DOCUMENT RESUME

ED 341 663 SP 033 549

AUTHOR Lacour, Eileen D.; Wilkerson, Trena W.
TITLE Efficacy in Education: A Synopsis of the Literature.
PUB DATE 91
NOTE 28p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Concept Formation; Elementary Secondary Education; Higher Education; *Individual Power; Literature Reviews; *Self Efficacy; *Teacher Education Programs; Teacher Persistence; Teaching Experience; Theory Practice Relationship

ABSTRACT

The term efficacy is broadly defined as the power to produce effect. Since 1977, with the advent of the concept of self-efficacy, research has attempted to establish the type and strength of the relationship between the concept and the education profession. The purpose of this document is to provide a conceptual, theoretical, and integrated review of available research literature on efficacy in teaching. Literature is reviewed on several variables: teaching behavior; student teachers; stress; demographic characteristics; student outcomes; and teaching experience. The paper provides an overview of theoretical bases and suggests an appropriate definition for use in education. It presents findings relative to personal variables, student outcomes, teaching behaviors, and system considerations. Appropriate questions are examined and implications for further research are addressed. (42 references) (Author/LL)

Efficacy in Education: A Synopsis of the Literature

Eileen D. Lacour and Trena W. Wilkerson

University of Southern Mississippi

Running head: EFFICACY IN EDUCATION

Abstract

Since 1977, with the advent of the concept of self-efficacy, research has attempted to establish the type and strength of the relationship between the concept and the education profession. This presentation provides conceptual, theoretical,and integrated review of research literature available on efficacy in teaching. The paper suggests several important variables which have been identified in determining this degree of success. The instruments used to measure these significant contributors are analyzed concentrating on those cited most often. The paper provides an overview of theoretical bases and suggests an appropriate definition for use in education. It presents findings relative to personal variables, student outcomes, teaching behaviors, and system considerations. Suggestions for future research and appropriate questions are examined.

Efficacy in Teaching

The term efficacy is broadly defined as the power to produce an effect. In psychological and behavioral definitions, self-efficacy originally referred to the belief that one could successfully execute the behavior required to produce desired outcomes (Bandura, 1977, 1982). Bandura (1982) further asserts that such a concept is situation-specific: it is possible to have a high sense of self-efficacy under one set of circumstances and a low degree in another. This analysis is based on the social learning theory which maintains that choice of behavior and the amount of effort expenditure are at least in part governed by an individual's self-efficacy, rather than entirely the result of a certain stimulus. Such efficacious beliefs arise from different, often contradictory sources of information conveyed through direct mediated events (Bandura, 1977). In an extensive study, Ashton, Webb, and Doda (1983) refer to the grounded theory which suggests that the major social-psychological problem facing educators is the maintenance of self-efficacy in a profession that offers few supports for and a

multitude of threats to the self-respect and self-confidence of its members.

Brophy (1979) applied this position to the education profession by defining teacher efficacy as the beliefs regarding the extent to which teachers in general can affect student performance. This approach concentrates on educators' perceptions about the broad, general relationship between teaching and learning (Ashton, Webb, & Doda, 1983). Further research indicates another aspect of self assurance in education referred to as personal teaching efficacy which is determined by the individual's belief about their own personal ability to affect student performance (Denham & Michael, 1981; Ashton, Webb, & Doda, 1983; Dembo & Gibson, 1985).

INSTRUMENTS USED TO MEASURE EFFICACY

A number of studies have measured efficacy using two items which were developed through the Rand Corporation (Armor et. al., 1976; Berman, Mclaughlin, Bass, Pauly, & Zellman, 1977). The items are as follows:

1. When it comes right down to it, a teacher

really can't do much because most of a student's motivation and performance depends on his or her home environment.

2. If I really try hard, I can get through to even the most difficult or unmotivated student.

Teacher response to these items is arranged in a Likert 5-point scale ranging from strongly agree to strongly disagree.

These two elements formed the basis in the development of other instruments to assess the degree of efficacy. In an extensive study, the components served as the basis for the measurement model which studied the nature, antecedents and consequences of efficacy attitudes among teachers (Ashton, Webb, & Doda, 1983). Gibson and Dembo (1984) conducted a study to establish construct validity of a teacher efficacy instrument. This instrument, the Teacher Efficacy Scale, consisted of 30 items in a Likert format. Factor analysis revealed two factors which were moderately correlated (r= -.19) and corresponded to the

previously described Rand items. These same two components coincided with Bandura's self-efficacy and outcome expectancy dimensions. Factor 1 refers to Personal teaching Efficacy while Factor 2 is cited as Teaching Efficacy. Greenwood, Olejnik, and Parkay (1990) use this definition of the two Rand Items in their study. They argue that there are at least four different combinations of the two items:

1. Teachers in general cannot motivate students, and I am no exception to this rule.
2. Teachers in general can motivate students but I personally cannot.
3. Teachers generally can motivate students and I am no exception to this rule.
4. Teachers in general cannot motivate students but I personally can if I try hard.

Based on these combinations, four efficacy belief patterns were defined and used to classify participants.

Glickman and Tamashiro (1982) used three items derived from the Rand study which yielded a reliability coefficient of .35 between components, which suggested

that the three elements may have measured the same variable. Guskey (1987) also used the Rand items in his teacher efficacy study in addition to other instruments designed to assess teacher responsibility for student achievement, self-observation, and teacher self-concept.

The Teacher Efficacy Scale (Dembo & Gibson, 1985) was also administered in a study which included preservice teachers (Evans & Tribble, 1986). Saklofske, Michayluk, and Randhawa (1988) used a slightly modified version of this same measurement mechanism in their investigation of novice teachers. Again, the two principal factors which emerged paralleled those described by Gibson and Dembo (1984) and were based on the Rand items.

Enochs and Riggs (1990) modeled his instrument to measure the efficacy beliefs of beginning science teachers on the Gibson and Dembo instrument. This measure also reflects the previously described factors; namely, personal teacher efficacy and outcome expectancy. Korevaar (1990) utilized the Sense of Efficacy Questionnaire designed by P. Den Hertzog (in

press) to assess the teacher's sense of self-efficacy. This measure included 20 Likert-type items dealing with teacher's perceptions of their abili'y to affect students' behavior and their perceptions of their ability to affect cooperation with their colleagues.

Rose and Medway (1981) developed the Teacher Locus of Control (TLC) Scale which was designed to measure elementary school teacher's perceptions of control in their classroom. The 28 forced-choice elements indicated either internal or external control of various classroom events. The TLC Scale was found to correlate moderately with Rotter's Internal-External Scale (1966). Parkay, Olejnik, and Proller (1988) used this same instrument in their study of teacher efficacy.

Other studies have attempted to address the multidimensional aspects of efficacy in the school environment. Hillman (1986) presents three self-efficacy questionnaires to study the relationship between student, teacher and principal interaction in the educational environment. These instruments allow the analysis of different efficacious dimensions

through subscale examination. Martin (1990) viewed the dimensions of efficacy as related to teacher, leadership and decision-making efficacy. The questionnaires were designed to measure teachers' perceptions of the behavior of their supervisors and the effect on efficacy.

REVIEW OF SELECTED LITERATURE

Literature Related to Teaching Behavior

When examining teaching behavior in light of these theories research suggests that the instructor's sense of assurance is positively related to preservation of a warm, accepting classroom environment and, conversely, negatively corresponds to a teacher's use of harsh control tactics (Ashton, Webb, & Doda, 1983). Characteristics of efficacious educators include their adherence to high academic standards, their concentration on academic instruction coupled with consistent monitoring of student behavior, and their efforts at establishing non-threatening relationships with low achievers (Ashton, 1984). Teachers with low confidence tend to sort and stratify their students on the basis of ability and often go so far as giving

preferential treatment to the more competent students.

Literature Related to Job Satisfaction

The degree of job satisfaction experienced by teachers also can be correlated to the degree of efficacy. Those educators whose work orientation follows prescribed norms generally report a higher level of contentment than those with a more pragmatic approach, with some indication that their organizational commitment may also be greater (Reyes, 1990). Korevaar (1990) found differences between levels of efficacy and teacher reaction to problem situations. Teachers who have a higher sense of self-efficacy are less likely to refer problems to others (Meijer & Foster, 1988). The level of confidence also seems to influence the recognition and definition of problems as well as the appropriate management and direction of referral.

Literature Related to Student Teachers

In the student teaching experience changes have been detected in efficacy levels. Student teachers became significantly more custodial and controlling both in pupil regulation as well as in social problem-

solving during the practicum experience. Although the sense of personal teaching efficacy did not decrease, the general confidence in the ability of the profession weakened for these novices following the practicum exercise (Hoy & Woolfolk, 1990). Research also indicates that teachers with low efficacy are less effective in persistence and other task-related variables. Although no significant difference was found in Use-Of-Time between teachers with varying degrees of efficacy, those with a lower level of confidence spent more classroom time in small group activities (Gibson & Dembo, 1984). Personal teaching efficacy also showed a small but significant relationship to certain teaching behaviors such as lesson presentation, classroom management, and questioning techniques (Saklofske, Michayluk, & Randhawa, 1988).

The use of cognitive modeling seems to be more effective than direct instruction in elevating efficacy assessment among perspective teachers with a low sense of self-efficacy (Gorrell & Capron, 1989). Martin (1989) suggests that there are developmental stages of

teacher efficacy whose formation begin early in the teacher preparation program.

Literature Related to Stress

As stated earlier, the organizational structure of the profession itself may make maintenance of high personal efficacy difficult for educators (Ashton, Webb, & Doda, 1983). Some studies suggest that the stress induced by management over which teachers have little control may actually interfere with their optimal performance (Cichon & Koff, 1978). Other characteristics of the school climate, such as isolation, uncertainty, powerlessness and the lack of recognition add to the obstacles in preserving confidence (Ashton, Webb, & Doda, 1983). Inquiries also show that educators with higher self-concepts are more resistant to stress and better able to support a sense of personal accomplishment. In a study of four efficacy belief patterns, Greenwood, Olejnik, & Parkay (1990) found a significant contrast in both teacher locus of control and stress between teachers' with low efficacy and those with a very high degree. These same self-concepts partially determine perceptions of school

climate and job satisfaction. The impressions of atmosphere and work fulfillment are related to views of supervision (Chittom & Sistrunk, 1990). Investigation suggests that teacher efficacy and effectiveness decrease with controlling behaviors in the instructional processes and is related to the degree of participation in decision-making and leadership afforded to classroom educators (Martin, 1990). There appears to be a connection between the sense of community and efficacy which are enhanced by organizational features. The relationship is strong between the responsiveness of the administration and the feeling of community although staff development and leadership of the principal did not generate a significant effect (Newmann, 1989). Albertson and Kagan (1987) affirm the relationship between control orientation and stress, finding a strong correlation to these factors; specifically weak administrative support and teacher relationships.

Other research suggests that teachers experience less stress when they have confidence in their abilities and believe that teachers in general

can make a difference (Greenwood, Olejnik, Parkay, 1990). Highly efficacious teachers showed evidence of less stress than their less confident counterparts, while also displaying a locus of control which was significantly more internally oriented. Some analyses indicate the existence of various dimensions of teacher concerns which bear further study, particularly in relationship to teacher efficacy (Reeves, 1982; Kazelskis & Reeves, 1987).

Literature Related to Demographic Characteristics

Certain demographic characteristics yield significant relationships to efficacy beliefs. Greenwood, Olejnik and Parkay (1990) revealed the existence of a substantial connection between gender and efficacy as well as grade level and efficacy. Female elementary teachers were strongest in the beliefs that they, as well as teachers in general, can motivate students. Age, race, educational experience and teaching experience did not correlate highly with efficacy. Contrasting findings were reported by Guskey (1987) who found no differences among the grade levels and the degree of efficacy.

Elementary school teachers expressed a higher sense of efficacy than either middle or high school teachers and accepted greater responsibility for student achievement (Parkay, Olejnik, & Proller, 1988). Such findings were indicated in the work of Evans and Dribble (1986) which showed significant gender differences in teaching efficacy. This study pointed to a significantly higher efficacious score among female beginning elementary teachers than the upper grade counterparts.

Literature Related to Student Outcome

Perceptions of efficacy tend to differ among practitioners depending on the type of student outcome. Specifically these belief patterns vary based on the success or failure of the student activity, and whether it involved a single student or a group. When the performance was negative, the teachers expressed less responsibility for single students than for a group, believing that the single occurrence was due to factors beyond the control of the teacher (Guskey, 1987).

The relationship of self-efficacy to academic achievement is well documented in the Effective School

Research (Good & Brophy, 1986). Gorrell (1990) suggests a conceptual framework for self-concept theory based on research findings relevant to self-efficacy beliefs and academic achievement. While not implying causality, a positive relationship between teacher efficacy and self-concept was evident in the work of Thomson and Handley (1990) who recognized the existence of various aspects of efficacious teacher behaviors in addition to self-concept. Teacher's sense of efficacy is significantly related to the manner in which students are grouped in the classroom environment as well as their academic achievement (Tracz & Gibson, 1986).

Literature related to Teaching Experience

Several studies indicate that there is no significant relationship between teaching experience and the degree of efficacy (Greenwood, Olejnik, Parkay, 1990; Guskey, 1987). However, in their examination of first year, fifth year, and former teachers, Glickman and Tamashiro (1982) found a higher sense of efficacy among the first and fifth year practitioners than those who had left the classroom.

RESEARCH QUESTIONS

Since the advent of the concept of self-efficacy and its application to teaching, much research has been done in investigating what makes schools effective (Good & Brophy, 1986). Although these studies identify several efficacious teacher behaviors which are critical to productive schools, many questions about the specific relationship of efficacy to teaching remain unanswered. One area of particular interest is the determination and definition of possible patterns of efficacy in education.

Other areas include the need for clarification of the link between ability variables and efficacy, perhaps using teacher performance as the measure (Ashton, Webb, and Doda, 1983). In addition, examination of personal variables and how they correspond to different pupil control orientations may be helpful in identifying which of these characteristics result in a humanist approach to the classroom as well as support efficacious behavior (Willower, Eidell, & Hoy, 1967). The organizational

context, particularly on the secondary level, should be examined as well as boundary arrangements and core teaching tasks (Rosenholtz & Simpson, 1990). Of special interest is the relationship of these system variables to pupil achievement (Good & Brophy, 1986).

Separate aspects of teacher efficacy also should be examined in depth. In analyzing teacher concerns, Fuller (1969) argued that the anxieties of beginning teachers could be classified on the basis of self, feelings of adequacy, and acceptance. Further investigation refined these dimensions to 11 factors arranged in a hierarchy (George, 1978). Important differences in factors were established in a subsequent study although similarities with the initial organization were identified (Kazelskis & Reeves, 1987).

A central question in analysis of efficacy is how to maintain and increase efficacy in both beginning and experienced teachers. Specific efficacious patterns must be identified and defined, distinguishing specific teacher behaviors as well as those of students, administrators, principals and staff (Greenwood,

Olejnik, & Parkay, 1990). These findings should be studied to establish what, if any correlation, exists with student achievement (Hillman, 1986). Finally, specific subject areas should also be inspected to ascertain the existence of possible efficacy patterns.

Compilation of this review of literature suggests other areas in need of investigation. The implications for teacher education are worthy of serious consideration. The changes in efficacy that occur as the candidate progresses through a program as well as those changes which develop in the course of an individual's teaching experience must be addressed. In addition, examination of the belief patterns of those persons who enter and stay in teaching should be compared and contrasted with those in other professions (Greenwood, Olejnik, & Parkay, 1990). Finally, further validation of instruments is recommended.

REFERENCES

Albertson, L., & Kagan, D. (1987, Fall). Occupational stress among teachers. Journal of Research and Development in Education, 21(1), 69-75.

Armor, D., Conroy-Osequera, P., Cox, M., Kin, M., McDonnell, L., Pascal, A., Pauly, E., Zellman, G. (1976). Analysis of school preferred reading programs in selected Los Angeles minority schools (R-2007-LAUSD). Santa Monica: Rand Corporation.

Ashton, P., Webb, R., & Doda, N. (1983). A study of teachers' sense of efficacy (Final Report, Executive Summary). Washington, DC: National Institute of Education.

Ashton, P. (1984). Teacher efficacy: A motivational paradigm for effective teacher education. Journal of Teacher Education, 35(5), 28-31.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 34(2), 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist, 37(2), 122-147.

Berman, P., McLaughlin, M., Bass, G. Pauly, E., &

Zellman, G. (1977). Federal programs supporting educational change: Vol. 7 Factors affecting implementation and continuations. Santa Monica: Rand Corporation.

Brophy, J. (1979). Teacher behavior and its effects. Journal of Educational Psychology, 71, 733-750.

Cichon, D. & Koff, R. (1978, April). The teaching events stress inventory. Paper presented at annual meeting of the American Educational Research Association, Ontario.

Chittom, S. & Sistrunk, W. (1990, November). The relationship between secondary teachers' job satisfaction and their perceptions of school climate. Paper presented at the annual meeting of the Mid-South Educational Research Association, New Orleans.

Dembo, M., & Gibson, S. (1985). Teachers' sense of efficacy: An important factor in school improvement. The Elementary School Journal, 86, 173-184.

Den Hertog, P. (in press). Persoonlijkheidskenmerken van Leerkrachten (Personal Characteristics of

Teachers). Unpublished doctoral dissertation, University of Nijmegen, The Netherlands.

Denham, C. & Michael, J. (1981). Teacher sense of efficacy: A definition of the construct and model for further research. Educational Research Quarterly, 5, 39-61.

Enochs, L., & Riggs, I. (1990). Further development of an elementary science teaching efficacy belief instrument: A preservice elementary scale. School Science and Mathematics, 90(8), 694-706.

Evans, E. D., & Tribble, M. (1986). Perceived teaching problems, self-efficacy, and commitment to teaching among preservice teachers. Journal of Educational Research, 80(2), 81-85.

Fuller, F. (1969). Concerns of teachers: A developmental conceptualization. American Educational Research Journal, 6, 207-226.

George, A. (1978). Measuring self, task, and impact concerns: A manual for use of the teacher concerns questionnaire. Austin: University of Texas Research and Development Center for Teacher Education.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. Journal of Educational Psychology, 76, 569-582.

Glickman, C. D., & Tamashiro, R. T. (1982). A comparison of first-year, fifth-year, and former teachers on efficacy, ego development, and problem solving. Psychology in the Schools, 19, 558-562.

Good, T. L., & Brophy, J. E. (1986) School effects. In M. C. Wittrock (Ed.), Handbook of research on teaching (3rd ed.). 570-604.

Gorrell, J. (1990). Some contributions of self-efficacy research to self-concept theory. Journal of Research and Development in Education, 23, 73-81.

Gorrell, J., & Capron, E. (1989). Cognitive modeling effects on preservice teachers with low and moderate success expectations. Journal of Experimental Education, 57, 231-244.

Greenwood, G. E., Olejnik, S. F., & Parkay, F. W. (1990). Relationships between four teacher efficacy belief patterns and selected teacher characteristics. Journal of Research and Development in Education, 23, 102-106.

Guskey, T. R. (1987). Context variables that affect measures of teacher efficacy. Journal of Educational Research, 81, 41-47.

Hillman, S. J. (1986, April). Measuring self-efficacy: Preliminary steps in the development of a multi-dimensional instrument. A paper presented at the annual convention of the American Educational Research Association, San Francisco.

Hoy, W., & Woolfolk, A. (1990). Student teacher socialization. American Educational Research Journal, 27(2), 281-299.

Kazelskis, R. & Reeves, C. (1987). Concern dimensions of preservice teachers. Education Research Quarterly, 11(4), 45-52.

Korevaar, G. (1990, April). Secondary School teachers' courses of action in relation to experience and sense of self-efficacy. Paper presented at the annual meeting of the American Educational Research Association, Boston.

Martin O. (1990, November). Instructional leadership behaviors that empower teacher effectiveness. Paper presented at the annual meeting of Mid-South

Educational Research Association, New Orleans.

Martin, O. (1989, November). Does teacher efficacy begin with teacher education: Implications from student teacher candidates. Paper presented at the annual meeting of Mid-South Educational Research Association, Little Rock, AR.

Meijer, C. & Foster, S. (1988). The effects of teacher self-efficacy on referral chance. The Journal of Special Education, 22(3), 378-385.

Newmann, F., Rutter, R., & Smith, M. (1989). Organizational factors that affect school sense of efficacy, community, and expectations. Sociology of Education, 62, 221-238.

Parkay, F., Olejnik, S., & Proller, N. (1988). A study of the relationships among teacher efficacy, locus of control, and stress. Journal of Research and Development in Education, 21(4), 13-22.

Reeves, C. K. (1982). The relationship of teaching experience to areas of concern about teaching. Paper presented at the annual meeting of the Mid-South Educational Research Association, New Orleans, LA.

Reyes, P. (1990). Individual work orientation and teacher outcomes. Journal of Educational Research, 83(6), 327-335.

Rose, J. & Medway, F. (1981). Measurement of teachers' beliefs in their control over student outcome. Journal of Educational Research, 74(3), 185-190.

Rosenholtz, S. & Simpson, C. (1990, October). Workplace conditions and the rise and fall of teachers' commitment. Sociology of Education, 63, 241-257.

Rotter, J. B. (1966). Generalized expectancies for the internal versus the external control of reinforcement. Psychological Monographs, 80(1), 609-613.

Saklofske, D. H., Michayluk, J. O., & Randhawa, B. S. (1988). Teachers' efficacy and teaching behaviors. Psychological Reports, 63, 407-414.

Thomason, J & Handley, H. (1990, November). Relationship between teacher self-concept and teacher efficacy. Paper presented at the annual meeting of the Mid-South Educational Research Association. New Orleans, LA.

Tracz, S. & Gibson, S. (1986, November). Effects of efficacy on academic achievement. Paper presented at the annual meeting of the California Educational Research Association. Marina del Rey, CA.

Willower, D., Eidell, T., & Hoy, W. (1967). Some comments on inquiries on schools and pupil control. The Pennsylvania State University Studies, 26, 2-69.