DOCUMENT RESUME

ED 271 505 TM 860 414

AUTHOR Hillman, Susan J.
TITLE Measuring Self-Efficacy: Preliminary Steps in the Development of a Multi-Dimensional Instrument.
PUB DATE Apr 86
NOTE 54p.; Paper presented at the Annual Meeting of the American Educational Research Association (70th, San Francisco, CA, April 16-20, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Adults; Behavior Patterns; Elementary Education; Forced Choice Technique; Grade 4; *Locus of Control; Principals; Questionnaires; *Self Concept Measures; Self Evaluation (Individuals); Teachers; *Test Construction; *Test Reliability; *Test Validity
IDENTIFIERS *Self Efficacy

ABSTRACT

This paper reports on the development of three self-efficacy questionnaires for use in studying the interaction effect among students, teachers, and principals within an educational situation. The Student Self-Efficacy Instrument was designed from a widely used questionnaire administered to children, the Intellectual Achievement Responsibility Questionnaire, with the goal of measuring students' level of self-efficacy. Two other instruments were also developed, the Teacher-Self-Efficacy Instrument and the Principal Self-Efficacy Instrument. Two problems with the original scale required adjustment: (1) stability of cause needed to be considered; and (2) the strength of the locus of control needed to be incorporated into the instrument. The forced choice format was maintained. Eight subscales were generated as a result of 32 situations. Strength of self-efficacy was obtained by asking after each forced-choice item, "How sure are you that this would be the reason?" The student instrument required three major revisions in the process of determining the readability level, the content validity, and reliability of the different scales. Sixteen items were generated to measure teachers' level of self-efficacy and were tested for content validity and reliability. The original Principal Self-Efficacy Instrument paralleled the format of the teachers' instrument. The instruments were tested by 758 fourth grade students, 35 teachers, and 19 principals in 20 Michigan public elementary schools. A two-page list of references and the three instruments are appended. (LMO)

Measuring Self-Efficacy: Preliminary Steps in the Development of a Multi-Dimensional Instrument

Susan J. Hillman

Indiana University[1]

Paper presented at the annual convention of the American Educational Research Association, San Francisco, April 1986.

[1]Dr. Hillman is presently an Assistant Professor in the Education Department at North Adams State College, North Adams, MA.

MEASURING SELF-EFFICACY: PRELIMINARY STEPS IN THE DEVELOPMENT OF A MULTI-DIMENSIONAL INSTRUMENT

Background

Self-efficacy was first used by Bandura (1977) to label a person's predicted success in executing the behavior needed to produce a specified outcome or set of outcomes. In three separate reviews of the literature on effective teachers, "sense of efficacy"--the belief that what one does will affect student achievement--was identified as a stable individual difference found in effective teachers (Brophy, 1982; Chu, 1979; Tikunoff, Bossert, Devaney, & Fisher, 1981). Armor, Conry-Osequero, Cox, King, McDonnell, Pascal, Pauly, & Zellman (1976) also found a strong sense of teachers' self-efficacy present where large increases in achievement levels in reading were attained. Brophy and Evertson (1976) captured the importance of this variable's presence in teachers, when they wrote:

> It is important to note the the difference between successful and unsuccessful teachers was not in the presence or absence of these problems themselves, but in the ways that the teachers reacted to them. Successful teachers had the same kinds of problems, but they responded with behavior designedto overcome them not with resignation and defeat. Thus, a fundamental attribute of the successful teacher's was a "can do" attitude, a feeling that they were capable of coping with whatever problems came along. Coupled with this was the assumption of personal responsibility for whatever might happen in the classroom. These teachers felt that they could and would control what happened in the classroom, and consequently they attributed responsibility for what happened to themselves. In contrast, teachers who felt powerless to cope with

problems usually attempted to shift responsibility to factors outside of their control. (p. 40)

Though much of the research has concentrated on teachers' self-efficacy, the presence of self-efficacy in students and principals could be predicted to yield similar results. One study which lends support to this prediction was conducted by Brookover, Beady, Flood, Schweitzer, & Wisenbaker (1979). In this research project, these writers did not directly investigate a variable labeled "student self-efficacy". Nevertheless, an inference might be drawn from one student climate variable "student sense of academic futility", which appeared to be similar, when judging the items used to measure this variable (e.g., "I can do well in school if I work hard"). Results showed "student sense of academic futility", where a low score indicated futility, to be significantly and positively correlated with high achievement. This relationship was stronger than any of the other thirteen social climate variables examined.

Research further has demonstrated that self-efficacy can be taught. In a training program for teachers emphasizing their becoming "aware of the importance of their personal behavior with students during the teaching-learning interaction and how it affected both academic achievement and self-concept," results showed that significant student achievement gains were made (Farley, 1982). In earlier work, deCharms (1976) instituted a program to train teachers to serve as models, "acting like Origins and treating the children as Origins" (p. 63). An Origin was a person who was

internally motivated, originating his or her own behavior with "feelings of commitment and competence" (deCharms, 1976, p. 5). deCharms found that experimental classrooms benefited from the teachers' training by developing more "origin-like" thinking than those in the control group. Furthermore, the usual increasing discrepancy between black urban children's achievement scores and the national achievement norms was arrested; while the control group's achievement scores continued to fall below the national norms. Thus, not only can a teacher's sense of self-efficacy be taught, there existed some evidence that this, in turn, could influence students' achievement.

In a similar sense, a few studies have sought to examine the effects of a teacher's or model's level of self-efficacy on the self-efficacy levels of their students. Zimmerman and Ringle (1981) attempted to affect first and second graders' self-efficacy judgments through contact with a model demonstrating persistence and statements of confidence. A lack of variability on children's self-efficacy judgments led these researchers to caution others "that many unanswered questions remain regarding the utility of a self-efficacy construct with young children" (Zimmerman & Ringle, 1981, p. 492). In two studies with older children, teachers modeled behavior reflecting the importance of effort in the successful completion of a task (Schunk, 1980; Schunk, 1981). Following the modeled behavior, fourth grade students were given problems to work out and a measure of their level of self-efficacy in solving such problems was taken. Schunk

(1980, 1981) found modeling to have a positive effect on the self-efficacy levels of the students only if the problems which followed were intermediate not difficult. In a more recent study, Schunk (1982) further found that a teacher attributing success or failure of past achievement to effort, increased the students' self-efficacy levels.

These studies begin to suggest an interactional effect among students, teachers, and principals within an educational situation which warrants further research. However, another issue must be addressed before research of this type can be initiated. Despite the growing research examining self-efficacy, problems have existed in measuring this construct. Self-efficacy, as commonly used in the educational literature, has been measured using Rotter's concept of locus of control (Stipek & Weisz, 1981). Locus of control could either be internal, where the individual believed the outcome of a situation to be contingent on his or her behavior, or external where no perceived contingency between outcome and behavior existed (Lefcourt, 1976; Stipek & Weisz, 1981). In the research a person was said to have a strong sense of self-efficacy only when he or she reflected an internal locus of control. Although most of the research has demonstrated a positive relationship between internal locus of control and achievement behaviors (Lefcourt, 1976; Stipek & Weisz, 1981), the results have been tentative since inconsistencies have existed (Lefcourt, 1976).

Part of the inconsistencies have been thought to be

caused by Rotter's unidimensional view of locus of control (Dweck, Davidson, Nelson, & Enna, 1978; Lefcourt, 1976; Lefcourt, VonBaeyer, Ware, & Cox, 1979; Milgram, 1971; Stipek & Weisz, 1981). Attribution theory, however, has included stability of cause, categorizing causes as either fixed (e.g., intelligence) or variable (e.g., effort), as an important dimension in interacting with locus of control in predicting achievement behaviors (Lefcourt, 1976). Figure 1 reflects this interaction. Persons having an internal locus of control but attributing their success to a variable cause such as effort differ from persons having an internal locus of control and attributing their success to a fixed cause such as ability. The latter group has reflected higher achievement motivation and greater persistence on task (Lefcourt, 1976; Stipek & Weisz, 1981). These differences might also affect their sense of self-efficacy. In measuring self-efficacy then, locus of control should not be the only measure, but, in addition, the perceived cause should be researched to determine if this dimension is important.

		LOCUS OF CONTROL	
		Internal	External
STABILITY OF CAUSE	Fixed	(e.g., ability)	(e.g., task difficulty)
	Variable	(e.g., effort)	(e.g., luck)

Figure 1. Interaction between locus of control and stability of cause (Lefcourt, 1976, p. 78).

Furthermore, self-efficacy has been predicted to be situationally specific (Bandura, 1981; Fuller, Wood, Rapoport, & Dornbusch, 1982; Lefcourt, 1976; Stipek & Weisz, 1981). Whereas a student might possess a strong sense of self-efficacy in sports, he or she might not have the same sense in an academic setting. Based on his research, Gregory (1978, p. 848) wrote, "the locus of control construct will have greater utility if investigators use assessment instruments designed for more specific purposes. Only then can consistent and theoretically relevant data be expected." There does not exist one general level of self-efficacy which a person either does or does not possess. Educational research which measures self-efficacy must be pursued within an academic context in order to obtain an accurate measure of the construct within this setting.

In addition, within any situationally specific context, both negative and positive situations could occur, e.g., passing a test/failing a test. Discrepancies abound in the literature as to whether positive and negative situations affect one's level of self-efficacy (Chu, 1979; Gregory, 1978; Kanoy, 1980). Most locus of control instruments have attempted to balance negative and positive situations to control for this potential problem.

Level and strength of self-efficacy, Bandura (1981) argues, are two other dimensions of importance in determining self-efficacy which have been overlooked. Level refers to task difficulty. In measuring self-efficacy, if

only tasks low in perceived difficulty are included in an instrument, then a bias would occur in favor of high self-efficacy scores. On the other hand, if only tasks high in perceived difficulty are used, a bias would occur favoring low self-efficacy scores. Strength is another dimension which must be considered when measuring self-efficacy. Strength, as used by Bandura (1981), describes how strong a person's sense of self-efficacy is. Bandura maintained that self-efficacy did not exist in a yes-no definitive sense, but instead, tended to fall on a continuum from weak to strong.

In summary, the research on the variable, self-efficacy, has demonstrated a postive relationship with achievement. Nonetheless, investigations thus far have evidenced two major problems. First, a problem has existed in conceptualizing and measuring the construct, self-efficacy. Drawing from social learning theory and attribution theory, a multi-dimensional approach has been suggested for any further research to follow. Locus of control and stability of cause should be assessed within the academic context of both positive and negative situations. The instrument should reflect various levels of task difficulty with care not to load on either of the extremes, high or low, while further providing a means for persons to indicate where their perceived sense of self-efficacy lies between weak and strong.

Second, studies thus far have primarily focused on one set of individuals at a time ignoring the possible interactions which may take place. Research on learning

should instead examine the total academic situation including the student's, teacher's, and principal's sense of self-efficacy. Hence, instruments need to be developed with each group in mind.

Instrument Development

Student Self-Efficacy Instrument

Stipek and Weisz (1981), in describing instruments measuring locus of control, point to Crandall's Intellectual Achievement Responsibility Questionnaire (IAR) as the most widely used questionnaire administered to children. Several characteristics of this instrument make it attractive for use in measuring students' level of self-efficacy. First, it is written for Grades 3-12 thereby including the fourth grade which was the population to be examined in this study. Second, the questions are cast within an academic context. Two problems exist with the IAR, though, which calls for revision and the development of a new scale. Stability of cause, as discussed in the literature review, should be included in assessing self-efficacy. The IAR does not take stability of cause into consideration. In addition, the IAR does not measure the strength of the locus of control. This, too, needed to be incorporated into the new instrument.

The forced choice format of the IAR was maintained. A stem presented a situation, e.g., "You do well on a test at school." Two possible reasons for explaining the situation followed, e.g., "(a) because you studied for it, or (b) because you were lucky." The students were asked to choose

the one reason chey felt best explained why the situation occurred. Thirty-two situations were generated. Half of the situations were positive ("You do well on a test at school."); half negative ("You do not do well on a test at school."). With each positive or negative situation, an internal and external reason were given from which the student was asked to select one. Thus, thirty-two internal reasons and thirty-two external reasons were presented. Each internal and external reason was further balanced to include an even number of fixed and variable items. Essentially eight subscales were generated: 1) positive internal fixed; 2) positive internal variable; 3) positive external fixed; 4) positive external variable; 5) negative internal fixed; 6) negative internal variable; 7) negative external fixed; and 8) negative external variable. Finally, all factors were cross matched to produce the following:

Four positive situations with an internal fixed and an external fixed reason

Four positive situations with an internal fixed and an external variable reason

Four positive situations with an internal variable and an external fixed reason

Four positive situations with an internal variable and an external variable reason

Four negative situations with an internal fixed and an external fixed reason

Four negative situations with an internal fixed and an external variable reason

Four negative situations with an internal variable and an external fixed reason

Four negative situations with an internal variable and an external variable reason

This even distribution of the mult-dimensions of self-efficacy--positive/negative; internal/external; fixed/variable--offered an instrument well-grounded in the research literature. Furthermore, it provided an opportunity to analyze the different subscales separately to determine if a particular factor or dimension should be examined separately as opposed to generating a single total score for self-efficacy.

The strength of self-efficacy was obtained by asking after each forced-choice item, "How sure are you that this would be the reason?" A Likert-type scale was developed for students to choose from a range of five choices: not sure, a little sure, medium sure, pretty sure, and very sure. Each response was given the following points:

not sure	= 1 point
a little sure	= 2 points
medium sure	= 3 points
pretty sure	= 4 points
very sure	= 5 points

For example, with a positive item, if a student chose an internal fixed reason and was pretty sure of this reason, a score of four (4) would be given to the positive internal fixed subscale. Finally, all individual scores were summed for each selected response within a subscale.

Once designed, the Student Self-Efficacy Instrument went through three major revisions in the process of determining the readability level, the content validity, and finally, the reliability of the different scales.

Readability Level

Two readability formulas were used to determine the readability level of the Student Self-Efficacy Instrument and revise it to match the population to be sampled.

The first formula used was based on the percentage of unfamiliar words (words outside the Dale list of 3,000 words) and average sentence length (Dale & Chall, 1948). Words were replaced (e.g., "answer" was substituted for the word "respond"). Sentences were reduced in length or converted into two shorter ones. The resulting readability scores, after revisions, was 4.77 for the self-efficacy items. A raw score of 4.9 or less indicated a fourth grade and below reading level; therefore, by this formula the scales' readability level was below fourth grade.

The Fry graph for estimating readability (Fry, 1968) was then used as a second check on the readability level of the Student Self-Efficacy Instrument. Average number of sentences and syllables per 100 words were calculated with this method. The self-efficacy items had an average of 131.33 syllables and 10.81 sentences per 100 words which is within the upper third grade reading level.

On the basis of these two measurements, the readability level of the Student Self-Efficacy Instrument appeared to be about at the third to fourth grade reading level. The target population for this study was fourth grade students, therefore, the instrument was judged to be appropriate for use by the majority of fourth graders. Even so, the questionnaire was read orally in case some might encounter reading

difficulties.

Content Validity

For the purposes of validity, the content of the instrument must square with the construct of self-efficacy. Hence, a panel of six experts judged the Student Self-Efficacy Instrument for content validity. Item by item analysis was conducted to determine if the dimensions (positive/negative; internal/external; fixed/ variable) were represented as intended. Each expert judged first whether the situation as posed in the stem of each item was positive or negative. Second, they determined whether the options were internal or external, and then if the options could be broken down further into fixed and variable. Levels of agreement were calculated on each dimension--positive/negative, internal/external, fixed/variable--by dividing the sum of the number of experts who agreed on each item by the total possible score if all experts had agreed on all of the items. General comments were also gathered on the scale.

The following levels of agreement in identifying the dimensions of the construct self-efficacy were generated:

dimensions	level of agreement
positive/negative	97.40%
internality/externality	98.44%
fixed/variable for internal items	93.23%
fixed/variable for external items	88.02%

General criticism of the self-efficacy scale revolved around confusion in distinguishing between the fixed/variable dimension. Internal items were easier to differentiate into

fixed (ability) and variable (effort). External items were difficult where the literature defined fixed as relating to task difficulty and variable relating to luck. The items with the lowest level of agreement (less than five experts agreeing, which included two fixed/variable internal items and nine fixed/variable external items) were revised and resubmitted to the panel. Level of agreement rose to the following levels:

dimensions	level of agreement
fixed/variable (internal items)	95.83%
fixed/variable (external items)	96.88%

Reliability

The final stage of revision encompassed the administration of the Student Self-Efficacy Instrument to a sample of fourth grade students. Fifty-eight fourth graders participated from a local Indiana elementary school. The method used to determine reliability was coefficient alpha. Cronbach's alpha is based on the consistency of responses to all items within a scale or subscale (Anastasi, 1982). A high alpha level reflects a high inter-item consistency demonstrating the items to be homogeneous or measuring the same domain.

The self-efficacy instrument was analyzed by subscale. Table 1 displays the alpha level obtained on each subscale. Since many of the subscale's alpha levels were not high, further examination was required.

Table 1

Student Self-Efficacy Scale: The Alpha Levels on the Original Eight Subscales

Subscale	Alpha Level
Positive	
internal fixed	.80
internal variable	.49
Negative	
internal fixed	.57
internal variable	.61
Positive	
external fixed	.45
external variable	.78
Negative	
external fixed	.34
external variable	.59

Item analysis demonstrated that the dimensions fixed and variable were similar measures. The correlation coefficient was .68 at a significance level of $p < .01$. This homogeneity suggested collapsing the eight subscales into four. Table 2 reflects the alpha levels of the four subscales when fixed and variable differentiations were subsumed under the larger categories.

Table 2

Student Self-Efficacy Scale: The Alpha Levels on the Four Subscales Collapsing Fixed/Variable Dimension

Subscale	Alpha Level
Positive internal	.81
Negative internal	.72
Positive external	.77
Negative external	.60

The alpha level for the negative external subscale was a modest .60. A great part of the problem rested in the small number of students who opted to select a negative external option. This alpha level was based on very few responses, an average of 16 out of 58 students. This was a very small number on which to obtain a stable alpha level. Consequently, a decision was made to change the self-efficacy scale from a forced-choice format to a format where each option would become a separate question. For example, an item such as

I. You do well on a test a school. Is it because

_____(a) you studied for it, or
_____(b) you were lucky?

How sure are you that this would be the reason?

not sure	a little sure	medium sure	pretty sure	very sure

became two separate items as follows:

I. You do well on a test at school. This could have happened because you studied for it. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

II. You do well on a test at school. This could have happened because you were lucky that day. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

The completely revised Student Self-Efficacy Instrument, incorporating all the changes indicated, can be found in Appendix A.

Teacher Self-Efficacy Instrument

Sixteen items were generated to measure teachers' level of self-efficacy. Half of the items presented positive situations which could occur in their classroom (e.g., "most of your students do well on a test"); half presented negative situations (e.g., "your students do poorly on a test"). Four reasons were listed with each item as possible explanations as to why this situation might have occurred. The first reason attributed the situation to either the teacher's ability or inability to teach (internal fixed). The second reason attributed the situation to either their effort or lack of effort (internal variable). The third placed responsiblity on materials--the test content or subject content (external fixed). The fourth assigned responsibility to

either luck or lack of luck (external variable). As with the student instrument, the Teacher Self-Efficacy Instrument was actually composed of eight subscales with eight items falling under each subdivision: (1) positive internal fixed; (2) positive internal variable; 3) negative internal fixed; 4) negative internal variable; 5) positive external fixed; 6) positive external variable; 7) negative external fixed; and 8) negative external variable. In measuring the strength of self-efficacy, teachers were asked to indicate whether they "strongly agree", "agree", "unsure", "disagree", or "strongly disagree" with each reason as the probable cause for the situation. Scores on each subscale were calculated by assigning the following points to the possible responses--strongly agree = 5 points; agree = 4 points; unsure = 3 points; disagree = 2 points; strongly disagree = 1 point--and summing the points across all eight items.

Content Validity

The process of checking the content validity of the Teacher Self-Efficacy Instrument was the same as outlined for the student instrument. The teacher scale generated the following levels of agreement on identifying the different dimensions found with the construct self-efficacy:

dimensions	level of agreement
positive/negative	97.92%
internality/externality	100.00%
fixed/variable for internal items	100.00%
fixed/variable for external items	98.96%

General comments on this self-efficacy scale revolved again around the dimensions of fixed and variable, especially with

external items. Although all experts were able to distinguish fixed and variable as defined by the literature, it was the overall feeling that these categories were actually arbitrary and open to dispute.

Reliability

The Teacher Self-Efficacy Instrument was completed by twenty-five Indiana public elementary school teachers. The reliability of the instrument was checked by obtaining Cronbach's alpha on each subscale. Table 3 displays the alpha levels obtained.

Table 3

Teacher Self-Efficacy Instrument: The Alpha Levels on the Original Eight Subscales

Subscale	Alpha Level
Positive	
internal fixed	.93
internal variable	.92
Negative	
internal fixed	.65
internal variable	.83
Positive	
external fixed	.79
external variable	.79
Negative	
external fixed	.43
external variable	.88

The negative external fixed subscale was found to have

a low alpha level of .43. A close examination of the item-by-item analysis indicated a problem with the external fixed reason found under question 2. This item had a correlation of .08 with the other items in its subscale. Clearly, revision was necessary. The item was reworded from "the topic area is particularly difficult" to "the material you are teaching is difficult to comprehend."

In order to test the feasibility of subsuming the fixed/variable dimension under the four larger categories (positive internal, negative internal, positive external, negative external), a further check was executed. Three reasons for this checking existed. First, the experience with the Student Self-Efficacy Instrument indicated that the fixed/variable dimension did not differentiate. Second, the general comments from the panel of experts reflected a belief that these factors were similar. Third, a correlation coefficient of .75 was obtained ($p < .01$) indicating homogeneous variables. Table 4 displays the alpha levels of the four subscales when the fixed/variable dimension was abandoned. The high alpha levels obtained following the collapse of the eight subscales into four supported the contention that the fixed/variable dimension was not dichotomous. The alpha level of the total Teacher Self-Efficacy Instrument was .88.

Table 4

Teacher Self-Efficacy Instrument: The Alpha Levels on the Four Subscales Collapsing the Fixed/Variable Dimension

Subscale	Alpha Level
Positive internal	.93
Negative internal	.83
Positive external	.87
Negative external	.81

See Appendix B for a copy of the Teacher Self-Efficacy Instrument with the minor changes as mentioned in this section included.

Principal Self-Efficacy Instrument

The original Principal instrument paralleled the format of the Teacher's. In short, the two questionnaires were the same with the exception that the items from each were cast within different contexts. Principals' items related to the achievement of their total school, while the teachers' items had a classroom focus.

Content Validity

The content validity examination of the Principals' self-efficacy items produced the following levels of agreement:

dimensions	level of agreement
positive/negative	97.92%
internal/external	97.40%
fixed/variable with internal items	100.00%
fixed/variable with external items	93.75%

General comments again criticized the fixed/variable distinction, primarily with the external items, as being unnatural and forced.

Reliability

Forty-four Indiana elementary school principals participated in the administration of the Principal Self-Efficacy Instrument. An index of reliability of the instrument was obtained using Cronbach's alpha. The self-efficacy scale was analyzed by subscales.

Table 5 reflects the alpha levels obtained on each of the eight subscales. Item-by-item analysis demonstrated no inferior items.

Table 5

Principal Self-Efficacy Instrument: The Alpha Levels on the Original Eight Subscales

Subscales	Alpha Levels
Positive	
internal fixed	.84
internal variable	.80
Negative	
internal fixed	.86
internal variable	.85
Positive	
external fixed	.57
external variable	.85
Negative	
external fixed	.74
external variable	.85

As with the Student and Teacher Self-Efficacy Instruments, an analysis was run collapsing the subscales into four by assimilating the fixed/variable dimension. Table 6 presents the alpha levels on the resulting four subscales. As evidenced by the high alpha levels, the fixed/variable dimension appeared to assess the same components of the construct self-efficacy. Further analysis demonstrated a correlation coefficient of .94 ($p < .01$) between fixed and variable items. The alpha level for the total items together was .91.

Table 6

Principal Self-Efficacy Instrument: The Alpha Levels on the Four Subscales Collapsing the Fixed/Variable Dimension

Subscale	Alpha Level
Positive internal	.87
Negative internal	.91
Positive external	.88
Negative external	.85

A copy of the Principal Self-Efficacy Instrument can be found in Appendix C.

Conclusive Reliability Check on All Three Instruments

As part of a larger study, 758 fourth grade students, 35 teachers, and 19 principals completed their respective version of the revised self-efficacy instruments. The subjects were drawn from 20 public elementary schools--10 of

which were high achieving schools and 10 of which were low achieving. The schools represented a stratified random sample from all Michigan public elementary schools.

The reliability results on the self-efficacy subscales for students, for teachers, and for principals are displayed in Table 8. Also, the alpha level for each total instrument is included. All alpha levels for the subscales were substantial. Even analysis with the total scales reflected a very high level of homogeneity among all items within the test. The construct measured appears to be homogeneous. Hence, each instrument could be used as a total scale or by its subscales.

Table 7

Alpha Levels for Self-Efficacy Subscales and Total Scores Across Students, Teachers, and Principals

Subscale	Student	Teacher	Principal
Positive internal	.84	.97	.96
Negative internal	.81	.92	.96
Positive external	.83	.89	.90
Negative external	.83	.82	.87
Total Scale	.88	.95	.95

Summary

A strong sense of self-efficacy in students, teachers, and principals has been linked to higher student achievement. Nevertheless, researchers and scholars have pointed out the instability of the findings since the current instruments used to measure this construct have reflected a uni-dimensional view. In this manner, inconsistent findings have emerged (Lefcourt, 1976; Stipek & Weisz, 1981). The importance of the study at hand is the inclusion of multi-dimensions in measuring self-efficacy and balancing these dimensions within the instruments. Highly reliable instruments have been generated which also are more versatile in that the instruments allow for the different dimensions of self-efficacy to be studied more closely through subscale analysis. Further validation of the instruments must of course be forthcoming--but the preliminary steps are now in place.

References

Anastasi, A. (1982). Psychological testing. Fifth edition. New York: MacMillan Publishing Co., Inc.

Armor, D., Conry-Osequero, P., Cos, M., King, N., McDonnell, L., Pascal, A., Pauly, E. & Zellman, G. (1976). Analysis of the school preferred reading program in selected Los Angeles minority schools. Santa Monica, California. (ERIC Document Reproduction Service No. ED 130 243)

Bandura, A. (1977). Social learning theory. Edgewood Cliffs, N. J.: Prentice-Hall, Inc.

Bandura, A. (1981). Self-referent though: A developmental analysis of self-efficacy. In J. H. Flavell and L. Ross (Eds.), Social cognitive development. Cambridge: Cambridge University Press.

Brookover, W., Beady, C., Flood, P., Schweitzer, J., and Wisenbaker, J. (1979). School social systems and student achievement: Schools can make a difference. New York: J. F. Bergin Publishers, Inc.

Brophy, J. (1982). Successful teaching strategies for the inner-city child. Phi Delta Kappan, 63, 527-530.

Brophy, J. E. & Evertson, C. M. (1976). Learning from teaching: Causes and consequencies. Boston: Allyn and Bacon, Inc.

Chu, L. (1979). Toward a humanistic behaviorism: Self-efficacy in multicultural education. Las Cruces: New Mexico State University. (ERIC Document Reproduction Service No. ED 179 326)

Dale, E., & Chall, J. S. (1948). A formula for predicting readability. Educational Research Bulletin, 27, 11-20, 28.

deCharms, R. (1976). Enhancing motivation. New York: Irvington Publishers, Inc.

Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. An experimental analysis. Developmental Psychology, 14, 268-276.

Farley, J. R. (1982). Raising student achievement through the affective domain. Educational Leadership, 39, 502-503.

Fry, E. B. (1968). A readability formula that saves time. The Journal of Reading, 11, 513-516.

Fry, E. B. (1969). The readability graph validated at primary levels. The Reading Teacher, 22, 534-538.

Fuller, B., Wood, K., Rapoport, T., & Dornbusch, S. (1982). The organizational context of individual efficacy. Review of Educational Research, 52, 7-30.

Gregory, W. L. (1978). Locus of control for positive and negative outcomes. Journal of Personality and Social Psychology, 36, 840-849.

Kanoy, R. C. (1980). Locus of control and self-concept in achieving and underachieving bright elementary students. Psychology in the Schools, 17, 395-399.

Lefcourt, H. M. (1976). Locus of control. Hillsdale, N.J.: Lawrence Erlbaum Associates, Publishers.

Lefcourt, H. M., VonBaeyer, C. L., Ware, E. E., & Cox, D. J. (1979). The multidimensional-multiattributional causality scale: The development of a goal specific locus of control scale. Canadian Journal of Behavioral Science, 11, 286-304.

Milgram, N. A. (1971). Locus of control in Negro and White children at four age levels. Psychological Reports, 29, 459-465.

Schunk, D. H. (1980). Self-efficacy in achievement behavior. Boston: Paper presented at American Educational Research Association. (ERIC Document Reproduction Service No. ED 183 295)

Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. Journal of Educational Psychology, 73, 93-105.

Stipek, D. J., & Weisz, J. R. (1981). Perceived perso. control and academic achievement. Review of Educational Research, 51, 101-137.

Tikunoff, W., Bossert, S., Devaney, K., & Fisher, C. (1981). Toward a research and development agenda for successful schooling practices. Journal of Education for Teaching, 7, 97-126.

Zimmerman, B. J., & Ringle, J. (1981). Effects of model persistence and statements of confidence on children's self-efficacy and problem solving. Journal of Educational Psychology, 73, 485-493.

APPENDIX A

STUDENT SELF-EFFICACY INSTRUMENT

Directions: Each question in this part will tell you that something happened. Then it will say <u>why</u> it happened. You are to decide whether you are <u>very sure</u>, <u>pretty sure</u>, <u>medium sure</u>, <u>a little sure</u>, or <u>not sure</u> that this is the reason why the situation happened.

For example:

x. You get the highest grade on a test. This could have happened because you are lucky. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

Decide which is the right answer for you. Then fill in that circle of the number you are on. This person was <u>a little sure</u> that getting the highest grade on a test could be because of being lucky.

x. A B C D E
   ① ② ③ ● ⑤

REMEMBER, you have to pretend that the situation really did happen. You only are deciding how sure you are that the reason could be true.

TAKE YOUR TIME AND ANSWER AS WELL AS YOU CAN. THERE ARE NO RIGHT OR WRONG ANSWERS. JUST DECIDE HOW YOU FEEL ABOUT EACH ONE. NOW TURN THE PAGE AND BEGIN. YOU WILL BE STARTING WITH QUESTION 10.

1. You read a story and can not remember much of it. This could have happened because the story was not any good. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

2. You read a story and can not remember much of it. This could have happened because you did not read it carefully. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

3. Suppose your parents say you are doing well in school. This could happen because you are trying real hard to do well. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

4. Suppose your parents say you are doing well in school. This could happen because they are in a good mood. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

5. Suppose you did better than usual in a subject at school. This could have happened because you tried harder. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

6. Suppose you did better than usual in a subject at school. This could have happened because you were lucky. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

7. A teacher passes you to the next grade. This could have happened because she was a good teacher. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

8. A teacher passes you to the next grade. This could have happened because of the work you did. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

9. You do well on a test at school. This could have happened because you studied for it. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

10. You do well on a test at school. This could have happened because you were lucky that day. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

11. You are having trouble understanding something in school. This could have happened because it is an unlucky day for you. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

12. You are having trouble understanding something in school. This could have happened because you did not listen carefully. How sure are you that this would be the reason?
   a. very sure
   b. pretty sure
   c. medium sure
   d. a little sure
   e. not sure

13. You learn something quickly in school. This could happen because you paid close attention. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

14. You learn something quickly in school. This could happen because the teacher explains things clearly. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

15. You received a poor grade in a subject. This could have happened because you were not lucky enough to get a good grade. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

16. You received a poor grade in a subject. This could have happened because you had not studied enough. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

17. Suppose you study to become a teacher, scientist, or doctor and you fail. This could happen because you did not work hard enough. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

18. Suppose you study to become a teacher, scientist, or doctor and you fail. This could happen because you needed some help and other people were not able to help you. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

19. A teacher says to you, "Your work is fine." This could happen because teachers always say something like this to encourage pupils. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

20. A teacher says to you, "Your work is fine." This could happen because you did a good job. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

21. You do not do well on a test at school. This could have happened because you were not lucky that day. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

22. You do not do well on a test at school. This could have happened because you did not study for it. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

23. A teacher did not pass you to the next grade. This could have happened because she was not a good teacher. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

24. A teacher did not pass you to the next grade. This could have happened because you did not try hard enough. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

25. You forgot something you heard in class. This could have happened because you were not lucky that day. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

26. You forgot something you heard in class. This could have happened because you did not try very hard to remember. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

27. You were not sure about the answer to a question your teacher asked you. Your answer turned out to be right. This could have happened because you were lucky. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

28. You were not sure about the answer to a question your teacher asked you. Your answer turned out to be right. This could have happened because you gave the best answer you could think of. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

29. You read a story and remembered most of it. This could have happened because you read the story carefully. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

30. You read a story and remembered most of it. This could have happened because the story was well written. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

31. A teacher says to you, "Try to do better." This could happen because she always picks on you. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

32. A teacher says to you, "Try to do better." This could happen because your work was not as good as it could be. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

33. You find it hard to do your homework. This could happen because you are not smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

34. You find it hard to do your homework. This could happen because the teacher is not good at explaining how to do homework. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

35. People think you are bright. This could happen because people like to think nice things about others. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

36. People think you are bright. This could happen because you really are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

37. You got all D's on your report card. This could have happened because you are dumb. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

38. You got all D's on your report card. This could have happened because you were not lucky this time. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

39. A teacher passes you to the next grade. This could happen because she is always nice. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

40. A teacher passes you to the next grade. This could happen because you are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

41. You do well on a test at school. This could have happened because this was a lucky day for you. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

42. You do well on a test at school. This could have happened because you are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

43. You have trouble understanding something in school. This could happen because your teacher does not explain things clearly. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

44. You have trouble understanding something in school. This could happen because you do not understand things quickly. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

45. You read a story and can not remember much of it. This could have happen because the story was not interesting. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

46. You read a story and can not remember much of it. This could have happen because you do not have a good memory. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

47. Your parents say you are doing well in school. This could happen because they are feeling good that day. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

48. Your parents say you are doing well in school. This could happen because you are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

49. You learn something quickly in school. This could happen because you are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

50. You learn something quickly in school. This could happen because your teacher is a good teacher. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

51. You received a poor grade in a subject. This could have happened because you were not lucky enough to do well. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

52. You received a poor grade in a subject. This could have happened because you are not good in that subject. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

53. You got all A's and B's on your report card. This could have happened because you are smart. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

54. You got all A's and B's on your report card. This could have happened because you were lucky. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

55. You did not do well on a test at school. This could have happened because you were not able to do well. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

56. You did not do well on a test at school. This could have happened because it was not one of your lucky days. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

57. A teacher didn't pass you to the next grade. This could have happened because she was not able to help you when you needed it. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

58. A teacher didn't pass you to the next grade. This could have happened because you were not smart enough. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

59. You gave the wrong answer to a question the teacher asked you. This could have happened because you were not lucky. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

60. You gave the wrong answer to a question the teacher asked you. This could have happened because you are dumb. How sure are you that this would be the reason?
    a. very sure
    b. pretty sure
    c. medium sure
    d. a little sure
    e. not sure

61. You read a story and remembered most of it. This could have happened because you have a good memory. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

62. You read a story and remembered most of it. This could have happened because the story was very interesting. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

63. A teacher says to you "You are a good student." This could happen because she is always nice. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

64. A teacher says to you "You are a good student." This could happen because you are smart. How sure are you that this would be the reason?

a. very sure
b. pretty sure
c. medium sure
d. a little sure
e. not sure

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

THE END. THANK YOU VERY MUCH!!!

APPENDIX B

TEACHER SELF-EFFICACY INSTRUMENT

Directions: For each of the following statements posing a situation, there will be four hypothetical reasons why the situation exists. You are to respond to each reason indicating whether you:

"SA" - Strongly Agree
"A" -- Agree
"U" -- Unsure
"D" -- Disagree
"SD" - Strongly Disagree

Circle the letters corresponding to your answer.

Example: x. If most students complete a homework assignment you give, it is usually because . . . . . .

I-----I-----I-----I-----I
(SA) A U D SD — a. of your natural ability* to teach.

I-----I-----I-----I-----I
SA A U D (SD) — b. of the effort you put into teaching.

I-----I-----I-----I-----I
SA A (U) D SD — c. the assignment was easy for all to complete.

I-----I-----I-----I-----I
(SA) A U D SD — d. your class is a particularly good class.

This person strongly agreed with reasons "a" and "d", but was unsure about "c". The respondent strongly disagreed that his or her effort would affect whether a homework assignment would be completed or not.

Please be sure to respond to each possible reason. For each statement you should have four responses. It is important that you respond as candidly and as accurately as possible given that the particular situation exists.

*One clarification may be needed. For the purposes of this questionnaire, "natural ability" refers to a competency which is not gained through hard work or training but is "natural" by virtue of being born with this ability--such as a "natural born leader."

1. If a student does well in your class, it is probably because

I-----I-----I-----I-----I
SA A U D SD

a. of your natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. of the effort you put into teaching.

I-----I-----I-----I-----I
SA A U D SD

c. the assignments are easy.

I-----I-----I-----I-----I
SA A U D SD

d. you were lucky to get at least a few good students.

2. When your class is having trouble understanding something you have taught, it is usually because

I-----I-----I-----I-----I
SA A U D SD

a. you do not possess a natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. you did not put in enough effort.

I-----I-----I-----I-----I
SA A U D SD

c. the material you are teaching is difficult to comprehend.

I-----I-----I-----I-----I
SA A U D SD

d. you were unlucky in getting a particularly slow class this year.

3. When most of your students do well on a test, it is more likely to be because

I-----I-----I-----I-----I
SA A U D SD

a. of your natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. of the effort you put into teaching.

I-----I-----I-----I-----I
SA A U D SD

c. the test was easy.

I-----I-----I-----I-----I
SA A U D SD

d. you were lucky to get a class composed of generally good students.

4. When students in your class forget something that you had already explained, it is usually because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess a natural ability teach.
I-----I-----I-----I-----I SA A U D SD	b. you did not put in enough effort in explaining the topic.
I-----I-----I-----I-----I SA A U D SD	c. the topic area is particularly difficult.
I-----I-----I-----I-----I SA A U D SD	d. you were unlucky in getting a particularly slow class this year.

5. Suppose your principal says you are doing a fine job. This is likely to happen because

I-----I-----I-----I-----I SA A U D SD	a. of your natural ability to teach.
I-----I-----I-----I-----I SA A U D SD	b. of the effort you put into teaching.
I-----I-----I-----I-----I SA A U D SD	c. the material you are teaching is quite basic and easy to learn.
I-----I-----I-----I-----I SA A U D SD	d. you were lucky to get a good academically abled class this year.

6. If most of the students in your class are doing very well, it is probably because

I-----I-----I-----I-----I SA A U D SD	a. of your natural ability to teach.
I-----I-----I-----I-----I SA A U D SD	b. of the effort you put into teaching.
I-----I-----I-----I-----I SA A U D SD	c. the material you are teaching is quite basic and easy to learn.
I-----I-----I-----I-----I SA A U D SD	d. you were lucky to get a good class academically to begin with.

7. If you are working with a student who can't understand a concept and he suddenly "gets it", it is likely to happen because

I-----I-----I-----I-----I
SA A U D SD

a. of your natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. of the effort you put into teaching.

I-----I-----I-----I-----I
SA A U D SD

c. the material takes a while to understand anyway.

I-----I-----I-----I-----I
SA A U D SD

d. you were lucky at that moment.

8. If few of your students by the end of the year are able to master the basic objectives established for their grade level, it is most likely because

I-----I-----I-----I-----I
SA A U D SD

a. you do not possess a natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. you did not put in enough effort.

I-----I-----I-----I-----I
SA A U D SD

c. the objectives were established unrealistically high.

I-----I-----I-----I-----I
SA A U D SD

d. you were unlucky in being assigned a particularly slow class this year.

9. When a large percent of the students in your class are doing poorly, it is usually happens because

I-----I-----I-----I-----I
SA A U D SD

a. you do not possess a natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. you did not put in enough effort.

I-----I-----I-----I-----I
SA A U D SD

c. the topic area is particularly difficult.

I-----I-----I-----I-----I
SA A U D SD

d. you were unlucky in being assigned a particularly slow class this year in understanding and learning.

10. Suppose you present some new material to your students and most of them remember it. This is likely to be because

I-----I-----I-----I-----I SA A U D SD	a. of your natural ability to teach.
I-----I-----I-----I-----I SA A U D SD	b. of the effort you put into teaching.
I-----I-----I-----I-----I SA A U D SD	c. the material is quite basic and easy to learn.
I-----I-----I-----I-----I SA A U D SD	d. you are lucky to have a good class academically to begin with.

11. When your students do poorly on a test, it is because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess a natural ability to teach.
I-----I-----I-----I-----I SA A U D SD	b. you did not put in enough effort in teaching the material covered by the test.
I-----I-----I-----I-----I SA A U D SD	c. the test was too difficult.
I-----I-----I-----I-----I SA A U D SD	d. you were unlucky in being assigned a particularly slow class this year.

12. If a child does not do well in your class it is probably because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess a natural ability to teach.
I-----I-----I-----I-----I SA A U D SD	b. you did not put in enough effort in helping this child.
I-----I-----I-----I-----I SA A U D SD	c. the material is particularly difficult.
I-----I-----I-----I-----I SA A U D SD	d. you happened to get some poor students this year who started off way below the others.

13. When you are having a hard time getting your students interested in a lesson, it is usually because

I-----I-----I-----I-----I
SA A U D SD

a. you do not possess a natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. you are not putting in enough effort.

I-----I-----I-----I-----I
SA A U D SD

c. the lesson is particularly boring.

I-----I-----I-----I-----I
SA A U D SD

d. you were unlucky in getting a group of students who generally are difficult to motivate.

14. If all of your students by the end of the school year are mastering the basic objectives established for their grade level, it is most likely because

I-----I-----I-----I-----I
SA A U D SD

a. of your natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. of the effort you put into teaching.

I-----I-----I-----I-----I
SA A U D SD

c. the objectives are a minimum and easy for all to obtain.

I-----I-----I-----I-----I
SA A U D SD

d. you were lucky to get students who, on the whole, are particularly bright.

15. When your students seem interested in your lesson right from the beginning, it is because

I-----I-----I-----I-----I
SA A U D SD

a. of your natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. of the effort you put into teaching the lesson.

I-----I-----I-----I-----I
SA A U D SD

c. the topic is one which students generally find interesting.

I-----I-----I-----I-----I
SA A U D SD

d. you were lucky to get students who are generally highly motivated to learn.

16. On those days when you are depressed and feel you are not doing as good a job as you would like, it is because

I-----I-----I-----I-----I
SA A U D SD

a. you do not possess a natural ability to teach.

I-----I-----I-----I-----I
SA A U D SD

b. you do not put in enough effort.

I-----I-----I-----I-----I
SA A U D SD

c. the material you are covering is very difficult to teach.

I-----I-----I-----I-----I
SA A U D SD

d. it is one of those unlucky days when everything goes wrong.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE!!!

APPENDIX C

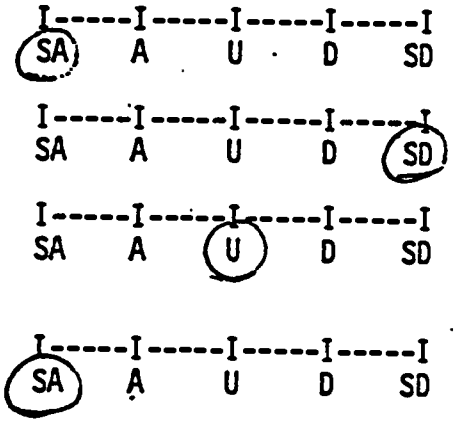
PRINCIPAL SELF-EFFICACY INSTRUMENT

Directions: For each of the following statements posing a situation, there will be four hypothetical reasons why the situation exists. You are to respond to each reason indicating whether you:

"SA" - Strongly Agree
"A" -- Agree
"U" -- Unsure
"D" -- Disagree
"SD" - Strongly Disagree

Circle the letters corresponding to your answer.

Example: x. If your school achieves the highest average score on a recently administered achievement test, it would be because



This person strongly agreed with reasons "a" and "d", but was unsure about "c". The respondent strongly disagreed that his or her effort would affect the situation posed.

Please be sure to respond to each possible reason. For each statement you should have four responses. It is important that you respond as candidly and as accurately as possible given that the particular situation actually exists.

*One clarification may be needed. For the purposes of this questionnaire, "natural ability" refers to a competency which is not gained through hard work or training but is "natural" by virtue of being born with this ability--such as a "natural born leader." As we have gained through research, leaders generally excel in a particular area (e.g., business marketing as opposed to business managing). In education, "instructional leaders" excel in leading the academic and achievement part of schooling.

1. If the achievement level of your school is high, it would be because -

I-----I-----I-----I-----I SA A U D SD	a. you possess a natural ability to be an effective instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. as a principal, you put a great deal of effort into emphasizing academic achievement.
I-----I-----I-----I-----I SA A U D SD	c. the achievement test used to measure the achievement level of your students was too easy.
I-----I-----I-----I-----I SA A U D SD	d. you were lucky to get a good school.

2. If your school appeared to be strong in a particular skill area such as "Language-Spelling Skills", it would be because

I-----I-----I-----I-----I SA A U D SD	a. you possess a natural ability to be an effective instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. as a principal, you emphasize the importance of students acquiring this skill.
I-----I-----I-----I-----I SA A U D SD	c. the materials used in the classroom covering this skill area were too much like the items on the achievement test.
I-----I-----I-----I-----I SA A U D SD	d. you were simply lucky in getting kids that happened to be strong in this area.

3. If very few of the students in your school by the end of the year are able to master the basic statewide objectives established for their grade level, it would be because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess the natural ability to be an instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. your lack of effort in emphasizing the importance of all students mastering the basic objectives.
I-----I-----I-----I-----I SA A U D SD	c. the statewide objectives are unrealistic and too difficult to attain.
I-----I-----I-----I-----I SA A U D SD	d. you were not lucky enough to get assigned to one of the better schools.

4. If your school, which has a history of being a low-achieving school, increases its achievement level this year to above the norm, this would be because of

I-----I-----I-----I-----I SA A U D SD	a. your natural ability to be an instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. your effort in supporting and emphasizing the importance of students' achievement.
I-----I-----I-----I-----I SA A U D SD	c. a change in the achievement testing, making it easier for your students to succeed.
I-----I-----I-----I-----I SA A U D SD	d. your being lucky. Recent redistricting brought brighter students to your school.

5. If the achievement level of your school is below the norm it would be because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess the natural ability to be an instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. you did not put in the effort needed to emphasize high achievement.
I-----I-----I-----I-----I SA A U D SD	c. the materials used in the classroom did not emphasize the areas tested by the achievement measure.
I-----I-----I-----I-----I SA A U D SD	d. you were not lucky enough to get a school of high achievers.

6. If you received a negative evaluation from your superintendent in the area of instructional leadership, this would be because

I-----I-----I-----I-----I SA A U D SD	a. you do not possess the natural ability to be an instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. you do not feel this is an impostant part of your job; therefore, you do not emphasize it.
I-----I-----I-----I-----I SA A U D SD	c. the evaluation was not fair with the standards by which you were measured being too difficult for anyone to attain.
I-----I-----I-----I-----I SA A U D SD	d. your superintendent just happened to be in a critical mood the day he/she wrote the evaluation.

7. If a new science program is initiated in your school and the students' achievement in this area increases significantly, this would be due to

I-----I-----I-----I-----I SA A U D SD	a. your natural ability to be an effective instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. the effort you put into promoting the program and assisting teachers in working with it.
I-----I-----I-----I-----I SA A U D SD	c. a good match between the objectives emphasized in the new science program and the achievement test.
I-----I-----I-----I-----I SA A U D SD	d. your being lucky. Recent redistricting brought brighter students to your school, particularly those having a high aptitude for science.

8. Twenty-five percent (25%) of the students in grades 1-3 were retained and not promoted to the next grade. This rate is higher than any other school in the area. This would be due to

I-----I-----I-----I-----I SA A U D SD	a. your lacking natural ability in being an effective instructional leader.
I-----I-----I-----I-----I SA A U D SD	b. your lack of effort in emphasizing the need for all students to achieve.
I-----I-----I-----I-----I SA A U D SD	c. your school's standards for retention are more rigid than the other schools'.
I-----I-----I-----I-----I SA A U D SD	d. your not being lucky enough to get assigned to one of the better schools.

9. If students do well in your classes, it would be because

I-----I-----I-----I-----I SA A U D SD

a. you have the natural ability to be an instructional leader.

I-----I-----I-----I-----I SA A U D SD

b. you put a great deal of effort into emphasizing the importance of academic achievement.

I-----I-----I-----I-----I SA A U D SD

c. the basic material covered is designed so that even the slowest of students can get some right.

I-----I-----I-----I-----I SA A U D SD

d. you were lucky to get a bunch of kids this year who are smart and self-motivated.

10. Suppose your superintendent commended you on doing a fine job as evidenced by the high level of achievement demonstrated by your students. This would mean

I-----I-----I-----I-----I SA A U D SD

a. a great deal, because you feel you have a natural ability as an instructional leader in your school.

I-----I-----I-----I-----I SA A U D SD

b. a great deal, because you have put in a lot of effort and time into promoting and insuring a high level of achievement for all students.

I-----I-----I-----I-----I SA A U D SD

c. very little, because you suspect the test used to measure the academic achievement of your students was very easy and most should pass it anyway.

I-----I-----I-----I-----I SA A U D SD

d. very little, because you were simply lucky to get a school where the majority of your students have a high enough IQ which enables them to achieve independently of anything you really do.

11. If your school scores very low in a particular subject area such as math on an achievement test, it would be because

I-----I-----I-----I-----I SA A U D SD

a. you do not possess the natural ability to be an instructional leader, particularly in the area of

I-----I-----I-----I-----I SA A U D SD

b. you did not emphasize the importance of achievemer in this subject area as much as the other subjects

I-----I-----I-----I-----I SA A U D SD

c. the math section of the achievement test did not test what was taught.

I-----I-----I-----I-----I SA A U D SD

d. you happened to get a school whose students do not have the ability to achieve in this area.

12. If 95% of the students in your school are mastering the basic objectives established for their grade level, this would be because

I-----I-----I-----I-----I SA A U D SD

a. you possess a natural ability to be an instructional leader.

I-----I-----I-----I-----I SA A U D SD

b. you have emphasized the importance of all students achieving at least the basic objectives before the end of the school year.

I-----I-----I-----I-----I SA A U D SD

c. the basic objectives were established at such a minimum level as to enable even the slowest of students to succeed in mastering them.

I-----I-----I-----I-----I SA A U D SD

d. you were lucky to get a school whose student body tends to be very academically abled.

13. If all students in your school will be promoted this year, this would be because

I-----I-----I-----I-----I
SA A U D SD
a. you possess a natural ability to be an instructional leader.

I-----I-----I-----I-----I
SA A U D SD
b. you have put in a great deal of effort into emphasizing the importance of all students achieving

I-----I-----I-----I-----I
SA A U D SD
c. the majority of teachers are being more lenient by accepting substandard work from students.

I-----I-----I-----I-----I
SA A U D SD
d. you were lucky to have a good bunch of kids this year in all grades who tended to be very academically motivated.

14. If a new math program is a failure--instead of the students' achievement increasing, it falls lower than before--this would be because

I-----I-----I-----I-----I
SA A U D SD
a. you do not possess a natural ability to be an instructional leader.

I-----I-----I-----I-----I
SA A U D SD
b. you did not put enough effort into supporting the new program.

I-----I-----I-----I-----I
SA A U D SD
c. teachers always resist anything new and therefore did not give it a chance.

I-----I-----I-----I-----I
SA A U D SD
d. you were unlucky in choosing this particular program to try out.

15. If your school, which has a history of being a low achieving school, continues again this present year to score low, this would be because

I-----I-----I-----I-----I
SA A U D SD
a. you do not possess a natural ability to be an instructional leader.

I-----I-----I-----I-----I
SA A U D SD
b. you did not put in the effort to emphasize the importance of increasing students' achievement levels.

I-----I-----I-----I-----I
SA A U D SD
c. the achievement test is just too difficult.

I-----I-----I-----I-----I
SA A U D SD
d. you were not lucky enough to get a school where the kids at least possessed the ability to achieve.

16. If a large percent of the students in your school are doing poorly academically, it would be because of

I-----I-----I-----I-----I
SA A U D SD
a. your lacking the natural ability to be instructional leader.

I-----I-----I-----I-----I
SA A U D SD
b. your lack of effort in emphasizing the importance of academic achievement.

I-----I-----I-----I-----I
SA A U D SD
c. the inappropriateness of tests used in evaluating the students' academic achievement.

I-----I-----I-----I-----I
SA A U D SD
d. your being unlucky in getting a school whose students are low achievers.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE!!!