The Constructivist Heart of the ADAPT Program

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When I joined the faculty of the UNL Educational Psychology department in August 1977, I replaced Carol Tomlinson-Keasey, who had been among the founders of the ADAPT program. Although no one ever mistook me for Carol, we were in many ways quite similar. Both of us had interests at the intersection of developmental, cognitive, and educational psychology, both of us were Piagetian in our general theoretical perspective, and both of us had done research on the development of formal operational reasoning. It was thus natural that I replaced Carol not only within my department but as what Bob Fuller often called the "guru" of the ADAPT program.

Coming to UNL, I was delighted to find myself on a campus where faculty in a variety of departments and disciplines were knowledgeable about Piaget's theory of formal operations and devoted to fostering formal operational reasoning. I was even more surprised and delighted to find that the educational efforts of the ADAPT faculty were firmly rooted in the constructivist epistemology that lies at the heart of Piaget's theory. Let me explain why a constructivist approach to education is, in my view, the main legacy of the ADAPT program.

Do advanced forms of reasoning emerge from our genes or are they learned from our environments? This initially seems a reasonable question, but it turns out to be deeply misleading. The question is a special case of the nature vs. nurture question that has historically been central to the study of psychological development. Psychologists who stress genetic determination are known as nativists; those who stress learning from the environment are known as empiricists. With regard to advanced reasoning, a nativist

might construe formal operations as a structure of reasoning that is programmed to emerge in early adolescence in all normal human beings in all normal human environments. An empiricist, in contrast, might construe formal operations as a set of thinking skills to be taught and learned.

Contemporary psychologists recognize that both genes and environments play important roles in development and that the effects of each depend on the other. Thus it is misleading to set them against each other and force a theoretical choice between them. This suggests an <u>interactionist</u> view of the development of formal operations. It might be argued, for example, that formal operational reasoning is a set of thinking skills that must be learned from one's environment, as an empiricist would suggest, but that such learning can only take place after one has reached the necessary level in a genetically-directed process of maturation.

Although interactionism recognizes the importance of both genes and environment, Piaget believed that an interactionist view is not sufficient to explain development. What is missing, he argued, is the active role of the individual. New forms of reasoning, in his view, are <u>constructed</u> by the individual through processes of reflection and coordination. Constructivism does not deny that the human genome makes it possible for human beings to construct advanced forms of reasoning that cannot be constructed by members of other species. It insists, however, that advanced forms of reasoning are not programmed in the genes, waiting to emerge when the time is right. Similarly, constructivism does not deny that some environments encourage and support the construction of advanced forms of reasoning, whereas others do not, nor does it deny the critical role of social interaction in such construction. Constructivism insists, however, that advanced forms of reasoning are not simply internalized from our physical and social environments.

In the period since ADAPT was founded, psychological research has raised serious questions about Piaget's stages of cognitive development. With respect to the stage of formal operations (Inhelder & Piaget, 1958), it appears that the theory fails to address many important forms of advanced cognition, especially those that transcend formal logic (Moshman, 1998, 1999). During this same period, however, constructivist views have flourished both as explanations of psychological development and as approaches to education (Moshman, 1998, 1999; Phillips, 1997).

If the ADAPT faculty had taken a nativist perspective on formal operations, there probably would never have been an ADAPT program. They would simply have accepted that college students develop as their genes direct. If the ADAPT faculty had taken an empiricist perspective on formal operations, they might have devoted themselves to teaching the specific formal thinking skills that Piaget discussed. Appreciating the significance of Piaget's constructivist epistemology, however, the ADAPT faculty have formulated creative educational strategies that encourage students to construct new forms of reasoning, probably including forms of reasoning that go far beyond Piaget's conception of formal operations.

In its systematically constructivist approach, ADAPT highlighted what has turned out to be the most enduring aspect of Piaget's theory. In this respect it was a program ahead of its time. Over the course of ADAPT's history, and in part through the efforts of the ADAPT faculty, constructivism became part of the educational mainstream.

References

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