

A Perspective on Early Childhood Stimulation

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APPOLLO 12 was racing toward the moon. In a nursery school on the planet earth sat three small boys in their playhouse corner. Eric and Jose, wearing paper space helmets, faced a miniature cook stove. Busily, they turned the control knobs while they chattered to one another. Bill, holding a teaspoon in front of his mouth, addressed his simulated microphone, "Calling Mission Control. Calling Mission Control. Apollo 12 reporting. All systems go. The moon is getting big. The earth looks little."

This vignette can bring a smile to those who work with young children. At the same time our thoughts sober when we contemplate their future lives. Already they are confronted with a world in which the fiction of "a man on the moon" has become a reality that henceforth will affect man's way of looking, of feeling, and of thinking about his universe.

What are we doing to prepare this generation to accommodate comfortably to a world whose most conspicuous characteristic is accelerated change? Are we preparing them to face the unknown with anticipation rather than fear; to develop flexibility rather than conformity; to have an open rather than a closed mind? In our anxiety for immediate answers, some of our problem-solving attempts seem as logical as reading tea leaves or gazing into a crystal ball.

If, instead of expediency, we would reflect attentively upon the growing body of knowledge stemming from the disciplines

which study human behavior, namely anthropology, sociology, and psychology, we should find a similarity of ideas leading, hopefully, to a congruent approach for developing human potentialities more fully. By synthesizing the interrelated knowledge, more appropriate inferences possibly can be made for the educational preparation of children who will live in tomorrow's world.

The confluence of interdisciplinary thought seems to be the concept of creating intelligence through environmental stimulation. Such a notion implies interactions between a human being and his environment. It implies the individual's exploring, sorting out, bringing together, and organizing the complexity of his universe. It implies his coming to "know" his world and his relationship to it in time and space. But most important, it has significant implications for developing the competencies that an individual will need to function successfully in tomorrow's world.

The seeds for developing the necessary competencies are germinated in the early years of children's cognitive, linguistic, and social lives. As greater understanding of these three interrelated, actually inseparable, aspects of childhood is gained, the possibilities increase for building educational programs to "create" intelligence.

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Cognitive Lives of Children

The studies of Piaget, Bloom, Hunt, Bruner, and others have modified our conceptions of children's cognitive lives. Piaget's monumental work described how the child's behavior evolves out of the active interplay between his genetic structure and his environment.

The young child, moving through progressive stages with characteristics unique to each stage, gradually learns that some things are stable and unchanging in his world of pervasive change. Within the first two years of his life, he learns that objects are constant; that he can find, say, a toy in the same place where he left it.

Further encounters with his environment bring the knowledge that:

- All things have names, including himself.
- Some things belong together and can be grouped in various ways. He can sort his blocks into red blocks and blue blocks, and, if he desires, group all the square blocks together even if some are blue.
- He can pour juice from his cup into several smaller cups, return the juice to its original cup, and still have the same amount of juice. In other words, he discovers that things may be put together, taken apart, rearranged, and put together again.

Despite the seeming simplicity of these accomplishments, approximately seven years of living have passed for such "knowing" to develop.

Tying the concept of intelligence to man's "knowing" his relationship to his world implies learning efficient ways of gathering, organizing, and retrieving knowledge about objects, activities, and people encountered in one's environment. The years spanning childhood are the years for generating mental efficiency. It is the time for learning thought processes, forming concepts, and building language power.

The earliest years find the child in action. He is seeking, feeling, tasting, smelling, and listening. The earliest years find his mind in action. Through his sensory en-

counters he is discriminating, recalling, comparing, grouping, planning, predicting, and judging. In short, he is learning to think, and language is the tool which determines his manner of thinking. How, then, does language function in the lives of young children?

Linguistic Lives of Children

It is self-evident that language is acquired through the ear. Consequently the quality and quantity of a child's language learning is dependent upon his linguistic encounters. His early language models become facilitators or inhibitors for developing his abilities to label, to guide and organize his thinking, and to express his ideas in elaborated syntactical forms. Contrast the following monologues of two four-year-olds at play:

"Here comes my radar boat. My radar boat is going to look for an airplane. Now my radar boat leaves the harbor. Here it goes. Now my radar boat is in the ocean."

"Whee! Ooooo! Zoom! Bang! Bang!"

In both instances the language is spontaneous and is tied to the child's actions, but the quality of oral expression is shockingly different. With the first child it is possible: (a) to imagine the actions accompanying his speech; (b) to infer from his language the range of mental activity in play; and (c) to gain some understanding of the child's notions of time and space.

The second episode vividly illustrates the relationship between a child's inability to express his ideas in language and the poor quality of his play. Too, it reinforces the well-documented notion that the tangled roots between concept formation and language development lie within the child's social environment.

Social Lives of Children

How the child thinks and feels is largely determined by the society in which he lives. The adults whom he encounters become increasingly important as the determinants of

his views of himself, of his relationship to others, and of his knowledge of reality. Discriminating the likenesses and differences of people, predicting the reliability of their behavior, and making judgments about human qualities evoke the same intellectual processes as do other cognitive experiences. In all instances the child is gathering feedback from his environment and processing it in terms of predictive cognitive and affective behaviors.

Organizing environments which foster the growth of intelligent, socialized, and socializing individuals becomes the prime responsibility of the adult. There are several important elements which should be found in all settings.

First, there should be a variety of experiences. By planning the variation the child is assured of a range of differences in the complexity, the novelty, and the content of his experiences. Hopefully, such an environment will make the appropriate demands upon his cognitive structure which requires him to make the accommodative modifications necessary for developing ever-higher levels of thought. A bland experiential diet composed of familiarity, unliveliness, monotony, and boredom may cause tentative schemata simply to disappear from lack of use. The results may be deficits in a child's experiential foundation which, research indicates, may be cumulative.

A second element necessary to learning environments is a high quality of verbal interactions between adults and children. Each encounter should harbor a design for evoking a range of mental behaviors. For example, the phrasing of questions determines the cognitive demands made upon children's responses. Notice how the following questions are framed to stimulate:

- *Recall:* Have you ever seen anything like this before?
- *Comparison:* Does our cake look the same as before we baked it?

- *Discrimination:* How is it different?
- *Prediction:* What do you suppose will happen if we add red to our blue paint?
- *Judgment:* Why do you think so?

Such questions are silhouetted against the backdrop of listening to children and then modifying our verbal behavior to extend and to clarify their responses. Listening to children, then, becomes a third necessary component for learning experiences.

The possibility of a fourth element is emerging from recent research. The evidence suggests that bilingualism may be an important factor in developing flexibility of cognitive organization.¹

A Program for "Creating" Intelligence

Within the interrelated cognitive, linguistic, and social lives of young children are found important ingredients for building congruent educational programs. Thus, a recipe for environmental stimulation is made up of opportunities: (a) to build strategies of interaction with people, materials, and activities; (b) to develop cognitive and affective competencies; (c) to become linguistically competent; and (d) to perceive the adult as a person who supports his learning efforts, clarifies his ideas, and extends his thought and language power.²

The consequences of this kind of environmental stimulation not only create intelligence but also enable children to accommodate to accelerated change and to assimilate the demands of tomorrow's world now. □

¹ Margaret E. Smart. "The Responses of Mexican-American Socio-Economic Groups to Selected Intellectual Tasks." Unpublished doctoral dissertation, University of Arizona, Tucson, 1969.

² Margaret E. Smart. "What Piaget Suggests to Classroom Teachers." *Childhood Education* 44 (5): 294-300; January 1968. Washington, D.C.: Association for Childhood Education International.



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