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A SCALE FOR ASSESSING SELF-CONCEPT OR PERCEPTION OF INDEPENDENCE IN LEARNING AND ITS RELATIONSHIP TO UNDERACHIEVEMENT

IN INTERMEDIATE GRADES

A Thesis Presented to the Graduate Faculty Central Washington State College

In Partial Fulfillment of the Requirements for the Degree Master of Education

> by Michael L. Clark August 1967

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ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

I. PURPOSE

A total study consisting of three parts was conducted at Hebeler Elementary School (HES), the laboratory school for Central Washington State College (CWSC). The study was concerned with the measurement and development of independence in learning with intermediate grade students. Developing greater independence in learning was a primary goal of the staff at Hebeler which led to the research project. The main purpose of the overall study was to develop and use three scales which would place students on a continuum of independence in learning.

II. BACKGROUND

The content of the scale was based upon Earl Kelley's <u>a priori</u> postulates (Association for Supervision and Curriculum Development, 1962) for a "fully functioning person." Kelley used as a basis for the postulates his personal observations and the Hanover Institute demonstrations in perception. Several of the postulates are listed in an earlier work (Kelley, 1947). The postulates are:

> The fully functioning person thinks well of himself.

- 2. He thinks well of others.
- 3. He, therefore, sees his stake in others.
- He sees himself as part of a world in movement--a process of becoming.
- 5. He sees the value of mistakes.
- 6. He develops and holds human values.
- He knows no other way to live except in keeping with his values.
- The fully functioning person is cast in a creative role.

The faculty of Hebeler believed Kelley's fully functioning person had the characteristics which an independent learner may have. The postulates thus became the framework for describing the independent learner and the theoretical basis for the scale.

Bringing theoretical assumptions, concerning characteristics of persons such as Kelley has described to practical application in the classroom has been supported by others. A description similar to Kelley's for the fully functioning person was made by Maslow. Maslow (1954) labeled the psychologically healthy person as a "selfactualized person." His research revealed fifteen whole characteristics which the self-actualized person had to a larger degree than the majority of normal people. Some of these traits are the same as, and several others closely parallel, the characteristics of the fully functioning person. If the descriptions parallel each other, then it seems reasonable to assume that Maslow's self-actualized person and Kelley's fully functioning person may be similar or nearly the same person.

Furthermore, Drews (Association for Supervision and Curriculum Development, 1966) brought these factors into the classroom by stating that self-actualization, as Maslow described it, should become an emphasis in education. Peck and Havighurst (1960) described a person similar to the fully functioning person and the self-actualized person as one who has a rational altruistic character. They pointed out the necessity for, and ways to develop, the rational altruistic character in children through curriculum changes in education. The entire study involving independence in learning included curriculum changes in the form of planned activities which were initiated at Hebeler.

The study had several purposes, the first of which was to identify independence in learning by placing students somewhere along a continuum. To accomplish this, the Teacher Rating Scale (Independent Learner, Teacher Rating, ILTR), the Peer Rating Scale (Independent Learner, Guess Who, ILGW), and the Self-Rating Scale (Independent Learner, Self-Rating, ILSR) were developed for use. An important concern of the three ratings was that the scales contain equivalence of content. Another purpose was to study the relationships of the three scales by intercorrelations of the items and groups of items. Establishing reliability and interrelationships among the constructed instruments was a major goal.

The present study, which is the second part of the total or overall study, had two objectives. Developing and using the Self-Rating Scale to place students on a continuum of independence in learning was one goal. The other was to use the scale to obtain a limited measure of self-concept and study its relationship with achievement and underachievement.

Factors which affect academic achievement may also have an influence upon the degree of independence in learning attained by students. Research suggests that selfconcept is a factor in achieving academic potential. In a study (Tuel and Wursten, 1965) reviewing the research on self-concept as it is related to achievement and underachievement from 1959 through 1963, the statement was made, "An individual's self-concept has been found to be related to his academic achievement. In some cases a negative selfconcept appears to hinder academic performance, while in others, a negative self-concept would seem to be the product of poor academic achievement." Underachievers were significantly lower than overachievers on happiness at school,

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self-confidence, and morale (Carter, 1961). An investigation by Miller (1962) reported that underachievers tended to be more negative in their attitude both toward themselves and in their evaluation of others. Borislow (1962) showed when students indicate an intention to strive for good grades, underachievers possess a more pessimistic picture of themselves as students than do achievers both before and after academic performance. Correlations obtained in another study (Bruck and Bodwin, 1962) indicated a positive relationship between educational disability and immature selfconcept. Male and female underachievers were found to have a more negative self-concept than achievers (Shaw and Alves, 1963). Two aspects of poor self-concept were reported to have a positive but low correlation with underachievement (Wattenberg and Clifford, 1964). Furthermore, Combs (1964) revealed that underachievers showed a significant and consistently lower self-concept than did achievers. Persons with a poor self-concept concerning social desirability (derogators) were found to achieve below their potential (Powell, 1964). Finally, a significant positive relationship between self-confidence and academic achievement was discovered by another study (Caplin, 1966).

The studies cited above yielded a consistent indication of the relationship between self-concept and achievement even though no uniform definition of self-concept was used.

Instead, a variety of meanings were used for self-concept. Borislow (1962) defined self-concept as the students' conception of themselves as students. Bruck and Bodwin (1962) interpreted self-concept in terms of (a) self-confidence, (b) freedom to express appropriate feelings, (c) liking for one's self, (d) satisfaction with one's attainment, and (e) feeling of personal appreciation by others. Feelings of confidence and personal worth were two aspects of selfconcept used by Wattenberg and Clifford (1964). The definition by Combs (1964) involved (a) adequacy, (b) acceptability to others, (c) acceptability of peers, (d) acceptability of adults, and (e) freedom and adequacy of emotional expression. The Bills Index of Adjustment and Values was used to measure self-concept by Shaw and Alves (1963). Subjects in Bricklin's study (1963) sorted fifty Q-sort statements for perception of Self, Ideal, Mother, Father, and Average Other. Powell (1964) stated self-concept in terms of social desirability. Lipsitt (1958) used as a measure of self-concept a rating scale similar to the one in the present study, with the exception that words instead of statements were rated.

Research has also yielded different methods of defining achievement and underachievement. One study (Pippert, 1963) examined the use of grade point averages (GPA) as compared to achievement tests and found that underachievers identified by GPA more closely resembled the achieving student than did underachievers identified by achievement tests. Other studies supported the use of a regression model for selecting achievers and underachievers. Eddington (1964) stated the regression model was adequate providing a correlation exists between the mental ability measure and the achievement measure. A regression analysis was used also by Borislow (1962) to estimate GPA for each level of aptitude. One half standard error of estimate separated achievers from underachievers. Farquhar and Payne (1964) used the California Test of Mental Maturity, language score, as an aptitude predictor and a regression model with one standard error of estimate above or below the predicted score as an over or underachiever.

The research concerning self-concept as it is related to achievement or underachievement, and the theoretical assumptions about persons described as fully functioning, self-actualized, or having a rational altruistic character have presented the researchers of the total study with several questions which they believed needed to be answered. Some of the questions will be investigated in the present study. They are:

- 1. Will the ILSR yield reliable (stable) results over a nine day interval?
- 2. What are the relationships between Kelley's

postulates concerning the fully functioning person and the independent learner as identified by the ILSR? More specifically:

- A. What is the relationship between Kelley's eight postulates and the independent learner?
- B. What are the relationships among Kelley's postulates of the fully functioning person?
- C. What are the relationships between each of Kelley's postulates and the independent learner?
- 3. What are the relationships between the ILTR and ILSR? More specifically:
 - A. What are the relationships between the ILTR and ILSR for each of Kelley's postulates?
 - B. What is the relationship between the average of the ILTR on Kelley's eight postulates and the ILSR on the equivalent items?
 - C. What is the relationship between ILTR and ILSR using the independent learner item?
- 4. What are the relationships between ILGW ratings and the ILSR for each of Kelley's postulates?
 - A. What are the relationships between the ILGW and the ILSR for each of Kelley's postulates?
 - B. What is the relationship between the average of the ILGW on Kelley's eight postulates and the ILSR on the equivalent items?

- C. What is the relationship between ILGW and ILSR using the independent learner item?
- 5. Will the self-concept scores for the achiever be significantly lower than those of the underachiever?

CHAPTER II

METHOD

Subjects for the study were the intermediate grade (fourth, fifth, sixth) students at HES.

A scale based upon Thurstone's psychological scaling technique was constructed to obtain a measure of independence in learning. Nine statements were placed on a continuum marked with values from one through nine which allowed the students to evaluate their responses to the statements. Verbal descriptions were placed along the continuum to help them choose a value for their reaction.

Items one through eight were derived from Kelley's postulates for a fully functioning person (Association for Supervision and Curriculum Development, 1962). Each item was rephrased to obtain optimal content validity. This was done by a group consisting of the five persons, two of whom had intermediate grade teaching experience, (two psychology faculty members, one member of the upper grade team, and two graduate students) responsible for the total research study. The vocabulary and sentence structure were of central concern so that intermediate grade students could understand the statements. These were designed to maintain equivalent content with the ILTR and the ILGW for each item. Item nine, "the independent learner," was added as a summary statement to determine if pupils would be placed in similar positions on a continuum by a summarizing statement. Or, is the independent learner so identified by the more direct terminology essentially the same as Kelley's fully functioning person?

The scale was administered not only to try to place pupils on a continuum of independence in learning but also to obtain a limited measure of "self-concept." When administering the scale, the directions on the scale were read aloud by the classroom teachers. Pupils who were considered to have difficulties in reading had each item read to them by their teacher.

Several scores obtained from this rating were compared to ratings on the ILTR and ILGW. A separate rating for each item one through eight, a mean score for items one through eight, and a score for the ninth statement were calculated. Correlations were run on these scores for the ILTR and ILSR, and the ILGW and ILSR. Pearson product-moment correlations were used. Correlations were run on the IBM 1620 computer at CWSC with the researcher punching the cards and checking for accuracy.

Nine days after the first rating, the scale was administered again using the same procedures to obtain a coefficient of stability. Immediately following the second administration, the same scale was administered to obtain an "ideal self" rating using different directions. The score from each item of the "ideal self" rating was subtracted from the corresponding score of the first "real self" rating and was called the discrepency score. A total discrepancy score was computed by summing the scores for each item. The total discrepency score is labeled a <u>limited measure of self</u>-<u>concept</u> and was designed so that the lower the score, the more positive the self-concept.

Self-concept was used to determine if students selected as achievers have a more positive self-concept than students selected as underachievers. Definitions for achievers and underachievers were based upon the assessment of intelligence as compared to tested achievement. The California Test of Mental Maturity (CTMM), which correlates well with established individual intelligence tests, was used as the measure of intelligence. Empirical studies have yielded correlations of the non-language, language, and total scores of the CTMM with the Stanford-Binet and Wechsler Intelligence Scale for Children ranging from .63 to .77 (Sheldon, 1954 and Altus, 1955). Achievement was measured by the Iowa Tests of Basic Skills (ITBS).

Selecting students as achievers and underachievers was accomplished by using a regression model. The CTMM language and total scores were correlated with the ITBS

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composite score. Since the language scores of the CTMM correlated higher (.73) than the total scores (.68) with the ITBS composite score, this coefficient (.73) was used in the formula Z_y (Predicted) = $Z_x \cdot r_{xy}$ to obtain a predicted achievement score for each student.

Students identified as achievers were those whose actual ITBS composite scores were at or above their predicted ITBS composite scores. The underachiever was defined as the student whose actual ITBS composite score was one standard error of estimate below his predicted ITBS composite score.

To determine if achievers have a more positive selfconcept than do underachievers, the mean self-concept score was computed for achievers and underachievers, and a "t" test for significance was calculated.

RESULTS

Outcomes of the research are reported in the following order. First the results which apply to the questions asked about reliability, and item and items with full scale interrelationships of the ILSR are presented, followed by the data showing the interrelationships of the three scales used in the total study. Results of the research concerning selfconcept, achievement, and underachievement are cited last.

Table 1 shows the reliability check yielded a stability coefficient of .80 for the total scale (mean of items one through eight) over a nine day interval. Individual items had low to moderate reliability with the exception of number nine, the summation item, which had a coefficient of .08. The stability coefficients for numbers one and two were significant at the .05 level and those for items three, four, five, six, seven, and eight were significant at the .01 level (Wert, Neidt, and Ahmann, 1954).

TABLE 1

The rest of the local division of the local	the second statement of the	the second s	the second s	the second s	the second s	the second se	and the second se	the second s	the second s	and the second s		
	Stabili	ty co	effic	ients	for	items	and	total	ILSR			
	Fi	rst r	eal s	elf w	ith s	econd	real	self				
Item	1	2	3	4	5	6	7	8	9	Mean 1-8		
	*	*	**	**	**	**	**	**		**		
Coef.	.32	.27	.37	.34	.51	.66	.46	.34	.08	.80		
*Level	*Level of significance = .05 **Level of significance = .01											

Items with full scale interrelationships for the ILSR are shown in Table 2. All items correlated moderately (significant at .01 level) with the mean score of items one through eight. This indicates the scale has internal consistency since each of the items appear to be contributing to the total score. Item nine, though significant, correlates lower with one through eight than any of the other statements. This relatively low correlation may be accounted for in part, by its lack of stability (Table 2).

Table 2 shows, for the most part, individual items did not correlate well with the other statements. Items which were low but did correlate at the .01 level were one and nine, two and six, three and six, three and seven, four and seven, five and nine, and six and seven. Correlations having significance of .05 were obtained for items one and five, two and five, two and nine, five and six, five and seven, and six and nine. The lack of, or low correlations between individual items indicate items are relatively independent from each other and that each statement is contributing a different aspect of the total score.

Table 3 lists the correlations between scaled postulates of the ILSR and ILTR and Table 4 contains correlations between the ILSR and ILGW. Pearson product-moment correlations for the mean of items one through eight were significant at the .01 level as shown by both Tables 3 and 4. Though

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Intracorrelation matrix of the ILSR										
			First	real	self	rati	ng			
Item	1	2	3	4	5	6	7	8	9	Mean 1-8
1		.01	.12	.16	.25	.24	.24	.20	. 42	.49
2			.24	06	.32	.46	.05	07	.30	.40
3				.16	.21	. 48	. 32	.20	.21	. 61
4					.09	.23	.34	.21	07	. 53
5						.3 Ť	.26	15	.34	.46
6							. ⁴ 2	04	.32	. 78
7								.18	.09	. 69
8									.17	.42
Mean 1-8										
9										.38
*Lovol	of sig	nific	ance	= 05						

TABLE 2

*Level of significance = .05 **Level of significance = .01

low, the correlations indicate students are perceiving themselves somewhat as peers and teachers see them (the negative correlations of Table 4 are accounted for by the direction of high and low scores and are descriptive of a positive relationship). Students' and teachers' ratings are most congruent for items two, three, six and seven according to the corresponding coefficients of .26, .29, .32, and .48. The significant correlations for postulates one, five, and eight in Table 4 indicate that peer and student ratings are more similar for these items than the remaining statements. Students not appearing to see themselves, concerning independence in learning, as teachers do is shown by the item nine correlation of .16, which is not significant. Similarly, students do not appear to see themselves as their classmates see them on independence in learning. The correlation of .03 for number nine on Table 4 reflects this lack of relationship.

Intercorrelations of items and total scales of the ILSR and ILTR											
Item	1	2	3	4	5	6	7	8	9	Mean 1-8	
Coef.	.02	. 26	* .29	.08	.03	** .32	** .48	.22	.16	** .38	
*Level	of sig	nific	ance	= .05							

TABLE 3

Level of significance = .01

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TABLE 4

Intercorrelations of items and total scales of the ILSR and ILGW										
Item	1	2	3	4	5	6	7	8	9	Mean 1-8
Coef.	39	19	07	11	25-	.24	13	30	.03	39
*Level **Level	of sig	ynific ynific	ance ance	= .05 = .01						

The difference between the average of the self-concept scores for students identified as achievers and those selected as underachievers is shown in Table 5. The difference was not significant between the two groups, "t" being only .82. The achievers do not appear to see themselves in a different manner than do underachievers according to the selfconcept criteria measured by the ILSR.

TABLE 5

Mean self-concept scores for achievers and underachievers

Achiever mean score	Underachiever mean score	df	t	sig. level
14.24	16.25	39	.82	not sig.

CHAPTER IV

DISCUSSION

The findings concerning reliability of the scale as a whole are similar to the results of another study (Lipsitt, 1958) which used a self-concept scale much like the one used in the present study. Lipsitt states, "both the self-concept and discrepency measures . . . provide reliable estimates of an individual difference variable." No other comparable studies were found which reported measures of stability. The small number of reliability estimates would suggest the need for more studies to report stability of self-concept measures over short periods of time. Use of the ILSR in replicating situations is needed.

The low but significant correlation of number nine with Kelley's eight postulates indicated the attempt to use direct terminology did not have sufficient accuracy when placing students in similar positions as on the total scale continuum. The inadequacy of postulate nine (our own) in this respect may be due to its instability as a single measure. Correlating the more stable score of one through eight with an unstable score, item nine, should result in a low relationship.

To increase the stability and the adequacy of placing students in similar positions on the continuum the addition of more statements which give direct reference to the independent learner seems plausible. Such a step may allow one to select himself, on the independence in learning factor, more like one would on the full scale (items one through eight). Another possibility would be to increase the length of the continuum from nine to perhaps fifteen points on the single item.

Several items of the ILSR intercorrelated moderately. The statements were (6) Develops and holds human values, (2) He thinks well of others, (3) He, therefore, sees his stake in others, and (7) He knows no other way to live except in keeping with his values. Numbers two, three, and seven showed a moderate positive relationship with postulate six. Further investigation of these statements as expressed on the ILSR appears necessary to further determine their independence. In the overall study checks will be made to see if similar trends occur on the ILTR and ILGW. The relationship may be a function of the basic postulates or the specific wording or scaling on the ILSR.

The ILSR correlated approximately the same (.38 and -.39) with both the ILTR and ILGW total scales. Peers and teachers, therefore, appear to see other students in much the same way though students appear to see themselves somewhat differently than teachers and peers see them. Thus peer ratings more than self ratings place students in positions similar to teacher placements using the total scale on independence in learning. The results of the present study concerning the relationship of self-concept with achievement and underachievement are not in agreement with previous studies. They have indicated a positive relationship between achievement and selfconcept. Perhaps self-concept (herein defined as a limited self-concept) is different than in other studies. This could be readily examined by correlational studies using the various definitions for self-concept.

A limitation of the present study or other studies dealing with the self-concept achievement relationship seems to be the nature of the definition for achievement. Two methods have appeared most frequently in the literature, these being grade point averages (GPA) and scores on standardized achievement tests. Pippert and Archer (1963), in a study comparing the two methods, stated that the underachiever identified by achievement test scores had significantly lower mean scores than achievers on all other criteria except GPA.

The fact that these students achieved satisfactory marks in classwork suggests the existence of some unique traits which affect the teacher's judgement about the pupil. The underachiever identified by GPA more closely resembles the achieving student except that he does not achieve the expected GPA.

The present study indicates self-concept is not related to underachievement as defined herein. Further research appears necessary to clarify the relationship of self-concept to achievement using the two definitions.

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The researcher found the regression method of selecting achievers and underachievers to be another limitation of the study. Since the accuracy of predicting achievement was dependent upon the correlation between the measures of intelligence and achievement the degree of relationship for the two measures becomes an important consideration. A coefficient of .73, which was used in the present study, loses considerable predictive accuracy, as compared to a perfect correlation. Furthermore, what an intelligence or achievement test actually measures may be inadequate for the present or similar studies. Empirical studies consistently show relationships between intelligence and achievement to be similar, if not lower, than the .73 found here. Rather than seek the "ideal" predictor, something more fundamental and complex than the present assumptions concerning underachievement may be necessary. If the postulates of Kelley describing the fully functioning person and the goals of HES's project involving independent learning parallel, to some extent, goals of education, then underachievement as defined by intelligence tests and achievement tests becomes very narrow. Therefore, underachievement may be more effectively studied in terms of a broader behavioral concept consisting of characteristics of the fully functioning person, instead of using only intelligence or achievement test scores.

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CHAPTER V

SUMMARY

A total study consisting of three parts was undertaken at HES with the purpose to construct and use three scales which would place students on a continuum of independence in learning.

Content and theoretical basis for the scales were derived from Kelley's eight postulates for a "fully functioning person". A ninth item, the independent learner, was added as a summary item to study its relationship with the postulates.

The present study, the second part of the total study, had as its purpose the development and use of a self-rating scale to place students on a continuum of independence in learning, to obtain a limited measure of self-concept and study its relationship to achievement and underachievement.

Thurstone's psychological scaling technique became the foundation for constructing the self-rating scale, which was administered to the intermediate grade students at HES. Two measures of "real self", and one measure of "ideal self" were obtained. A stability check, intercorrelations of the items and scales, and a limited measure of self-concept were computed from the data. Reliability for the eight items was adequate and individual items appeared to be contributing to the mean score of the full scale. Students appeared to see themselves somewhat as teachers and peers do for items one through eight, but not for number nine alone. No significant difference was found between achievers and underachievers on the limited measure of self-concept. BIBLIOGRAPHY

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APPENDIX

Directions: The sentences in large print are about you. They may or may not be like you. Put a mark () in the box that <u>best</u> describes you. Below the boxes are some words to help you make your choice. (Think of the numbers in the boxes as being something like a ruler

with the "1" as being most like you and the "9" being least like you. Make your mark in

one of the numbered boxes from "1" through "9".)

A. I accept myself as I am. I amsure of myself for I am not afraid to do most of the things I would like to do.



B. I accept other people as they are and am friendly with them.



C. I like to help others and enjoy having others help me.



D. There are many ways of doing things and the way I do things depends upon the time and place, or situation I am in.



E. I have made mistakes before and will make mistakes again. My mistakes help me to learn to do better next time.



F. I care about people and try very hard to help them even though sometimes it would be easier not to.



G. I act the way I believe I should no matter where I am.



H. I enjoy discovering different ways of doing things, making things or changing things.



I. I am able to learn on my own about things I am interested in.



- Directions: Think of the numbers in the boxes as being something like a ruler with the "1" as being most like the way you would like to be and the "9" being least like the way you want to be. Make your mark in one of the numbered boxes from "1" through "9" which shows the way you would like to be.
- A. I accept myself as I am. I am sure of myself for I am not afraid to do most of the things I would like to do.



B. I accept other people as they are and am friendly with them.

1.	2.	3.	4.	5.	6.	7.	8.	9.
Very much me	like Like time	e me most of 9	the Som Som me	etimes like etimes not	me Like like of t	me a small he time	part Very me	little like

C. I like to help others and enjoy having others help me.



D. There are many ways of doing things and the way I do things depends upon the time and place, or situation I am in.



E. I have made mistakes before and will make mistakes again. My mistakes help me to learn to dobetter next time.



F. I care about people and try very hard to help them even though sometimes it would be easier not to.



G. I act the way I believe I should no matter where I am.



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