A Functional Model of Self-Determination: Describing Development and Implementing Instruction

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This article describes a functional model of self-determination as a dispositional characteristic of individuals. This model has been used to conduct research to examine the impact of self-determination on the lives of people with developmental and other disabilities, to describe the development of self-determination, and to design interventions to promote self-determination for people with and without disabilities.

In 1990, the U.S. Department of Education, Office of Special Education Programs (OSEP), funded six new projects to promote self-determination for youth with disabilities. These six projects were the first of more than 25 projects to be funded by OSEP (Ward & Kohler, 1996) and marked the beginning of an increasingly visible movement within special education to promote self-determination. The author directed one of these first six projects and in this article would like to revisit some of the questions that many of us posed to ourselves at that time and reconsider them with the benefit of almost a decade of research and model development in this area.

Historical Understandings of Self-Determination

The first question many of us had to ask ourselves was the simplest—What is self-determination? Before we could design intervention to promote self-determination, we needed to know what this term meant. The OSEP initiative introduced the construct to special education, but research and model development to promote self-determination for youth with disabilities was influenced by already existing understandings of the term. Prior to 1990, self-determination was a term used almost exclusively within the disciplines of philosophy, political science, and psychology. As a political construct, it refers to the right of nations or groups of people to self-governance and is roughly synonymous with independence and freedom. As a psychological construct, self-determination was first used within theories of personality and, later, within theories of motivation (see Wehmeyer, in press, for extended discussion). One of the focal points of research in psychology, has been inquiry into the "determinants" of human behavior, where a "determinant" is "an event or antecedent condition that in some way *causes* [italics added] an event" (Wolman, 1973, p. 97). "*Determinism* is the doctrine that all phenomena, including behavior, are effects of preceding causes" (Wolman, 1973, p. 97). The discussion concerning determinism has been one that has existed since the emergence of psychology as a discipline distinct from philosophy and, in fact, the construct of self-determination has a rich and complex history in the field of philosophy, from which psychologists drew. Determinants of human behavior (e.g., causes of human behavior) that have been described include physiologic processes (hunger, sexual drives), environmental influences, and organismic factors, including psychological, cognitive, and motivational variables.

Personality psychology, as a field, is concerned with the description and explanation of individual differences in behavior. The early debate within personality psychology was whether a person's behavior was "caused" exclusively by factors internal to (within) the person (autonomous or self-determination) or external to the person (heteronomous or other determination). Personality theorists debated the degree to which these internal (self-determined) versus external (other-determined) factors influenced how people behaved.

The study of motivation has focused similar attention on internal versus external factors influencing *why* people behave or act as they do. Theories of motivation attempt to explain what "moves" people to behave and mechanisms ranging from internal drives and traits to environmental regulators of behavior have been hypothesized. White (1959) introduced an influential theory of motivation, which suggested that there was an intrinsic energy source (effectance motivation) that motivates a variety of human behaviors. Subsequently, Deci and Ryan (1985) built on

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White's (1959) work to propose a theory of intrinsic motivation that hypothesized a central role for self-determination.

Briefly, Deci (1992) summarized the resulting self-determination theory as "distinguish[ing] between the motivational dynamics underlying activities that people do freely and those that they feel coerced or pressured to do. To be self-determining means to engage in an activity with a full sense of wanting, choosing, and personal endorsement. When self-determined, people are acting in accord with, or expressing, themselves" (Deci, 1992, p. 44). Within self-determination theory, Deci and Ryan (1985) define self-determination as

> the capacity to choose and to have those choices, rather than reinforcement contingencies, drives, or any other forces or pressures, to be the determinants of one's actions. But self-determination is *more than a capacity, it is also a need* [italics added]. We have posited a basic, innate propensity to be self-determining that leads organisms to engage in interesting behaviors. (p. 38)

Understanding Self-Determination as an Educational Construct

A person might legitimately question the value of surveying previous understandings of self-determination as a necessary prerequisite to exploring self-determination as an educational construct. In fact, there was a basic understanding of the term at the onset of the OSEP projects, which, one might argue, was sufficient to drive model development. Indeed, many models that emerged from those projects had no grounding in the earlier formulations of self-determination. In essence, however, the basic understanding of the term at that point was already an amalgamation of the "rights" emphasis from the political sense of the term and the "personal control" emphasis from personality and motivational psychology. The OSEP self-determination initiative itself was the outcome of a political event, the National Conference on Self-Determination, sponsored by the Office of Special Education and Rehabilitative Services to provide direction for the department. Recommendations from the conference, which included people with disabilities, family members, and policymakers, illustrate the influence of both understandings of the term. For example, the first recommendation was that "The enabling of people with disabilities to determine their own futures be seen as the top priority in all government policymaking functions" (Perske, 1989, p. 4). The determination of one's own future is a use of the term clearly evocative of a political right to self-governance. However, recommendation 15 is that "persons with disabilities be provided formal courses in self-assertion" (Perske, 1989, p. 5), which focuses on individual differences in behavior (e.g., relative assertiveness.)

The quandary for those of us working on the self-determination projects was to answer the questions, What is educational about self-determination? And What is the educator's role in promoting self-determination? Although many of us held an advocacy stance that supported the rights of people with disabilities to determine their own future, our task was clearly related to focusing on something other than legislative and political advocacy to change public policy. The Request for Proposal (*Federal Register*, 1989) soliciting submissions for the demonstration projects, proposed to "support model projects that identify the skills and characteristics necessary for self-determination, as well as the in-school and out of school experiences that lead to the development of self-determination" (p. 38166) and defined self-determination as "the attitudes and abilities that lead individuals to define goals for themselves and to take the initiative in achieving these goals" (p. 38166; also Ward, 1989). Our marching orders, in essence, were to identify the skills, abilities, attitudes, and beliefs that lead to personal self-determination and to design instruction to promote that outcome.

It is to that end that I would propose that an understanding of previous psychological constructions of self-determination has merit, because it was primarily through the lenses of theories in personality and motivational psychology that this personal control over one's life had been understood. Theories of personal self-determination are, in essence, theories of how or why people become self-governing and exert control over their lives. In addition to Deci's (1975, 1992) work on self-determination in intrinsic motivation, there has been considerable research on components that contribute to personal self-determination, including human control and causality, self-efficacy and outcome expectations, self-regulation, achievement, effectance and mastery motivation, interpersonal cognitive problem solving, goal setting and attainment, and so forth. In other words, there were existing explanations of human behavior related to our marching orders that could drive the development of instructional activities.

A Functional Model of Self-Determination

Even the most applied of activities, including designing instruction, is driven by the biases and beliefs of the designer. How one designs instruction is a direct reflection of how one believes that children learn and develop. One of the biases of this author is that instruction and curriculum is too often developed without an adequate foundation in and understanding of how children learn, grow, and develop. In answering the question, What is the role of education in promoting self-determination?, we must begin by understanding the purpose of education and the role of educators. One of the primary functions of education and educators is to instruct

students. Bruner (1966) defined instruction as [simply] "an effort to assist or to shape growth" and theories of instruction as theories of "how growth and development are assisted by diverse means" (p.1). Within this context, the simple answer to our question about the role of education in promoting self-determination is that our role is to assist the growth and development of self-determination. To achieve this, we need (a) an understanding of theories of instruction and models of teaching that can drive our design of instructional techniques and educational supports, and (b) an understanding of self-determination and its development and growth. I would suggest that in too many circumstances, we have begun curriculum and instruction design with an adequate understanding of the first (instructional techniques) but an insufficient understanding of self-determination and its development and growth.

During the last 9 years, we have attempted to conceptualize self-determination in such a manner as to provide a theoretical foundation for designing instruction to promote self-determination. This began with defining and conceptualizing the construct and, subsequently, developing a model of the development and emergence of self-determination. That work has expanded and changed based on our research and understanding of the construct through the years (Wehmeyer, 1992, 1996a, 1997, 1998; Wehmeyer, Kelchner, & Richards, 1996). This article presents what we have come to call our functional model of self-determination, which is graphically depicted in Figure 1. It is our contention that this model provides one answer to our earlier question, What is self-determination?, and given that the answer to What is the role of education (and educators) in promoting self-determination? Is answered by Bruner's contention that instruction means to assist in development and growth, provides direction for answering the next question, How can we, as educators, promote growth and development in self-determination?

What is Self-Determination?

Self-determination has been defined in a number of ways in the disability literature, particularly (a) as a basic human right, (b) as a specific response class, and (c) as based on functional properties of the response class. As previously suggested, promoting self-determination as a basic right largely falls out of the realm of instructional activities to promote its growth and development. Defining a construct as a specific response class means to define it by a set of behaviors. Many instructional activities define self-determination based on a description of how "self-determined" people act, and this may or may not be sufficient depending on the scope and intent of the activity. That is, defining self-determination as making decisions and choices may be an adequate foundation if the instructional materials are designed only to teach decision-making and choice making. However, when a person considers definitions based on a response class, the difficulty of this approach to defining self-determination becomes readily apparent. It is well and good to say that people who are self-determined set goals for themselves, make decisions for themselves, speak up for their rights, and so forth, because a great many times that is an apt description of the behavior of someone who is self-determined. However, if self-determination means assuming control over one's life and destiny, then the inadequacy of listing a specific set of behaviors becomes apparent, as virtually any behavior could be an attempt to exert control. The by now well-recognized fact that some challenging behaviors exhibited by people with significant disabilities have a communicative intent illustrates at least one example where behaviors not typically listed in skills-based definitions are, seemingly, attempts to take greater control over one's life. One disabled activist describes the sense of control she felt when, after years of living in an institution for people with mental retardation, she moved out on her own and was able to do her own grocery shopping. For her, this was clearly an expression of self-determination, one that does not make many definitions. Thus, a definition of self-determination based on a response-class (e.g., a set of behaviors) approach would, by necessity, need to expand to virtually any behavior.

A second problem with defining self-determination as a response class (e.g., by describing what self-determined people do) is that one soon recognizes that such a listing of behaviors must include both the occurrence and nonoccurrence of a given behavior or action. For example, some people with mental retardation have had to overcome significant barriers (family, service delivery systems, legal) to get married. Their marital status reflects their relative self-determination. However, it is also evident that there are many, many people, both with and without disabilities, whose active choice it is to remain single and unmarried. Both being married and unmarried become self-determined actions. Likewise, there are times when speaking up and being assertive are the best course of action if one is acting in a way that best achieves one's goals and objectives, whereas there are other times when it is best to be quiet and acquiescent. Thus, even something as seemingly fundamental as "being assertive" cannot really capture the sense of taking control over one's life inherent in the term self-determination.

Two other issues are problematic when defining self-determination as a response class. First, such activities are tautological, we know someone is self-determined because he or she does the things by which we define the construct (e.g., sets goals, makes decisions). Second, defining self-determination as a response class ignores cross-cultural differences in what is or is not socially valued and acceptable. Although being assertive may be a way to exert control in one culture, in another culture it might

just be disrespectful and inappropriate.

The alternative to defining self-determination as a response class is to define it based on the function of the specific response class, that is, based on the function (purpose) of the behavior. People are self-determined based not on *what* they do (e.g., get married, stay singe) but based on the purpose or function of their action (e.g., to take control over their lives, live the way they want).

Accordingly, Wehmeyer (1996, 1998, in press) defined self-determination as "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference" (Wehmeyer, 1996a, p. 24). Self-determined behavior refers to actions that are identified by four essential characteristics: (a) the person acted autonomously, (b) the behavior(s) are self-regulated, (c) the person initiated and responded to the event(s) in a psychologically empowered manner, and (d) the person acted in a self-realizing manner. These four essential characteristics describe the function of the behavior that makes it either self-determined or not. People who consistently engage in self-determined behaviors can be described as self-determined, where "self-determined" refers to a dispositional characteristic. Dispositional characteristics involve the organization of cognitive, psychological, and physiologic elements in such a manner that an individual's behavior in different situations will be similar (though not identical). Eder (1990) described dispositional states as frequent, enduring tendencies used to characterize people and to describe important differences among people. As such, people can be described as self-determined based on the functional characteristics of their actions or behaviors.

The concept of causal agency is central to our theoretical perspective. Broadly defined, causal agency implies that the individual makes or causes things to happen in his or her life. An agent is a person or thing through which power is exerted or an end is achieved. Causal agency, as opposed to implying strictly that the individual caused something to happen, implies that something was purposeful or performed to achieve an end. Bandura (1997) addressed these issues when describing the nature of human agency:

> People can exercise influence over what they do. Most human behavior, of course, is determined by many interacting factors, and so people are contributors to, rather than the sole determiners of, what happens to them. In evaluating the role of intentionality in human agency, one must distinguish between the personal production of action for an intended outcome, and the effects that carrying out that course of action actually produce. Agency refers to acts done intentionally. (p. 3)

A *causal agent* then, is someone who makes or causes things to happen in his or her life. Self-determined people act as the causal agent in their lives. They act with intent to shape their futures and their destiny.

We have opted to frame causal agency within the concept of quality of life. Quality of life is a complex construct that has gained increasing importance as a principle in human services. Schalock (1996) suggested that quality of life is best viewed as an organizing concept to guide policy and practice to improve the life conditions of all people and proposed that quality of life is composed of a number of core principles and dimensions. The eight core principles forwarded by Schalock emphasize that quality of life is composed of the same factors and is important for all people (independent of disability status), is experienced when a person's basic needs are met, and is enhanced by integration and by enabling individuals to participate in decisions that have an impact on their lives. The core dimensions of quality of life include (a) emotional well-being, (b) interpersonal relations, (c) material well-being, (d) personal development, (e) physical well-being, (f) self-determination, (g) social inclusion, and (h) rights.

Third, we have suggested that self-determination means acting as a causal agent without undue interference and influence. As Angyal (1941) noted, humans are not completely autonomous or independent but are interdependent; our lives intermingle with the lives of many others, seen and unseen. For all people, choices are frequently constrained and rarely represent optimal options. We are dependent on numerous other people in our decisions, from close relatives and spouses to medical professionals or financial advisors. Our plans are interfered with by the plans or actions of others, sometimes to our benefit! In short, self-determination does not reflect an absence of influence or even interference. Instead, it reflects choices and decisions made without undue interference or influence. The term *undue* remains intentionally subjective and contextual, as what may be perceived by one individual to be an acceptable level of influence may appear to another as an unacceptable level of interference. This varies both among individuals and within cultures.

Self-determination emerges across the life span as children and adolescents learn skills and develop attitudes that enable them to become causal agents in their own lives. These attitudes and abilities are the component elements of self-determination, and it is this level of our theoretical framework that drives instructional activities. Before discussing each of these component elements, it is important to consider the essential characteristics that functionally define self-determined behavior.

Essential Characteristics of Self-Determined Behavior

People who are self-determined act autonomously, self-regulate their behavior, and are psychologically empowered and self-realizing. The term *essential characteristic* implies that an individual's actions must

reflect, to some degree, each of these four functional characteristics. Age, opportunity, capacity, and circumstances may have an impact on the degree to which any of the essential characteristics are present and, as such, the relative self-determination expressed by an individual will likely vary, sometimes over time and other times across environments. Nonetheless, these essential elements need to be present—each characteristic is a necessary but not sufficient characteristic of self-determined behavior.

Behavioral Autonomy. The link between self-determination and autonomy spans back to the earliest use of the term in personality psychology. Our use of the term, and its subsequent use within the theoretical framework, draws from two primary sources: autonomy as synonymous with individuation, drawn from the developmental psychology literature, and functional or behavioral autonomy as roughly synonymous with independence, drawn primarily from intervention-focused literature. Developmental psychologists view the process of individuation, or the formation of the person's individual identity (Damon, 1983), as a critical component of social and personality development. Much of the literature in child development describes this process of individuation and the relationship between individuation and socialization. More concretely, Sigafoos, Feinstein, Damond, and Reiss (1988) defined individuation as "a progression from dependence on others for care and guidance to self-care and self-direction" (p. 432), the outcome of which is autonomous functioning or, when describing the actions of individuals achieving this outcome, behavioral autonomy. Behavioral autonomy, therefore, is the outcome of the process of individuation and encompasses, fundamentally, actions in which people act (a) according to their own preferences, interests, and/or abilities; and (b) independently, free from undue external influence or interference.

Sigafoos and colleagues (1988) identified four behavioral categories contributing to autonomous functioning that provide a bridge between theory and practice and make translating self-determination theory into practice easier – self- and family-care activities, management activities, recreational/leisure activities, and social/vocational activities. Self- and family-care activities include routine personal care and family-oriented functions such as meal preparation, care of possessions, performing household chores, shopping, home repairs, and other activities of daily living. Management activities refer to the degree to which a person independently handles interactions with the environment. These activities involve the use of community resources and the fulfillment of personal obligations and responsibilities. Recreational activities reflecting behavioral autonomy are not specific actions but the degree to which an individual uses personal preferences and interests to choose to engage in such activities. Likewise, social and vocational activities include social involvement, vocational activities, and the degree to which personal preference and interests are applied in these areas.

Autonomous (and self-determined) behavior should not be confused with self-centered or selfish behavior. Although humans often act according to personal interests, there are occasions when a person must act in ways that do not reflect specific interests. As such, one's preference may be to act in a manner that does not directly reflect a specific interest if that is prudent or useful. Likewise, as has been discussed previously, most people cannot be viewed as strictly independent, acting alone with no external influences.

Self-Regulated Behavior. Self-regulation is critical to self-governance, and people who are self-determined self-regulate their behaviors. Whitman (1990) defined self-regulation as "a complex response system that enables individuals to examine their environments and their repertoires of responses for coping with those environments to make decisions about how to act, to act, to evaluate the desirability of the outcomes of the action, and to revise their plans as necessary" (p. 373). Self-regulated behaviors include the use of self-management strategies (including self-monitoring, self-instruction, self-evaluation, and self-reinforcement), goal-setting and attainment behaviors, problem-solving and decision-making behaviors, and observational learning strategies (Agran, 1997).

Psychological Empowerment. Although self-determination is presented in this theoretical framework as a dispositional characteristic, where functional characteristics of a person's *actions* define their relative self-determination, this does not minimize the contribution of individual cognitions and perceptions to the performance of such behaviors. Just as there are people who do not act in a self-determined manner because they lack certain skills, so too are there people who possess such skills and the opportunity to use them who still do not act in a self-determined manner, usually because they have come to believe they cannot adequately perform the behavior or because they believe that doing so would be fruitless. The inclusion of psychological empowerment and self-realization as essential elements for self-determined behavior illustrates the importance of both cognitive and behavioral contributions to this theoretical framework. As Bandura (1977) noted, a "theory of human behavior cannot afford to neglect symbolic activities" (p. 13). Similarly, Agran (1997) noted the importance of cognitive behaviors in achieving self-regulation, including the use of metacognitive, self-instruction, self-reinforcement, and observational learning strategies.

Psychological empowerment is a term emanating from the community psychology literature and referring to the multiple dimensions of perceived

control, including its cognitive (personal efficacy), personality (locus of control), and motivational domains (Zimmerman, 1990). Community psychology involves theory, research, and practice relevant to the reciprocal relationships between individuals and the social system that constitutes the community context. Zimmerman (1990) proposed a model in which positive perceptions of control (psychological empowerment) are an outcome of "learned hopefulness." He defined learned hopefulness as the "process of learning and utilizing problem-solving skills and the achievement of perceived or actual control" (Zimmerman, 1990, p. 72). Zimmerman's (1990) model of learned hopefulness "suggests that experiences that provide opportunities to enhance perceived control will help individuals cope with stress and solve problems in their lives" (pp. 72-73). Zimmerman and Rappaport (1988) forwarded the construct of psychological empowerment to account for the multidimensional nature of perceived control, which, according to these authors, had been previously treated as if it were a univariate construct. Zimmerman (1990) found that the three elements of perceived control (e.g., cognitive [self-efficacy], personality [locus of control] and motivation [motivation to control]) formed a single discriminant function that distinguished between individuals who scored low or high on a measure of hopelessness or alienation, including indicators of powerlessness and social isolation. Thus, according to Zimmerman (1990), through the process of learning and using problem-solving skills and achieving perceived or actual control in one's life (e.g., learned hopefulness), individuals develop a perception of psychological empowerment, which, in turn, enables them to achieve desired outcomes such as social inclusion and involvement in the community.

Self-Realization. The term *self-realization* was originally used by Gestalt psychologists to refer to the intrinsic purpose in the life of the person but also has more global meaning related to the "tendency to shape one's life course into a meaningful whole" (Angyal, 1941, p. 355). Although not still frequently used in the psychology literature, the term captures some nuances or essence of self-determination missed by other conceptualizations. Basically, this essence is that self-determined people know what they do well and act accordingly. The two most frequently mentioned alternatives to self-realization are *self-actualization* and *self-awareness*, but both have limited utility. Self-actualization, as conceptualized by Maslow (1943), adequately captures the essence of a self-determined person's actions as capitalizing his or her best assets and becoming all that one is capable of becoming. However, in addition to problems with Maslow's definition and theoretical underpinnings of self-actualization (see, for example, Heylighen, 1992), Maslow conceptualized self-actualization as being reached only when all other needs are fulfilled and, in fact, attained by a small proportion of people. Conceptualizing self-determination within the construct of self-actualization implies that only a select number of individuals become self-determined, and people with disabilities are, almost certainly, not among that select group.

Alternatively, the construct of self-awareness fails to capture the sense that self-determined people act on their knowledge about themselves to capitalize on their strengths. As such, people who are self-determined are self-realizing in that they use a comprehensive and reasonably accurate knowledge of themselves and their strengths and limitations to act in such a manner as to capitalize on this knowledge. This self-knowledge and self-understanding forms through experience with and interpretation of one's environment and is influenced by evaluations of significant others, reinforcement, and attributions of one's own behavior.

Research Using the Functional Model

Although a complete description of our research efforts resulting from the development of this model is beyond the scope of this article, these research efforts have had three primary areas of emphasis: (a) to describe the degree to which people with mental retardation and other developmental disabilities are self-determined, (b) to empirically validate the conceptual model we have proposed, and (c) to examine the importance of intervention in promoting self-determination. This research has provided evidence that adults with mental retardation and developmental disabilities are less self-determined than their peers without disabilities (Wehmeyer & Kelchner, 1994, 1995; Wehmeyer, Kelchner, & Richards, 1995; Wehmeyer & Metzler, 1995; Wehmeyer & Palmer, 1997). As suggested in Figure 1, the emergence of self-determination is based on the enhancement of individual capacity as well as environments and supports that emphasize choice and autonomy. Although the implementation of instruction to support capacity development is important, particularly within the educational arena, such efforts must occur in concert with efforts to provide opportunities to experience control and make decisions and choices. Our research has shown that environmental factors do, in fact, limit self-determination (Stancliffe & Wehmeyer, 1995; Wehmeyer & Bolding, in press; Wehmeyer et al., 1995). We have also shown that perceptions held by students with disabilities, including perceptions of and beliefs about their classroom teacher and classroom environment, contribute to enhanced or diminished self-determination (Wehmeyer, 1994; Wehmeyer & Kelchner, 1996; Wehmeyer & Palmer, 1997).

Knowing that students and adults with developmental and cognitive disabilities have limited self-determination and restricted opportunities to experience choice and control in their lives is important

in that it provides a baseline for action. It is hoped that policymakers, funders, curriculum developers, and others will see the urgency and importance of addressing this issue. However, it is one thing to spur action, another to provide something upon which to act. As such, the second prong of our research was to validate the functional model so that we might use that as a foundation for designing interventions. Wehmeyer et al. (1996) conducted a series of structured interviews with individuals with mental retardation to examine the contribution of essential characteristics of self-determined behavior to the achievement of behavioral outcomes closely associated with self-determination. These interviews were conducted with more than 400 adults with intellectual and developmental disabilities using self-report measures of self-determined behavior (Wehmeyer et al., 1995) and measures of each of the essential characteristics (Wehmeyer et al., 1996). Upon completion of data collection activities, the sample was divided into two groups, people who scored high on the indicator of self-determination and people who scored low. These groups were then compared based on their self-determination scores on measures of each essential characteristic using multiple discriminant function analysis. Scores from measures of each of the four essential characteristics differed significantly based on relative self-determination grouping. In each case, individuals who were in the high self-determination group held more positive beliefs or exhibited more adaptive behaviors. In essence, the study indicated that each of the four essential characteristics were predictive of self-determination status. Measures of behavioral autonomy and self-regulation were particularly potent predictors of self-determination status.

Wehmeyer and Schwartz (1998) examined the link between self-determination and quality of life for adults with mental retardation. This research showed that self-determination status predicted membership in the higher quality life group, validating the model's alignment of self-determination and quality of life. In addition to predicting higher quality of life, our research has linked self-determination with numerous positive outcomes, providing support for increased attention to promoting self-determination for youth with disabilities. Wehmeyer and Schwartz (1997) measured the self-determination of youth with learning disabilities or mental retardation prior to their graduation from high school, and their levels of self-determination at that time predicted higher levels of independence, higher employment rates, and increased earnings 1 year out of high school. We have also linked self-determination issues with more effective career decision making for youth with cognitive disabilities (Wehmeyer, 1993).

Describing Development and Implementing Instruction

As important as these activities are, developing and validating a model of self-determination and conducting research in the relative self-determination of individuals with cognitive and developmental disabilities and its importance to positive outcomes is, in some sense, only the precursor to the work we set out to accomplish – that is, to describe the development of self-determination and to design and implement instructional activities that promote this outcome. As mentioned previously, we have identified a set of component elements of self-determination. The essential characteristics that define self-determined behavior emerge through the development and acquisition of these multiple, interrelated component elements. Table 1 lists these elements. Although not intended as an exhaustive list, these component elements are particularly important to the emergence of self-determined behavior.

A complete discussion of each component element is not feasible within the context of this article (see Agran, 1997; Wehmeyer, 1997; or Wehmeyer, Agran, & Hughes, 1998, for such a description). However, describing the component elements is important for two reasons. First, it is at this level that instruction occurs. That is, there are instructional

TABLE 1
Component Elements of
Self-Determined Behavior

Choice-making skills
Decision-making skills
Problem-solving skills
Goal-setting and attainment skills
Self-observation, self-evaluation and self-reinforcement skills
Self-instruction skills
Self-advocacy and leadership skills
Internal locus of control
Positive attributions of efficacy and outcome expectancy
Self-awareness
Self-knowledge

strategies, methods, materials, and supports that enable educators to "teach" self-determination by enhancing student capacity in each of these areas. Wehmeyer et al. (1998) identified literally hundreds of instructional strategies and supports to promote these component elements.

Second, each component element has a unique developmental course or is acquired through specific learning experiences, and it is by describing the development of each of these component elements that we can describe the development of self-determination (Doll, Sands, Wehmeyer, & Palmer, 1996; Wehmeyer, Sands, Doll, & Palmer, 1997). The development and acquisition of these component elements is life long and begins when children are very young. Some elements have greater applicability for secondary education and transition, whereas others focus more

on the elementary years. As such, promoting self-determination as an educational outcome will require not only a purposeful instructional program, but also one that coordinates learning experiences across the span of a student's educational experience.

Identifying the component elements and describing the development of these elements has enabled us to design instructional efforts to promote self-determination. We developed a student self-report measure of self-determination (Wehmeyer, 1996b) using the essential characteristics as domain areas, which enables students to self-assess instructional needs in self-determination and provides a vehicle for student-teacher discussions about self-determination. We have identified instructional strategies that teachers can use to teach the component elements (Agran & Wehmeyer, in press; Wehmeyer et al., 1998), evaluated the efficacy of a career-education approach to promoting self-determination (Wehmeyer, 1995), and developed materials to enable students to self-direct learning related to their transition planning process (Wehmeyer & Lawrence, 1995). We have also developed a model of teaching called the Self-Determined Learning Model of Instruction, which enables educators to teach students with (and without) disabilities to become causal agents in their own lives (Mithaug, Wehmeyer, Agran, Martin, & Palmer, 1998; Wehmeyer, Agran, Palmer, & Mithaug, 1998).

Promoting Self-Determination for All Children, Youth, and Adults

Although our research and model development activities have focused on students with cognitive and development disabilities, we have purposefully developed the model in such a way as to be applicable for all persons both with or without disabilities. Although some of our instructional design activities have students with disabilities as the primary audience, such as the materials promoting student involvement in transition planning (Wehmeyer & Lawrence, 1995), others have all students in mind (Mithaug et al., 1998). Our functional model is drawn from research in general psychology and education, and our strong belief is that self-determination is a construct pertinent to all students, not just students with disabilities, and important for all people, not just people with disabilities. There is a need for instructional strategies that focus specifically on at-risk populations, including students with autism or cognitive disabilities or youth from urban inner-city environments. For these students, self-determination issues may be more salient than for other children and youth because of the limited opportunities they have had to take control over their lives, their need for intense instruction in certain areas (problem solving, decision making), or the pressures of their environments (gang activities, drugs). However, we suggest that all students need enhanced opportunities to learn and practice skills and develop attitudes and beliefs that would enable them to become more self-determined.

The process depicted in Figure 1 is one that can drive such instruction for all students. Within such a process, the role of educators is to provide instruction and opportunities that lead to enhanced capacity, to examine the impact of environments on the opportunities to experience control and choice, and to design and implement supports and accommodations that enable students to overcome barriers introduced by disability or environmental circumstances. We suggest that by focusing these activities on the component elements of self-determination, listed in Table 1, educators can provide appropriate instruction and adequate opportunities and implement effective supports (including assistive technology devices) that enable students to become more self-determined and, consequently, experience a higher quality of life. The description of the development of self-determination (Doll et al., 1996; Wehmeyer, Sands, Doll, & Palmer, 1997) can provide a focus for instruction across all ages, from early childhood through adolescence.

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FIGURE 1. A functional model of self-determination.