DOCUMENT RESUME

ED 392 554 PS 024 062

AUTHOR Hawkes, Brent B.
TITLE Locus of Control in Early Childhood Education: Where Did We Come From? Where Are We Now"? Where Might We Go from Here?
PUB DATE Nov 95
NOTE 23p.; Paper presented at the Annual Conference of the Mid-South Educational Research Association (Biloxi, MS, November 8-10, 1995).
PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Attribution Theory; Cognitive Development; *Early Childhood Education; Evaluation; Individual Power; *Locus of Control; Modeling (Psychology); *Motivation; Responsibility; Self Concept; Self Esteem; Young Children

ABSTRACT

This document is a literature review discussing research on locus of control, particularly as it relates to early childhood education. Some measures of children's sense of locus of control are discussed, including the Optimism-Pessimism Test Instrument and the Stanford Preschool Internal-External Scale. A discussion of how an educator's sense of control affects his or her teaching abilities and interactions with children is included. Factors which inhibit the assessment of children's sense of locus of control are detailed, including: (1) lack of development of children's vocabulary and communication skills; (2) children's tendency to select the last possible answer offered in a structured interview situation; (3) children's tendency to respond "yes" to yes or no questions; and (4) the prevalence of a research bias which assumes that elementary school children do not have well-developed self-awareness. The review concludes by noting that locus of control appears to be an important element of children's experiences and potential success in school. As such, despite the difficulties of assessment, the concept should be more closely studied. Contains 57 references. (JW)

Locus of Control in Early Childhood Education:

Where Did We Come From?

Where Are We Now?

Where Might We Go From Here?

Brent B Hawkes

Presented at the Annual Conference of the Mid-South Educational Research Association

Biloxi, Mississippi

November 8-10, 1995

LOCUS OF CONTROL IN EARLY CHILDHOOD EDUCATON

ABSTRACT

The purpose of the study is to review literature describing the Locus of Control construct in general, and as specifically related to Early Childhood Education. Early antecedents of the Locus of Control construct are identified, and early efforts in the development of effective assessment instruments are reviewed.

Early efforts in development of assessment in young children are reviewed. Common barriers to effective assessment of young children are identified and described. Increased understanding of development and learning in early childhood provides new opportunities to develop ways to assess young children. Further efforts to assess Locus of Control in young children are identified and described.

Continued research in early childhood development has provided new insights into children's abilities to assimilate information and to the methods that are most effective in assessing young children. Recommendations for future research in the Locus of Control construct are included.

Implications for future implementation include recommendations that the Locus of Control construct be considered early in the child's educational experience, and efforts made to enhance internal locus of control in the educational process.

One of the most important of the desired outcomes of education, aside from the historically recognized curricular areas of reading, writing and arithmetic, is the ability of the individual to work and succeed independently. That is, we desire that students develop the skills to learn and work without being continually prodded, guided or led by adults. Society has determined that the ability to initiate and complete tasks independent of external rewards and reminders is a desirable trait, and one that should be promoted in the education of young children. Indeed, one need only look around to note plentiful evidence of the high status this personality trait has achieved. Individuals who succeed and are admired by others invariably demonstrate a high level of "internal drive" that impels them to hard work and high achievement. Even in early childhood, as youngsters acquire new motor skills, they readily develop and display an "I can do it by myself" attitude, that is praised and encouraged by all adults. Such an attitude is encouraged in the classroom beginning in kindergarten and continues throughout advanced studies in universities.

It is generally accepted that a major goal of education is the development of independent work and study skills on the part of the student. We want students to acquire skills that will enable them to work without constant supervision and/or guidance; to be actively seeking solutions and knowledge independently. In order to achieve this goal, it is necessary that students have an accurate perception of their abilities, a correct view of the self. They need to obtain and maintain positive beliefs in themselves (Purkey, 1970). Indeed, "...the development of a positive self-concept [may be] the most important developmental task of childhood" (Ingersoll, 1982, p.110).

Research studies have identified some factors that contribute to the enhancement of positive self-views among students, including the creation and maintenance of a positive social-emotional climate of the classroom (Withall,1949), the attitudes of teachers toward students (Brophy & Good, 1970; Rosenthal & Jacobson, 1968), the style of classroom management and discipline (Brandt, 1982), the

assumption of responsibility for student success and or failure (Brophy & Good, Cited in Wittrock, 1986), and the influence of "significant others"(including teachers) on students' self-esteem (Coopersmith, 1967; Purkey, 1970, 1978; Yamamoto, 1972; Peer, 1982).

One dimension of self-concept that will contribute greatly to the positive development of students while concurrently enabling them to learn and achieve academically is the belief that they can contribute much toward their own successes or failures. Education seeks to instill in students the belief that their own efforts, as contrasted with the efforts of other individuals, or with environmental forces, or just luck or chance, are major determinants in their academic achievements. In other words, educators want students to develop an orientation toward internal Locus of Control (Rotter, 1966)

This construct, as defined by Rotter (1966), is one in which an individual perceives that rewards are contingent upon one's own behavior versus controlling forces outside oneself.

> "When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in *external control*. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in *internal control*" (p.1).

When this definition of locus of control is related to the need for students to learn to work and think independently, it should not be too difficult to recognize that what educators want students to develop in the educational process, along with

the acquisition of knowledge and skills, is an **internal** locus of control. Students who believe in themselves and their ability to control their lives and experiences are generally students who achieve in scholastic endeavors (Coopersmith, 1967; Purkey, 1970; Yamamoto, 1972).

Coopersmith (1967) suggests that high self-esteem is positively correlated with a higher demonstration of the affective aspects of the personality. It may be necessary to look more closely at the affective domain of the individual as a means of enhancing self-concept. Perhaps school systems should allow more opportunities for expression and discovery that are an inate part of the affective experiences of individuals. We need to promote positive feelings of self in students and teachers before we can hope to impart the knowledge and skills that are generally accepted as parts of sound education. A student or a teacher who is preoccupied with feelings of low or negative self-worth will have difficulty concentrating on the cognitive skills that are emphasized repeatedly throughout the educational world. In short, an educational system that does not emphasize enhancement of self-perceptions in positive ways is incomplete (Beane & Lipka, 1984).

As infants, we live in a world in which we make our needs known primarily through expressions of emotion, since we are not in possession of language and other cognitive abilities. The emotional needs of each individual must be satisfied to some degree before he is able to devote attention to other areas of learning. This seems to agree with Maslow's (1970) hierarchy of needs in which he places the physical and emotional comforts at a lower level of the hierarchy, thus making them predecessors of the intellectual or cognitive dimensions of personal development. Emotional behavior develops prior to and is more fundamental to each individual than intellectual development. Often, a child is rushed through periods where emotions and attitudes should be allowed expression and development because parents, teachers and other adults are anxious to encourage and foster the intellectual skills that will enable the

individual to achieve socially higher levels of success and prestige (Elkind, 1981). In doing so, educators and parents may be denying development that is crucial to positive self-esteem and, thus, success at later periods of life.

One dimension of self-perception that seems particularly valuable in the development of positive self-esteem is the ability to assume responsibility for one's own behaviors. Students are encouraged to accept responsibility for personal successes and/or failures. Guskey (1981) suggests that a teacher's belief in self-responsibility for students academic successes and failures may be an important factor in student learning. The teacher's beliefs in himself/herself are an influential part of the learning provided to students in the schools.

Educators seek to develop a sense of self-motivation in their students. DeCharms (1968) described another view of the desire for individuals to assume control over their successes and failures in terms of personal causation. Development of motivation must help a person to be effective in reaching his desired ends, rather than only feeling that he can do so.

Personal causation, as defined by deCharms (1968) is "the initiation by an individual of behavior intended to produce a change in his environment" (p.6). When a person initiates intentional behavior, he views himself as having originated the behavior and the intention from within himself. He becomes the locus of causality of the behavior; in other words, he is intrinsically motivated. He is referred to as the *Origin*.

In contrast, a *Pawn* is described as a person who is impelled toward a behavior by some outside source. He views himself as an instrument of this external source, or external locus of causality; he is extrinsically motivated.

It should not require too large a stretch of thinking to perceive the relationship between the Internal-External Locus of Control dimension described by Rotter, and the Origin-Pawn aspects of the theory of personal causation proposed by deCharms.

As with other skills, those involved in self-direction require nurturing by responsible educators (Beane & Lipka, 1984). It is essential that an environment that provides encouragement and relative freedom from risk and fear be a part of the educational milieu.

Among the most powerful tools used by teachers and other influential adults in the education of children is the principle of modeling (Bandura, 1977; Joyce & Showers, 1988). Teachers and parents frequently demonstrate a technique or process in order to convey an idea clearly to the learner. Modeling applies equally well in the areas of cognitive development and the development of socially acceptable behavior. Teachers and parents find that young children will imitate those behaviors of the significant adults in their lives. Many adults have been surprised, and, at times, either pleased or shamed as they have become aware of young children imitating the adults' behaviors as a part of their play activities. Chang (1975) stated that "teachers need to be aware that they have a great impact on a child's self concept" (p,81).

Since modeling is such a powerful educational technique, it should be readily apparent that teachers, and parents, can effectively use modeling in their efforts to teach independence in work and study habits to young children. In particular, classroom teachers might find that modeling positive attitudes toward the self will enhance the students' ability to think positively in reference to themselves. Modeling positive self-concept may be difficult for some teachers, at first, but is necessary, if the students' self-concept is to be enhanced positively. Teachers must be willing to model the behaviors they hope to promote in the students, or else they will be unsuccessful in teaching the concepts that are necessary for positive enhancements of the self (Felker, 1974; Beane & Lipka, 1984).

It seems imperative then that the school provide an atmosphere for the enhancement of positive views of the self on the part of the students. One of the crucial factors contributing to the enhancement of student self-concept is the teacher's attitudes

toward himself and others. "...the teacher is the primary ingredient in the learning process, and the characteristics of good teachers should be identified in order to provide more good teachers and fewer poor ones.". (Withall, 1963). They may even be more influential than his knowledge of materials and techniques (Purkey, 1970). Teachers with low self-esteem are likely to pass it on to their students; conversely, teachers with high self-esteem are viewed as contributing to the high levels of self-esteem in their students (Canfield, 1990). Teachers who view themselves with respect, liking, and acceptance are in a favorable position to build positive and realistic self-concepts in their students.

Inherent in positive perception of self is the willingness to assume responsibility for one's success and/or failures. Rotter (1966) defines internal locus of control as contingent upon the individual's own behavior; in other words, each person's actions, attitudes, thoughts, and words play a major role in determining the outcomes of events/experiences in the life of an individual.

When this self-perception is applied to the educational world, the teacher not only assumes responsibility for his own beliefs, actions, and experiences, but also assists the student to assume responsibility for his own successes and/or failures. It has been stated many times that the school is second only to the home in the enhancement of self-perceptions of children (Beane & Lipka, 1984; Maples, 1984; Purkey, 1970). When this is considered, the responsibility of teachers for promoting positive self-concepts is greatly enlarged. Further, it is suggested that classrooms in which students are encouraged to work independently and to be creative are classrooms in which students exhibit a higher degree of self-esteem. (Beane & Lipka, 1984).

Rotter (1966) has provided the seminal work on the description and definition of locus of control. He derives his definitions of internal and external locus of control from previous work on social learning theory (Rotter; 1954, 1955, 1960, 1971), in which he discusses how expectancies, attitudes and beliefs regarding

the nature of the causal relationship between one's own behavior and its consequences might affect a variety of behavioral choices in many situations.

Rotter (1966) further draws on the research of others to describe the relationship of locus of control to many aspects of learning theory, i.e., task differences along a dimension of skill and chance (Goodnow & Postman, 1955; Goodnow & Pettigrew, 1955), behavior of individuals when the element of "guessing" was no longer felt (Wyckoff & Sidowsky, 1955), the tendency of the "gambler's fallacy" to affect the behaviors or strategies of subjects in chance games (Cohen, 1960), and the lessening of motivation in chance games as compared to skill games (Feather, 1959).

Rotter (1966) discusses the significance of the belief in fate, chance, or luck and cites the works of Veblen (1899), who felt that a belief in luck or chance indicated a barbarian approach to life, and characterized an inefficient society, and Merton (1946), who described the belief in luck as a defense behavior, which served the psychological function of enabling individuals to preserve their self-esteem when failure appeared imminent.

Since Rotter's initial description of the Locus of Control construct, much research has been conducted that attempt to demonstrate a significant relationship of the construct to development of the individual. Joe (1971) provides a review of studies relating the Internal-External control construct as a variable in the personality. Among the many factors included in the studies are the relationship of Internal-External Control with ethnic groups, social class differences, anxiety, authoritarian control, hostility-rejection tendencies, control of the environment, achievement motivation, strategy preferences and learning, reaction to social stimuli, reaction to threat, risk-taking, and adjustment

The Internal-External Scale was developed by Rotter (1966) to measure the "degree to which [an] individual perceives that [a] reward follows from, or is contingent upon, his own behavior or attributes versus the degree to which he feels the reward is

controlled by forces outside himself and may occur independently of his own actions." (p.1). When a subject perceives that a reinforcement follows some action of his own, but not entirely contingent upon his action, it may typically be perceived as resulting from luck, fate, chance, or the actions of powerful other individuals, and therefore, as unpredictable due to the complexity of the forces around him. This interpretation has been labeled as a belief in *external* control. If, in contrast, an individual believes that an event is entirely contingent upon his own behavior, or his own relatively permanent characteristics, we can say the individual believes in *internal* control.

That describes where we came from with this construct. Where are we now?

Rotter's I-E Scale was developed for use with adults. Other researchers developed Locus of Control Scales that attempt to assess the construct in younger individuals. Bialer (1961) developed a scale for use with young adults, and Battle and Rotter (1963) designed a scale for use with sixth and eighth grade school children. Nowicki and Strickland (1973) have also produced a scale for use with children in the upper elementary grades. Nowicki and other researchers have adapted the original scale developed by Nowicki and Strickland for use with several groups of varying ages, among them Preschool and Primary grade children (Nowicki & Duke, 1974). The resultant instrument (PPNSIE) consists of 26 items presented in cartoon format depicting two children facing each other. The cartoon drawings depicted one child presenting the item in a cartoon bubble above its head while the other child had the words yes and no in a bubble above its head. Subjects were instructed to draw a line through or a circle around yes or no in answer to the questions. Male and female forms of the test were constructed to make it more personal and interesting.

The Stephens-Delys Reinforcement Contingency Interview (Stephens & Delys,1973) was developed to assess locus of control

expectancies of preschool-age and older children. The instrument consists of 40 free-response questions that posit the occurrence of some reinforcement and ask what, in effect, are the contingencies for occurrence of such an event. The interviewer then observes whether the child cites some behavior of his own or cites someone else's behavior or some other sort of event or condition.

The Stanford Preschool Internal-External Scale (SPIES) (Mischel, Zeiss, & Zeiss, 1974) was developed to explore the interactions between individual differences in young children's expectancies about locus of control and their behavior in theoretically relevant situations. The instrument consists of 14 forced-choice questions that describe either a positive or negative event that could plausibly occur in a child's life. The stem is followed by two alternative answers: One alternative states that the event occurred because of external persons or circumstances, and the other states that the event occurred because of the child's own activity or desires.

The Optimism-Pessimism Test Instrument (OPTI) (Stipek, Lamb & Zigler, 1981) is a measure of young children's generalized tendency to expect positive or negative outcomes. The scale consists of 20 short stories about a young child. Each story is told while the subject is shown a picture from the Slingerland Reading Preparation Series (Slingerland, 1967) The subject is asked to choose one of two alternative endings for each story. One of the endings describes something desirable happening to the child in the story, while the other describes a negative outcome. In half of the stories, the positive outcome is mentioned first; in the remainder the negative outcome is described first.

Dahlquist and Ottinger (1983) constructed a 48-item scale using at least 20 potentially positive and 20 potentially negative descriptions for each of the children's perceptions of the following categories of social interactions: classroom, playground and neighborhood activities. 24 of the final 48 items selected for the final version of the LOC-CPSI were also reliably rated along social

desirability lines. A separate social desirability (SD) key was constructed for these items on the basis of student ratings of the items.

Additional research has produced other Locus of Control scales for use in rather specific situations. Only a few representative samples are cited here, for the sake of brevity. For instance, Bradley, Stuck, Coop & White, (1977) describe a scale designed to assess locus of control orientation in three achievement domains, intellectual, social, and physical, each of which is characterized by different beliefs and efforts. This scale consists of 48 items to answered yes or no. This test was used with students 12 to 18 years of age.

A study concerning the relationship between student locus of control and academic achievement in grades five through eight was conducted by Nunn, Montgomery, & Nunn (1986).

The Intellectual Achievement Responsibility (IAR) instrument (Crandall, Crandall & Katkovsky, 1965) has been used repeatedly to measure both children's perceptions of their own locus of control and their parents' and teachers' perceptions of the children's locus of control.

Research has been conducted to determine the extent of influence, if any, of teacher Locus of Control orientation on students enrolled in their classrooms. Differences in the effects of expectancy in internally and externally controlled teachers was studied by Carter (1970). Findings are interpreted to indicate that internally controlled teachers may more readily receive, process and act upon available information because they feel outcomes are a direct result of human intervention rather than fate or chance.

The major finding of a study conducted by Murray & Staebler (1974) was that both male and female students, regardless of their locus of control, gained more on achievement measures under internal teachers than under external teachers.

Locus of control orientation has been found to successfully discriminate the potential ability of teachers to foster an understanding of the nature of science (Scharmann, 1988).

Kremer and Lifmann (1982) looked at possible reflections of teachers' locus of control in their professional attributions in educational situations. Findings of this study were supportive of the hypothesis that "highs", "mediums" and "lows" on the I-E Scale differ significantly in their external vs. internal "Professional Attributions" in educational settings. Since present educational goals point to the need of autonomous, creative teachers who are able to make their own professional decisions, it follows that locus of control might serve as a criterion of the selection for teacher education programs.

Castellini (1986) studied 49 elementary teachers in the state of New Jersey to (1) identify teachers with external orientations of locus of control, (2) to alter these externally oriented teachers to internal orientations by in-service training in effective teaching practices, and (3) to determine if teacher effectiveness training can affect the responsibility that externals and internals assume for the academic successes and failures of their students.

She found that (1) teachers with external locus of control orientations will change to internal locus of control orientations as a result of in-service training in effective teaching; (2) teachers with internal locus of control orientations assume more responsibility for students' academic successes and failures than those with external locus of control orientations; and (3) there is no significant difference in effective teaching training effect between internals and externals as it relates to responsibility for students' academic successes and failures.

Haury (1988) reported a study in which an attempt was made to enhance internality through instruction. Comparison of the posttest scores showed that subjects in an experimental group generally exhibited greater internality than subjects in a comparison group. Haury suggested that Science Locus of Control orientations "seem susceptible to modification through techniques that can be built into the structure of courses without requiring radical changes in the actual delivery style of instructors" (p. 243).

As can be readily discerned, most of the research in Locus of Control has been conducted with adults. Some studies have addressed adolescents and children in upper primary grades, and fewer have looked at Locus of Control in young children. Yet, research shows that a child's global locus of control may be pretty well established by the time the child enters third grade (Crandall, et.al., 1965; Nowicki & Strickland, 1973). So why have we not looked more closely at this important construct in young children? Harter (1988) suggests that children younger than eight years of age do not provide reliable data regarding their self-perceptions. She indicates that children's responses reflect more of what they suspect an adult would want them to say, rather than what they believe themselves.

Mischel, Zeiss, & Zeiss (1974) report that when youngsters of nursery school age are asked yes-no questions, they usually respond with a yes. Thus, attempts to develop an appropriate instrument to assess locus of control in young children should avoid the yes-no response pattern.

Stephens and Delys (1973) suggest that young children's relatively limited vocabulary contributes to difficulty in assessing young children. In the case of locus of control, concepts such as "luck" and "skill" are apparently incomprehensible to most nursery schoolers. They suggest that assessment would be easier if a child is allowed to use his own language system (asking him to clarify when necessary) than to require him to comprehend others' verbal productions. They suggest a free response method employing simple questions. They further report that another major problem in interviewing children is the tendency for a child to repeat the same response to consecutive questions.

Other difficulties reported in attempting to assess young children include the child's tendency to select the last stated alternative in forced-choice questions, due to the short attention span of young children(Wortham, 1995). They appear to be unable to remember the first alternative, will, thus, select the last on

offered. This contributes to the difficulty in establishing validity and reliability of the instrument.

It appears that these seeming obstacles have made sufficient impressions on researchers of child development that we have directed attention to other, more easily studied aspects of childhood. In short, locus of control research has not been pursued with much interest in recent years.

Where might we go from here?

If locus of control does indeed belong in the second tier of Maslow's hierarchy, then it should be studied and promoted much more avidly in early childhood education than is presently the case. It follows that we must find ways to assess this critical construct that will provide us with a more truthful picture of the child's emerging personality, and develop methods that would enable us to gently encourage child development in directions that would contribute to the child's abilities to cope with the demands of his present world, and to prepare for the demands of the future.

As Gardner (1983) has stated, "The obligation of the pragmatically oriented social scientist is to offer a better set of tools and to suggest how, when adopted, these would be more likely to culminate in positive results, less likely to engender another set of dashed expectations" (p. 371).

The charge then seems to be for us to be

(1) to develop instruments that will more effectively assess locus of control in young children,

(2) to develop and employ methods of modification of locus of control in young children toward the internal end of the continuum, and

(3) to recruit as potential teachers, individuals who are internally oriented, and who can effectively model the same in the classroom.

In doing so we might:

(1) foster the development of children who will mature into responsible adults, who take control of their behavior and their lives,

(2) promote the development of a society that values integrity, honesty, and charity, and

(3) create a better world for ourselves and generations unborn.

REFERENCES

Beane, J.A. & Lipka, R.P. (1984). Self-concept, self-esteem, and the curriculum. Boston: Allyn & Bacon.

Bandura, A. (1977, March). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.

Battle, E.S., & Rotter, J.B. (1963, December). Children's feelings of personal control as related to social class and ethnic group. Journal of Personality, 31(4), 482-490.

Bialer, I. (1961). Conceptualization of success and failure in mentally retarded and normal children. Journal of Personality, 29(1), 303-320.

Bradley, R.H., Stuck, G.B., Coop, R.H., & White, K.P. (1977). A new scale to assess locus of control in three achievement domains. Psychological Reports, 61, 656.

Brandt, R. (1982, October). On improving teacher effectiveness: A conversation with David Berliner. Educational Leadership, 40(1) 12-15.

Brophy, J., & Good, T. (1970). Teachers' communication of differential expectations for children's classroom performance: Some behavioral data. Journal of Educational Psychology, 61(5), 365-374.

Canfield, J. (1990, September). Improving students' self-esteem. Educational Leadership, 48(1), 48-50.

Carter, R.M. (1970). Locus of control and teacher expectancy as related to achievement of young school children. (Doctoral dissertation, Indiana University, 1969). Dissertation Abstracts International, 30, 4674-A.

Castellini, C.A. (1987). An analysis of the effects of effective teaching training on elementary teachers' locus of control

(Doctoral dissertation, The Pennsylvania State University, 1987). Dissertation Abstracts International, 47, 3960A.

Chang, T. (1975, October). The self-concept of children in ethnic groups. The Elementary School Journal, 76(1), 52-58.

Cohen, J. (1960). Chance, skill and luck. Baltimore: Penguin Books.

Coopersmith, S. (1967). The antecedents of self-esteem. San Francisco: W.H. Foreman & Company.

Crandall, V.C., Katkovsky, W., & Crandall, V.J. (1965, March). Children's beliefs in their own control of reinforcement in intellectual-academic achievement situation. Child Development, 36(1), 91-109.

Dahlquist, L.M., & Ottinger, D.R. (1983, June). Locus of control and peer status: A scale for children's perceptions of social interactions. Journal of Personality Assessment, 47(3), 278-287.

deCharms, R. (1968). Personal causation. New York: Academic Press.

Elkind, D. (1981). The hurried child. Reading, MA: Addison-Wesley

Feather, N.T. (1959). Subjective probability and decision under uncertainty. Psychological Review, 66(3), 150-164.

Felker, D.W. (1974). Building positive self-concepts. Minneapolis: Burgess Publishing Company.

Gardner, H. (1985). Frames of mind: The theory of multiple intelligences. New York: Basic Books.

Goodnow, J.J., & Pettigrew, T.F. (1955). Effects of prior patterns of experience upon strategies and learning sets. Journal of Experimental Psychology, 49(6), 381-389.

Goodnow, J.J., & Postman, L. (1955). Probability learning in a problem-solving situation. Journal of Experimental Psychology, 49(1), 16-22.

Guskey, T.R. (1981, May-June). Measurement of the responsibility teachers assume for academic successes and failures in the classroom. Journal of Teacher Education, 32(3), 44-51.

Harter, S. (1988). Developmental processes in the construction of the self. In Yawkey, T. D., & Johnson, J. E. (Eds.) Integrative processes and socialization: Early to middle childhood (pp.6-78). Hillsdale, NJ: Laurence Erlbaum Associates.

Haury, D.L. (1988, March). Evidence that science locus of control orientation can be modified through instruction. Journal of Research in Science Teaching, 25(3), 233-246.

Ingersoll, G. (1982). Adolescents. Lexington, MA: Heath.

Joe, V.C. (1971). Review of the internal-external control construct as a personality variable. Psychological Reports, 28, 619-640.

Joyce, B., & Showers, B. (1988). Student achievement through staff development. White Plains, NY: Longman.

Kremer, L., & Lifmann, M. (1982, Fall). Locus of control and its reflection in teachers' professional attributions. College Student Journal, 16(3), 209-215.

Maples, M.F. (1984, December). Self-concept, locus of control, and self-discipline: Valuable constructs for effective classroom management. Humanistic Education and Development, 23(2), 80-87.

Maslow, A.H. (1970). Motivation and personality (2nd. ed.). New York: Harper and Row.

Merton, R. (1946). Mass persuasion. New York: Harpers.

Mischel, W., Zeiss, R., & Zeiss, A. (1974, February). Internal-external control and persistence: Validation and implications of the Stanford preschool internal-external scale. Journal of Personality and Social Psychology, 29(2), 265-278.

Murray, H.B., & Staebler, B.K. (1974). Teacher's locus of control and student achievement gains. Journal of School Psychology, 12(4), 305-309.

Nowicki, S., Jr., & Duke, M. P. (1979, May). Preschool and primary locus of control scale: A reply. Developmental Psychology, 15(3), 325-328.

Nowicki, S. Jr., & Strickland, B.R. (1973). A locus of control scale for children. Journal of Consulting and Clinical Psychology, 40(1), 148-154.

Nunn, G.D., Montgomery, J.D., & Nunn, S.J. (1986). Criterion-related validity of the Nowicki-Strickland locus of control scale with academic achievement. Psychology: A Quarterly Journal of Human Behavior, 23 (4), 9-11.

Peer, G.G. (1982, September). The antecedents of self-esteem (One of educations' best kept secrets). Journal of Humanistic Education and Development, 21(1), 18-21.

Purkey, W.W. (1970), Self-concept and school achievement. Englewood Cliffs, NJ: Prentice-Hall.

Purkey, William W. (1978). Inviting school success: A self-concept approach to teaching and learning. Belmont, CA: Wadsworth Publishing Company.

Rosenthal, R., & Jacobson, L. (1968). Pygmalion in the classroom: Teacher expectation and pupils' intellectual development. New York: Holt, Rinehart and Winston.

Rotter, J.B. (1954). Social learning and clinical psychology. Englewood Cliffs, NJ: Prentice-Hall.

Rotter, J.B. (1955). The role of the psychological situation in determining the direction of human behavior. In M.R. Jones (Ed.) Nebraska Symposium on Motivation (pp.245-269). Lincoln,NE: University of Nebraska Press.

Rotter, J.B., (1960). Some implications of a social learning theory for the prediction of goal directed behavior from testing procedures. Psychological Review, 67(5), 301-316.

Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80(1, Whole No. 609).

Rotter, J.B. (1971, June). External control and internal control. Psychology Today, 5(1), 37-42 & 58-59.

Scharmann, L.C. (1988, July). Locus of control: A discriminator of the ability to foster an understanding of the nature of science among preservice elementary teachers. Science Education, 72(4), 453-465.

Stephens, M.W., & Delys, P. (1973, July). A locus of control measure for preschool children. Developmental Psychology, 9(1), 55-65.

Slingerland, B.H. (1967). Training in some prerequisites for beginning reading. Cambridge MA: Educators Publishing Series, Inc.

Stipek, D.J., Lamb, M.E., & Zigler, E.F. (1981, Spring). OPTI: A measure of children's optimism. Educational and Psychological Measurement, 41(1), 131-144.

Veblen, T. (1899). The theory of the leisure class. New York: MacMillan (Modern Library edition, 1934).

Withall, J. (1949, March). The development of a technique for the measurement of social-emotional climate in classroom. Journal of Experimental Education, 17(3), 347-361. (September, 1948-June 1949).

Withall, J. & Lewis, W.W. (1963). Social interaction in the classroom. In N.L. Gage (Ed.), Handbook of research on teaching (pp. 683-714). Chicago: Rand McNally.

Wittrock, M.C. (Ed.). (1986). Handbook of Research on Teaching (3rd.Ed.). New York: MacMillan.

Wortham, S.C. (1995). Measurement and Evaluation in Early Childhood Education. Englewood Cliffs, NJ: Merrill.

Wyckoff, L.B., & Sidowski, J.G. (1955). Probability discrimination in a motor task. Journal of Experimental Psychology, 50(4), 225-231.

Yamamoto, Kaoru. (Ed.) (1972). The child and his image. Boston: Houghton-Mifflin.