning may differ between the young child and the transescent, the principle remains the same. The transescent is provided a motivating opportunity for learning by becoming personally involved in the learning process. In the middle school, the mandate for active learning is not met as easily as in the preschool. Children's interests vary greatly and may extend beyond the resources available in the school. While active learning is not easy to provide—nevertheless, the criteria of action must be met for effective learning to take place. For further discussion of this point, see Planning Guidelines for Middle School Education (Wiles, 1976).

Middle School Adaptation of Early Education Principles

While many of the learning concepts of early childhood education are already incorporated into the middle school curricular design, existing childhood programs suggest an instructional focus for programs at the intermediate level. The major contribution of early childhood programs for the middle school is the demonstration that learning environments can be constructed to facilitate continuous development in the learner.

Historically, the transition from the elementary years to the intermediate grades of school was achieved at the expense of the student. Abrupt changes in both learning methodology and style placed stressful conditions on learners and often interrupted otherwise steady intellectual development. The middle school, a reconstituted form of intermediate schooling, addressed this condition by supporting a continuous progress curriculum that allowed transition over a three- to four-year period. Unfortunately, the rhetoric of middle school literature in this respect has outstripped programmatic development of this concept.

At the heart of the problem is the lack of understanding among middle school educators that a greater emphasis on structured content does not necessarily mean a need for a greatly altered learning environment or a change in learning style over what was previously practiced. Until educators in the middle grades fully understand human development in the transescent period and believe that performance expectations at this level can be met by a format similar to that found in the early years, the promise of the middle school cannot be achieved. A formal high school-type learning environment will not accommodate a personal pattern of development.

Early childhood programs have demonstrated that a facilitating environment can be established and individual learning structures supported through a curricular design that addresses developmental abilities and the need for active learning. Utilizing these themes, the middle school can construct a curriculum that activates its avowed purposes as well as provides a more uniform educational continuum in school for learners.

Addressing the developmental abilities of students in the middle school may be a more complex operation than in the early years. Not only is there a wider scale of interest and capacity, but the dependence on school-related skills is greater. Nonetheless, it is clear that in order to deliver the educational program to the learner, regardless of his/her developmental abilities, there must be a wide choice of educational mediums, and the program must be personalized. Information must be presented in ways that have meaning to the learner, are stimulating, and have obvious application to the immediate environment. The needs and interests of the learner, such
as the needs for acceptance and outlets for egocentrism, must be considered. It is important to note that in a unit traditional learning skills such as notetaking, graphing, hypothesizing, spelling, and so forth may all be taught through the medium of participatory activity. So too, understanding of the self and interpersonal interactions may be facilitated by active learning. The interest of the student provides the motivational force for more traditional intellectual exercise. Learning ceases to be an artificial product, but rather becomes a process strongly related to the real world and the student’s self-concept.

"It is crucial that the educational planner note the rapidly changing interest patterns of the preadolescent, for such change demands an element of choice in most learning activities."

The second contribution of early childhood programs to the middle school is the emphasis on learning through action as a means of meeting the learning structure of the student. In the middle school, this condition can be promoted only if an intensive analysis of learner interests is conducted on a regular basis. It is crucial that the educational planner note the rapidly changing interest patterns of the preadolescent, for such change demands an element of choice in most learning activities. It is also important to note that in the middle school, learning through action is more an attempt to find relevant, involving strategies for a wide range of students than to continue the direct concrete experiences of the early childhood years. The middle school curriculum can teach through action activities with built-in choice by constructing thematic and open-ended learning units.

In summary, the early childhood programs suggest that the demand for structure in the intermediate grades does not necessarily call for a restricted learning design. The desired ends of educating in the middle grades can be met by a learning design that incorporates both planning for developmental abilities and the use of learning through action. In the middle school, a personal and interest-centered curriculum utilizing a wide choice of learning mediums and a thematic approach to content can accommodate individual learning structure. Early childhood programs can serve the middle school as curriculum development models.

Problems Associated with the Early Education Model

In trying to implement the early education model in the middle school, several problems may arise. Among these may be problems concerning:

- Record keeping
- Standardizing learnings
- Evaluating performance
- Providing enough appropriate learning environments.

The teacher is responsible for keeping track of a child’s actions in school. The early education model is not facilitative of the standard record keeping processes. It is often difficult to note the various activities of 25 active youngsters. This may be complicated by individual or small group field trips where children may have to leave the teacher’s visual range in order to obtain information that is necessary to the activity involved. Not only is record keeping difficult, but so is knowing exactly what the child has learned.

Using the early education model, it is practically impossible to state that John Doe and Jane Doe both arrive and depart middle school with similar knowledges. When activities are based on students’ interests, the school no longer has total control over what will be taught, when it will be taught, or how it will be taught. No one individual can state that John Doe learned his multiplication table (although he may be able to calculate the odds of drawing into an inside straight).

"Piggybacking" upon these difficulties is the problem of evaluating performance. The early education model rules out the use of letter grades to evaluate performance in particular content areas. What kind of evaluation can be applied to a child who gathers the necessary materials to produce a simulated production line in one area
of the classroom? Furthermore, it becomes impossible to compare children on performance in content areas. Is the child who is crosspollinating bean plants more or less proficient in science than the child who is recreating a model of the Wankel engine? Ultimately, it is up to the teacher to state simply what the child has done during an evaluation period. For an active child, however, this may be a bulky evaluation.

Finally, providing enough appropriate learning environments may be a substantial problem. What can be offered to the child who is interested in how computers function? How far from school may the child roam, and what form should responsibility and attendance take? Can a child be allowed to construct a hot air balloon under minimum supervision? How much in capital resources may be diverted from textbooks and used for other types of materials? Granted, the imaginative teacher can go far on a few dollars, but active children in the middle school can place quite a strain on the classroom teachers’ ingenuity.

Many problems exist in the early education model, but they are not insurmountable, and they may be countermanded by the benefits associated with the early education model.

**Benefits Associated with the Early Education Model**

Many benefits for the middle school may be associated with the early education program. These benefits are aligned with the benefits of “personalized” learning, and have been stated before (Kraft, 1975). Some benefits include:

- Meets the child’s individual learning needs — student centered
- Encourages independence
- Encourages creativity
- Stresses problem solving as opposed to rote learning.

These benefits are not new concepts to the modern educator and need no explanation. Suffice it to say that for the middle school these benefits may accrue by creating an environment that is continuous with early growth and development. Such an environment may be based on concepts...
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References


