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# Improving self concept through instruction with subject matter as content vehicle.

Lorraine B. Quesada

*University of Massachusetts Amherst*

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IMPROVING SELF CONCEPT THROUGH  
INSTRUCTION WITH SUBJECT  
MATTER AS CONTENT  
VEHICLE

A Dissertation Presented

by

LORRAINE B. QUESADA

Submitted to the Graduate School of the  
University of Massachusetts in partial  
fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

January

1976

Education



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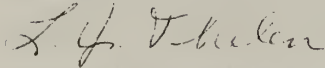
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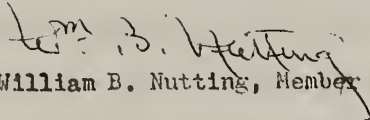
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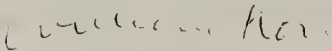
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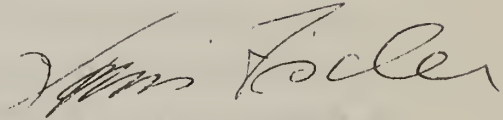
L. J. Thelen, Chairman of Committee



William B. Nutting, Member



William Kornegay, Member



Louis Fischer, Acting Dean  
School of Education

January 1976

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ABSTRACT

Improving Self Concept Through  
Instruction with Subject  
Matter as Content  
Vehicle

(January 1976)

Lorraine B. Quesada, B.S. Fitchburg  
State College, M.Ed. Fitchburg State College,  
M.S., Syracuse University, Ed.D. University  
of Massachusetts

Directed by: Dr. Leverne J. Thelen

The vast behavioral differences between students who have recently been termed 'academically turned-off' and those termed 'academically turned-on' initiated a search for the source of the differences. The assumption underlying this study was that these differences were due to differences in self concept, i.e., those students who were 'academically turned-off' had poorer self concepts than those students who were 'academically turned-on'. A review of the literature (Chapter II) greatly supported this assumption.

This study differs from other studies attempting to improve self concept in that it (1) used a series of self concept building activities, (2) adapted these activities to a specific subject matter content vehicle (biology), and (3) used, in addition to paper and pencil tests, a behavioral indicator developed for and directly related to testing the behaviors cited in the original premise.

The purpose of this study was to see if the self concepts of 'academically turned-off' students could be improved through the use of self

concept building activities as measured by a direct self concept report, an inferential self concept report, and a behavioral indicator of self concept. Two groups of 'academically turned-off' students were used in this study--one to act as a control and one to act as an experimental group. The experimental group was taught general biology supplemented approximately once a week with self concept building activities and the control group was taught general biology alone.

Initial assessment showed no significant differences in self concept between the 2 groups as measured by the 3 self concept assessing instruments.

Pre- to post test comparisons with the direct self report measure failed to demonstrate any significant improvement in self concept for either the control or the experimental group. The inferential measure also failed to show any significant improvement for either group, but did reveal a strong trend in the direction of improved self concept for the experimental group. However, the behavioral indicator of self concept showed that both the control and the experimental groups had significant reductions in 'academically turned-off' behavior. The reduction in the control group was due to better pupil/pupil interactions. In the experimental group, however, the reduction was due to better pupil/pupil interactions, more task orientation, and less abuse of materials and equipment.

Final assessment comparing the experimental with the control group on the direct self report measure showed no significant difference in self concept between the 2 groups. The same was true of the inferred self concept measure except that there was a strong trend in the direction of superior self concept for the experimental group. The behavior indicator of self concept revealed that the experimental group had significantly

fewer 'academically turned-off' behaviors than the control group. The greatest difference in behavior between the 2 groups was the significantly more task oriented behavior of the experimental group.

Two findings from this study support earlier self concept research, i.e., (1) improving self concept increases on-task behavior and, (2) behavioral indicators are more sensitive to self concept change than are direct self report measures.

As measured by a behavioral indicator of self concept, this study showed that self concept building activities can be instrumental in significantly reducing 'academically turned-off' behavior. The inferential instrument used, although failing to show significance, tends toward the conclusion that self concept building activities do improve self concept. Direct self report measures fail to give any evidence of improved self concept through the use of self concept building activities.

'Good teaching strategies' may tend toward improving pupil/pupil interaction, but this problem needs further study.



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## CHAPTER I

### INTRODUCTION

When I see birches bent to right and left  
Across the line of straighter darker trees,  
I like to think some boy's been swinging them,  
But swinging doesn't bend them down to stay.  
Ice storms do that. . . .

Once they are bowed  
So low for so long, they never right themselves.  
Robert Frost

#### A. Background

Since the beginning of the implementation of compulsory mass education in the United States, educators have been struggling with the problem of the student who has recently been termed 'academically turned-off'. This problem, most frustrating of all educational problems to the acting educational practitioner, has resulted in numerous studies on motivation: how to motivate students, intrinsic versus extrinsic motivation, classroom atmosphere most conducive to motivating students, and so on. Unfortunately, these studies were--if successful at all--only sporadically successful, the success was short-lived, or the results were hardly generalizable beyond the immediate, specific group tested.

The lack of success of these motivational studies, in terms of their usefulness to the practicing classroom teacher (confronted with the problem of teaching 20 to 30 completely 'turned-off' students), has been, unfortunately, blamed on the researchers or on the nature of the research. For example, it was criticized for: being fragmentary, poor

sampling, inadequate testing techniques, activities incongruent with the testing of the objective, inadequate or poor statistical methods, poor research design, inadequate controls or no controls, ambiguous statement of hypotheses, ambiguous operational definitions, and so on. Almost no criticism of the research or the researchers was neglected; hardly a study unscathed.

Meanwhile--back in the classroom--the problem continued and even worsened as the number of restless students increased year after year, for various reasons, some of which, admittedly, had nothing to do with school at all.

Perhaps the problem could best be seen through the eyes of the harassed and frustrated classroom teacher. What seemed to be the problem as she saw it? What were these students like?

Physical appearance. In physical appearance they are often unkempt by all middle class standards. Cleanliness does not seem to be one of their main concerns.

Peer interaction. In interaction with peers, they are quite often hostile; calling each other names, confiscating and hiding the property of peers and often even destroying it. They are easily prompted to fight over the slightest incident as, for example, someone sitting in their seat. Their language is crude; swearing, frequent.

Teacher/pupil interaction. Teacher/pupil interaction is less than desirable. They expect and even seem to want discipline. Any teacher attempt at understanding is seen as teacher weakness, rather than teacher concern, and that teacher is in for a very bad time. If she manages to get through to them that she is ready, able, and willing to help, she is,

more often than not, called over in the rudest of all possible manners to help. Any negative evaluation, whether in terms of grades or otherwise, is seen as the teacher's fault. Paranoia seems to be the modus operandi. Positive evaluation is suspect: "What's she up to now?".

Task orientation: Task orientation is low and very short-lived. Reminders to return to task are resented.

Treatment of materials and equipment. Treatment of materials and equipment is a taxpayer's nightmare. If materials are returned--not confiscated--they are returned dirty, broken, or defaced.

If the teacher is fortunate enough to be teaching, concurrently with a class as described above, a class of students that are 'academically turned-on', she will note vast behavioral differences in the levels described above. Their appearance, interpersonal relationships, scholarship, and responsibility are in sharp contrast to the students just described. What are 'turned-on' students like?

Physical appearance. These students, although they will dress in the peer vogue, are clean and relatively well groomed.

Peer interaction. They treat each other with more respect, use more socially acceptable language when frustrated, are not prone to fight at the slightest provocation, and are more apt to use persuasion and reason in settling difficulties among themselves.

Teacher/pupil interaction. They are more apt to see the teacher as a guide and resource person. They expect help and seek it without assassinating the character of the teacher.

Task orientation. They are more task oriented, and even seem to take pleasure in, and find satisfaction with, the task. Interest is high compared to the group described above.



Treatment of materials and equipment. Materials are not only more likely to be returned, but they are more likely to be returned clean and in good condition.

### 1. The Assumption

The problem, then, seemed to be one of locating the source of the differences. Although there may be as many differing explanations as there are educational theorists, it seemed to me to be a problem of poor self concept. The rationale underlying this assumption is as follows:

If one does not think highly of himself, it stands to reason he will not place much importance on his personal appearance; will be quite sure that peers and teachers are picking on him or out to get him since he is not worth liking anyway; and survival becomes the order of the day--every single, miserable, boring, unrewarding day. He will not be interested in learning, because he is convinced, either that he cannot learn, or that, if he does, it won't make much difference since no one cares about someone not worth caring about. This hostility toward the world for not caring could also result in the stealing and defacing of property.

### 2. Evidence in Support of the Assumption

If this is the case, then, others should have had something to say about these particular behavioral manifestations in relation to self concept theory, thinking, and research.

Physical appearance. On personal appearance and grooming, Cooper-smith (1967) points out that values become placed not only on the inner self, but on extensions of the self as well: body, race, father, reputation,

and so forth. It seems safe, therefore, to assume that if one does not place much value on oneself, one would not be very valuing of the body as an extension of that self, and, as a result, would not place much importance on the cleanliness or external trappings associated with that body.

Peer interaction. Purkey (1970) sees the influence of self concept in relation to those behavioral manifestations associated with peer interaction. He is convinced that self concept influences some aspects of social learning since there is a marked relation between how the self is seen and how others are seen. Certainly it would seem that a prerequisite of valuing others would be a valuing of the self. Also, if one has been treated as unworthy, a normal defense reaction might be to respond in kind. As Purkey (1970) points out, "We do unto others as we have been done unto." (Purkey, 1970, p. 33)

Teacher/pupil interaction. Why, then, cannot an accepting, helping teacher easily reverse this self-destructive trend? Why is the teacher/pupil interaction, particularly with a teacher aware of this problem, so fraught with frustration for both participants?

The stability of self concept, once formed, is well documented. Purkey (1970) offers some explanation of this phenomenon. Since our thoughts influence our behavior, our ideas about ourselves cause us to edit all incoming information. As a result of this, students who have met with many failures find success especially hard to handle. Any evidence contrary to their opinions of themselves will be distorted or rejected. The self will struggle to maintain itself even if the self

picture is false or unhealthy. It should be expected, then, that any positive evaluation will be suspect.

Coopersmith (1957) related self concept to sensitivity to criticism. He felt that self esteem consisted of conscious or unconscious attitudes associated with needs and values. These needs and values are, in turn, associated with perception, rendering it selective. In other words, self concept acts as a screen that edits all incoming information. This would furnish another explanation of the difficulty of breaking through the low-self-concept-barrier.

Wylie (1961) concurs. She tells us that self concept is resistant to discrepant information whether that information be favorable or unfavorable. In dealing with unfavorable evaluation, defensive behaviors, such as devaluing the source of unfavorable information, the failed task, or the devaluing group were demonstrated. Self esteem was defended by blaming others for the failure. Defensive behavior showed an increase the more informed the source of the devaluing. These findings, coupled with the failure to recall low evaluations also found, are quite congruent with behavioral manifestations noted in the actual classroom situation.

It is no wonder, then, that the teacher is going to meet resistance to evaluation, whether that evaluation be positive or negative. Wylie (1961) explains that experiences which may be inconsistent with one's perceptions of self will either be denied to awareness or symbolized into a system more consistent with the self picture.

Task orientation. Purkey (1970) points out that with no attempt, there can be no humiliation. In this way self concept influences performance.

"Things are significant or insignificant, important or unimportant, attractive or unattractive, valuable or worthless, in terms of their relationships to oneself. We evaluate the world and its meaning in terms of how we see ourselves." (Purkey, 1970, p. 10)

In other words, the students feel no motivation to perform well or even to attempt the task, at least not for very long. In fact, Purkey (1970) feels that the motivation behind all behavior--the only motivation in his opinion--is personal and internal. He says that,

" . . . students' failures in basic subjects, as well as the misdirected motivation and lack of commitment characteristic of the underachiever, the dropout, and the socially disabled, are in large measure the consequences of faulty perceptions of themselves and the world." (Purkey, 1970, p. 2)

Coopersmith (1967) says that self concept may influence response set and, therefore, may have operational significance. This may manifest itself in marked motivational consequences. Due to its effects on motivation and action, low self concept is apt to be self-fulfilling. It effects expectancies of success or failure and is significantly related to basic style of adapting to environmental demands, such as the demands of the classroom. In fact, the way in which a person conducts his affairs in the classroom or other situations is a behavioral index of self concept. These may be manifested in voice, posture, and gesture, as well as performance. He concludes, " . . . persons with histories of success respond more realistically than do those with histories of failure, . . ." (Coopersmith, 1967, p. 42).

Wylie (1961) believes self concept to be antecedent to cognitive behavior because of its motivational influences. Observable behaviors (Wylie, 1961) found to be consequents of self concept included verbal



behavior, perception, learning, motivation, psychiatric behavior and social behavior.

Treatment of materials and equipment. There is no evidence that treatment of materials and equipment is in any way related to self concept directly but only obliquely as a manifestation of more global behaviors. Wylie (1961) points to the fact that self concept is the primary motivating force in behavior. All behavior depends on a personal frame of reference. Two points are made in Hamacheck (1965): (1) once the psychological self image has been formed, behavior loses its free or experimental nature and becomes compulsive; generally out of awareness and, (2) the individual's perception of himself determines how he will behave. Purkey (1970) concludes that the student carries his self image with him wherever he goes and it influences whatever he does.

The foregoing is very strong evidence, closely congruent with classroom behavior as described above, and, based on the thinking of the theorists cited, seems to be distinctly related to self concept.

#### B. Statement of the Problem

There has been in recent years a push for what has been called 'humanistic' education. This recent push has reached such proportions that the term, I believe, has been somewhat compromised. Almost any new, innovative idea can gain support if the creators of such an idea are clever enough to couch it under the term 'humanistic'. Indeed, what villainous parents, taxpayers, teachers, administrators, or school boards would refuse to purchase for their charges, the latest in 'humanistic' techniques?

Unfortunately, the result has been a rush, by well-meaning educators, to buy--with money, enthusiasm, and commitment--almost any package or program that proclaims this philosophy. The implications in terms of untested assumptions are staggering.

This statement is not a categorical disclaimer for anything going under the label 'humanistic'. In fact, many 'humanistic' programs have been tested and shown to be of great educational value. The point is one of objectivity. Neither are all programs of value 'humanistic', nor are all 'humanistic' programs valuable. Underlying assumptions need to be recognized, identified, and tested.

This study is an attempt to improve student self concept through the use of activities\* designed with the claim that they contribute to the improvement of student self concept.

### C. Purpose of the Study

The purpose of this study is to 'turn-on' the 'turned-off' student through the use of activities alleged to improve student self concept. The underlying assumption here is that improving his self concept will: (1) make his interaction with his peers less negative and less disruptive as far as others are concerned, (2) render his interaction with the teacher less negative and thereby make possible better communication between the two, (3) make aggressive behavior less attractive and thereby increase the on-task time available to him, and (4) reduce his frustration and thereby save wear and tear on school property.

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\*The activities used in the study are discussed in detail in Chapter 4.

Two basic questions need to be answered: (1) can student self concept be improved by using these activities? and (2) if student self concept is improved, will this bring about the desired changes in overt behavior?

#### D. Hypotheses

These 2 questions, in order to be answered objectively, must be statistically tested. The hypotheses, then, are as follows:

1. Null hypothesis: After approximately 5 months of instruction, the control group, taught general biology, will show no significant gain in self concept as assessed by the direct self report measure, the Self Appraisal Inventory.

2. Null hypothesis: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant gain in self concept as measured by the direct self report measure, the Self Appraisal Inventory.

3. Null hypothesis: After approximately 5 months of instruction, the control group, taught general biology, will show no significant gain in self concept as assessed by the inferential self report measure, Word Choice.

4. Null hypothesis: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant gain in self concept as assessed by the inferential self report measure, Word Choice.

5. Null hypothesis: After approximately 5 months of instruction, the control group, taught general biology, will show no significant

reduction in negative classroom behavior as measured by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

6. Null hypothesis: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant reduction in negative classroom behavior as assessed by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

7. Null hypothesis: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the direct self report measure, the Self Appraisal Inventory.

8. Null hypothesis: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the inferential self report measure, Word Choice.

9. Null hypothesis: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant reduction in negative classroom behavior over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.



### E. Stability of Self Concept

The stability of self concept and its resistance to change is well documented and has been mentioned previously, i.e., the difficulty a teacher faces in breaking through the low-self-concept-barrier. (Teacher/pupil interaction, pp. 5-8) Other workers in the field of self concept have recognized this problem.

Purkey (1970) found the self concept to be conservative and hard to change. In fact, the self was found to be ultraconservative and showed resistance to modification for over a 2 year period in adolescence.

Wells (1971) explained the difficulty as follows:

"As our experiences multiply, our developing Self becomes a perceptual screen through which subsequent impressions must pass. . . . If the new experience is consistent with what you believe, it is enveloped . . . and your Self becomes a little larger. On the other hand, if the new experience is not consistent with your Self it is ignored or rejected.

. . . . .  
It makes change in self-concept extremely difficult because to significantly change anything . . . requires modification of the whole 'system' in order for it to remain a consistent Self. . . . Changing self-concept isn't easy. Change takes place slowly, over a long period of time." (Wells, 1971, pp. 8-9)

The Instructional Objectives Exchange (IOX, 1972), developers of two of the self concept assessing instruments used in this study, cautioned prospective researchers that if significant results are to be expected, a program specifically designed to improve self concept should be used and the period of time over which it is used should be rather lengthy since self concept is especially hard to change.

Ziller (1973) referred to the self concept as one component in what

he called a 'self system'. As he saw it, the structure of the self system was as follows:

self concept  
roles  
behaviors  
values  
attitudes

These components are integrated in such a way that a change in one would shake up the whole system and would require modification of all other components in order to attain reintegration. There is increasing commitment to these components as the list ascends, i.e., there is the least commitment to attitudes, more to values, even more to behaviors, etc., with the self concept being the component given the most commitment by the individual. The less commitment to a component, the easier it is to change it.

Thus, according to Ziller (1973), attitudes would be the easiest to change, then values, etc. Self concept would be the most difficult component to change. Furthermore, it is not a simple matter of changing attitudes, then values, etc., until self concept is finally changed.

Ziller (1973) cautions that although the lower components are the easiest to change, they are just as easily reversed when their change brings about psychological discomfort due to incongruence with the rest of the system. They are 'brought back into line', so to speak, and the system is thereby reintegrated in its original form. Therefore, in order to change self concept, components higher in the system have to be aimed at and these become increasingly harder to change.

The foregoing would indicate that any attempt to change self concept is futile. This may not be the case, however.

Wylie (1961) noted that, in spite of the infamous rigidity of self concept, subjects will strive to maintain or retrieve favorable self regard.

Purkey (1970) gives further encouragement.

" . . . the self will change if conditions are favorable. If the child sees the educative process as meaningful and self enhancing, and if the degree of threat provided by the school experience is not overpowering, then he is likely to grow in self esteem and in academic achievement. Very few students want to be failures at learning, just as few teachers want to be failures at teaching. . . .

. . . it is possible to teach so that, while aiming at the normal results of teaching, specific changes can be made in the child's self image. . . . Teaching methods can be adapted so that definite changes of the kind sought for will occur without injury to the academic program in the process."  
(Purkey, 1970, pp. 12 & 14)

#### F. Limitations of the Study

Time and depth. The treatment periods for the experimental groups were limited to 50 minutes due to the constraints of the system. Some of the activities would have had more impact--in terms of improving self concept--if there had been more time for in-depth sharing of the experiences and the feelings that surfaced through them. Another time limitation was the periods-per-week set aside for these activities.

Although every attempt was made to glean from these activities scientific relevance, there was, nevertheless, an ethical responsibility to the curriculum. As a result, only 1 period in 5 was devoted to self concept building activities, per se. The time period allotted for the study--5 months or 20 weeks---should have been ample for at least 20 self concept building activities. However, there were times when treatment



was not feasible for one reason or another, i.e., unexpected field trips, assemblies, a career day fair, sophomore-skip-day, student requests to carry over for another period, activities that were especially appealing, and so forth. As a result, only 16 of the 20 planned activities were carried out.

Although the limitations on time necessarily imposed depth limitations as well, depth was further limited by the students reluctance to share on any deep levels what they had experienced. This reluctance was due to a justifiable fear that their classmates would think they were 'weird' and make fun of them. Nevertheless, they did share very deeply personal feelings and experiences with me via paper-and-pencil communication. This reluctance to share with each other, however, made it especially difficult for me to demonstrate their basic connectedness with each other. Establishing a feeling of connectedness or belongingness is basic to the development of group trust, a highly desirable condition for the building of self concept.

Scope. The scope of this study is narrow. The target population was high school sophomores enrolled in the general biology curriculum. I was assigned only 2 such classes and these were kept intact. Although 2 classes provide the pre-requisite of a control and an experimental group, conclusions drawn from this study will necessarily be limited to the groups tested.

Intervening variables. Although there were no other self concept building programs going on in the school, the churches, or the communities involved as far as I could determine, it is not impossible that some



students might have been exposed to 1 or 2 self concept building experiences. However, if the foregoing sources are to be believed, these would have had negligible effects on the results, i.e., self concept improvement requires an intense program over an extended period of time. Nevertheless, this possible limitation deserves mentioning.

Testing instruments. The limitations of the self concept assessing instruments per se are, I believe, more properly dealt with in Chapter 3.

The experimenter. Since the roles of teacher, disciplinarian, and self concept builder were mine, there are necessarily inherent limitations. For example:

1. Can building self concept become habit-forming? Was I treating the control group in subtle ways I was not even aware of?

Conversely,

2. Because it was my responsibility to keep some semblance of control, could I have been damaging self concepts I was working so hard to raise in the experimental group?

It is doubtful that single events such as these could affect self concept, but could I, as one teacher responsible for so many roles, be aware of all the subtle interchanges? And even if I were aware, there still would be no way of telling how these interchanges were perceived by my students. The most crucial role of the teacher in self concept building is discussed in Chapter 3.

Limitations such as these need to be considered. Comments from outside observers were most helpful here and will be discussed in Chapter 5.

## G. Definition of Terms

### 1. Self, Self Concept, and Ideal Self

For years writers, thinkers, and workers in the field of self concept have been struggling toward a definitive, unambiguous operational definition of the psychological construct 'self concept'.

Historically, self concept has come to mean the self as known to the individual and much energy has been expended in an effort to explain fully the differences between self, self concept, and ideal self. Note, for example, Table 1, p. 18.

### 2. Self Concept Per Se

While Table 1 helps to clarify the differences between the various self constructs, Table 2 (pp. 19 & 20) more fully demonstrates how the construct 'self concept' is viewed by various thinkers in the field.

Common elements abstracted from these various definitions are:

1. Self concept is learned. (Wylie, 1961 and Felsenthal, 1972)
2. The construct is not one concept, but,
  - a constellation (Wylie, 1961 and Felsenthal, 1972)
  - a cluster of images (Branden, 1969)
  - a complex system (Purkey, 1970)
  - a patterned relationship; a multidimensional construct (Collier, 1971)
  - a composite (Yamamoto, 1972)
  - an 'apperceptive mass'; a set of mediating processes (Ziller, 1973)
3. The self concept involves:
  - values (Wylie, 1961 and Felsenthal, 1972)
  - evaluation (Collier, 1971)

At this point, a tentative summary definition of self concept can be constructed:

TABLE 1

COMPARISONS: SELF, SELF CONCEPT  
SELF IDEAL

Source	Self	Self Concept	Self Ideal
Hylle (1961)	...	self picture	ego ideal
Wells (1971)	internal beliefs and attitudes	all the beliefs and attitudes you hold about yourself	...
Yamamoto (1972)	The knower and the known - the I and the me	only the known - the me - a composite re- presentation of the self	desired model - pre- sumed preceptions by others
	the territory	the map	...
	the thing	the word	...
	the whole of our being - both the subjective I and the objective me	the symbolic repre- sentation of self or self image	...
	me in relation to the here and now	...	...

TABLE 2

## SELF CONCEPT DEFINITIONS

Source	Definition
Wylie (1961)	a learned constellation of perceptions, cognitions, and values
Hamacheck (1965)	a hierarchy of trait values
Branden (1969)	not a single concept, but a cluster of images and abstract perspectives on various (real or imagined) traits or characteristics
Furkey (1970)	a complex and dynamic system of beliefs which an individual holds true about himself, each belief with a corresponding value
FERDC* (1971)	all the things a person feels to be true about himself
Collier (1971)	the more or less organized perceptual object resulting from present and past self observation
	the organization of all the individual refers to as I or me - a patterned relationship or 'Gestalt'
	those more or less discrete perceptions of self which the individual regards as part, or characteristic of his being
	a multidimensional construct that covers and includes the total range of one's perceptions and evaluations of himself

\*Florida Educational Research and Development Council

TABLE 2--Continued

Source	Definition
Felsenthal (1972)	learned constellation of perceptions, cognitions, and values
Yamamoto (1972)	the composite of all the descriptions, verbal, pictorial or otherwise, of me
Ziller (1973)	the self concept is presumed to be an 'apperceptive mass', an abstraction of serial events which facilitates prediction of future events involving the self
	a set of mediating processes arising out of experience, in part connecting the body image and in part pure fantasy of an immaterial self



Self concept is a cluster of self evaluations which have been learned.

This is less than a satisfactory definition, since it is devoid of feeling. It leaves out the dimension of emotion which accompanies every self judgement. For example, I am a teacher. I may judge this to be bad or good, i.e., I may evaluate that which I have learned about teachers or about me as a teacher, but, there is a feeling, an emotion, which accompanies that. The same would be true of other dimensions of my being, i.e., woman, mother, friend, wife, lover, etc.--the whole cluster of my self images.

Branden (1969) addressed himself to this aspect of the self concept. He underscores the fact that self concept is ordinarily experienced as a feeling which is a part of every other feeling. In his book he emphasizes this fact: emotions are the products of evaluations.

With this in mind, the definition of self concept can be revised as follows:

My self concept is a feeling I have about me, resulting from a cluster of value judgements made by me on me as a result of my experiences.

This definition contains the 4 elements which seem to be necessary to a comprehensive definition of self concept, i.e., emotion, complexity, evaluation, and learning. Yet, this definition must also remain tentative. There is yet another dimension which must be included. This is the effect that my self concept has on my behavior. This aspect of self concept will be treated in Chapter 2.

### 3. Other Self Terms

Just as the construct 'self concept' is about to be grasped--to become crystallized--other terms appear in the literature: self esteem, self respect, self actualization, self awareness, self acceptance, self image, self regard, self favorability. These terms need to be explored to see if they encompass the whole or only a part of that which we have tentatively defined as self concept. Table 3 (p. 23) may help to disentangle some of these terms.

It is of interest to note that self esteem is generally seen as a favorable attitude towards oneself. Note, for example:

a personal judgement of worthiness (Coopersmith, 1957)  
the integrated sum of confidence and self respect  
 (Branden, 1969)  
fundamental faith in self (Yamamoto, 1972)

Ziller (1973) alone holds out the possibility of self esteem being unfavorable, i.e., a self evaluation. This is more logically attractive since it does not seem far-fetched for an individual to have poor self esteem, i.e., a poor self estimate; poor self valuing.

Yamamoto (1972) equates self esteem with self respect and feels that self esteem, self acceptance, self regard, and self favorability are all 'quality gradations' included in the term 'self concept'. This presents the positive side of the coin, but does not take into account any of the negative 'subvariables', i.e., self hatred, self disgust, etc.

Ziller (1973) seems to present a more realistic picture of self esteem as simply one of the self-other concepts. By refusing to eliminate the concept of 'other' in the self concept, he underscores the importance of significant others in the development of self concept, a topic dealt with more extensively in Chapter 2.

TABLE 3  
ADDITIONAL SELF TERMS

Term	Source	Definition
self esteem	Coopersmith (1957)	a personal judgement of worthiness that is expressed in the attitudes an individual holds towards himself over an extended period of time
	Branden (1969)	the integrated sum of confidence and self respect - the conviction that one is competent to live and worthy of living
		the reputation a man acquires with himself by means of the volitional choices he makes everyday - self esteem is 'I can' - self esteem is metaphysical efficacy
	Yamamoto (1972)	(or self respect) - a fundamental faith in our being
		fundamental faith in self as more than what the current self concept depicts
self act- ualization	Ziller (1973)	self esteem is one of the self-other concepts
		a self evaluation reflecting attitudes towards capabilities and worthiness
	Yamamoto (1972)	in terms of believed potential in the self
self accept- ance	Yamamoto (1972)	(also self esteem) represent quality gradations of subvariables within the more inclusive term 'self concept'
self regard		
self favor- ability		



In this paper self terms such as: self esteem, self regard, self disgust, self acceptance, self hatred, etc., will be treated as Ziller (1973) might treat them, i.e., as facets in a diamond--as tiles in the mosaic picture of the self we shall call self concept.

#### 4. Operational Definitions

However self concept is defined in terms of grasping an understanding of the construct, it needs redefinition in statistical terms if the construct is to be objectively tested and evaluated. In this context, operational definitions shall be as follows:

##### A. For the self concept assessing instruments,

1. initial self concept - the scores on the initial administration of the self concept assessing instruments
2. final self concept - the scores on the final administration of the self concept assessing instruments
3. improvement in self concept - a statistically significant gain on the self concept assessing instruments, pre- to post test

##### B. For the classroom interaction analysis instrument,

1. initial self concept - number of negative behaviors on the initial observation
2. final self concept - number of negative behaviors on the final observation
3. improvement in self concept - statistically significant reduction in number of negative behaviors, pre- to post test

## CHAPTER II

### RELATED LITERATURE

#### A. Self Concept Theory

##### 1. Historical Development

To treat the development of self theory and self concept theory separately would be artificial and awkward. It is more natural to treat the two as they developed--interdependently.

Hamacheck (1965) traces the beginnings of self theory to Descartes.

" . . . as a theoretical construct, the self has ebbed and flowed with the currents of philosophical and psychological pondering since the seventeenth century when Descartes first discussed the 'cogito', or self, as a thinking substance." (Hamacheck, 1965, p. v.)

Other writers, Wylie (1961), Collier (1971), and Ziller (1973), go back no further than the late 1800s for the beginnings of self and self concept theory development. Table 4 (pp. 26-28) shows this development.

In the late 1800s the common thread which seemed to join theorists was the presence of the 'other' in concepts of self. This theme was carried into the early 1900s with the added realization of the effects of self concept, i.e., it screens stimuli and directs behavior. Theorists of the 1930s introduced the idea of objectivity as a necessary pre-requisite to self knowledge and pointed to the necessity of satisfaction of basic psychological drives before the self, as an idea, could become of interest and before any unity between self and other could be attempted. Between 1940 and 1960 more empirical work on self concept was begun, and with it

TABLE 4

HISTORICAL DEVELOPMENT OF SELF  
AND SELF CONCEPT THEORY

Source	Period	Theorist	Contribution
Ziller (1973)	late 1800s	Pierce	self concept is inferred from commerce with objects and the testimony of other people
...	...	Freud	'id' (represents self orientation) - 'superego' (represents other representation) - 'ego' (represents the processes by which the conflicts are resolved)*
...	...	Baldwin	when others behave in unexpected ways, a new self concept may be formed
Ziller (1973) & Collier (1971)	...	James	self as known - me self as knower - I material me - includes extensions of me social me - requires recognition spiritual me - conscious, active feeling states
Ziller (1973)	early 1900s	Cooley	both self and other are involved in self concept development

\*The material in parentheses represents Ziller's (1973) interpretation of Freud's constructs.

TABLE 4--Continued

Source	Period	Theorist	Contribution
Collier (1971.) & Ziller (1973)	early 1900s	Adler	behavior motivated and directed by unity of personality - fictions concerning world and self - self is the screening and guiding mechanism between man and his environment - environment largely social in nature - power and domination of others emphasized - defense mechanisms protect self esteem
Wylie (1961) & Collier (1971)	1930s	Mead	the self is developed through interaction with the environment - experiences as a self are centered only insofar as the self becomes an object to itself
Ziller (1973)	...	Horney	after satisfaction and security, comes an interest in the self and other and a search for unity between the two
Collier (1971)	...	Allport	personality study--renewed interest in self
Wylie (1961)	1940s- 1960s	Wylie	the self unifies motivation
Wylie (1961)	...	...	"... we find that all the theories of personality which have been put forth (between 1941 and 1961)* assign importance to a phenomenological and/or nonphenomenal self concept." (Wylie, 1961, p. 2)

\*Wylie (1961) found very little empirical work done prior to 1949.

TABLE 4---Continued

Source	Period	Theorist	Contribution
Ziller (1973)	. . .	ego psycho- logists	concerned with reconciliation of the dual demands for personal satisfactions and the satisfaction of others
Collier (1971) & Ziller (1973)	. . .	Sullivan	self developed in relation to significant others - used 'self-personification' rather than self concept - self controls stimuli attended to via exclusion
Ziller (1973)	. . .	Schutz	inclusion necessary to feeling worthwhile - establishing identity is necessity for inclusion, i.e., to be able to distinguish self from other
Wylie (1961)	. . .	Combs & Snygg	maintenance and enhancement of self is a basic drive
Wylie (1961) & Ziller (1973)	. . .	Rogers	self concept important in human adjustment - the individual will maintain a self picture completely at variance with reality, hoping that events will change so that it will not be necessary to change self concept



came some new ideas. Some antecedents to self concept were recognized, i.e., inclusion and identity, and the importance of self concept to the individual was elevated to the status of a 'basic drive'. The importance of self concept to emotional health was recognized and its rigidity was well documented.

While there were subtle differences and additions in the evolution of self concept theory, one overarching theme has not changed--the importance of 'other' in concept of self.

Ziller (1973) is so enamored of this idea that he based his theory on it. In fact, he refuses to call it a self concept theory--but, rather, a 'self-other' theory. He writes,

"It is proposed that social stimuli are screened and translated into personal meaning through crude topological mappings of the self in relation to significant others, including the self as perceived in the past."  
(Ziller, 1973, pp. 142-3)

He proposes that self concept is a component of what he calls a 'self system' and that these components form a hierarchical system, self concept being the highest component in the hierarchy. Because of the great degree of commitment to self concept, relative to the other components, self concept is hardest to change.\* His theory encompasses these 5 points:

1. The self develops out of interaction with the environment.
2. Values of others may be introjected into the self.
3. The self strives for consistency.
4. Behavior is consistent with the self.
5. Maturation and learning may result in change.

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\*See pp. 12 and 13.

## 2. Theoretical Assumptions Explored in Some Selected Studies

That modeling effects self concept. Weisgerber (1971) attempted to improve student self concept through the use of films, assuming that role modeling and vicarious learning would take place via the dual processes of introjection and projection. (Introjection is the belief that some of the attributes of the model belong to the viewer. Projection is the belief that some of the viewer's attributes belong to the model.) The results of this study in terms of self concept improvement were conflicting, but it was found that role modeling and vicarious learning are very much affected by the reinforcement of demonstrated behaviors.

That reinforcement effects self concept. Soares (1971) studied low socio-economic status (SES) students and found that they are exposed to less pressure to succeed academically, reinforcement of their self images coming from significant others in their environment.

That identification effects self concept. Murray (1971) studied successful students who identified with the student role\* and found that these individuals acquired their definitions of situations, including their definitions of themselves, through direct and indirect interaction with others. Murray (1971) feels that if others communicate to one that he is a success in the performance of a particular role, he will be likely to adopt a self-conception which incorporates that role. It can be expected that success will be more strongly related than failure to such identifications. He concluded that the development of a positive self-conception

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\*Presumably this refers to those behavioral manifestations -- expectations and limitations -- which are attendant upon being a student.



in most adolescents probably requires successful identification with the student role since some of the principal expectations others have of adolescents center around this role, and very few young adolescents have a choice as to whether or not they will perform it.

Another study on identification was done by Eylon (1971). It is his belief that interpersonal similarity may arise after puberty as well as in childhood. He defined identification in terms of the processes of introjection and projection and said that an identification belief may be brought about and supported either by a change in the identifier's self concept or in his concept of another person. In his study warmth and/or competence was perceived as more similar to the self.

That other persons effect self concept. Conclusions drawn from a case study by FERDC (1971) indicate that the standards by which we judge ourselves have been established for us by outside influences--they are formed from the outside in--by things said or not said, by gestures or smiles, by frowns, caresses, or blows. It was concluded that: (1) the general environment influences the way youngsters come to see themselves, (2) the way they see themselves dictates the way they perform and, (3) the way they see themselves can be influenced for better or for worse.

As previously discussed (p. 29) Ziller (1973) is committed to the importance of 'other' in concept of self. In a study of high school seniors, he found self esteem to be associated with higher conformity.

That maturity effects self concept. The study by the FERDC (1971) found that self concept does not fully crystallize until somewhere in the teens, and Ford (1972) found self concept to be relatively stable by senior high school.

That self and self concept are distinct, yet intertwined. Collier (1971) distinguished self and self concept in the following manner: (1) he saw the self as a group of psychological processes that govern behavior, i.e., the self is subject or process and, (2) he saw self concept as an organized collection of attitudes and feelings a person has about himself, i.e., the self is object. In Hutchison's (1972) study this 'circular' effect of the phenomenal self was found in relation to reading.

That ethnic group effects self concept. In a study of minority groups Cooper (1971) found that these groups suffered deflated or impaired concepts of self due to abrasive cultural conflicts with the majority group.

That school environment affects self concept. In a study of open versus traditional schools, Reudi (1971) found that open schools result in more positive self concepts because of the elimination of external evaluation. The student sets his own goals and gains a sense of adequacy in attaining them. There is also more chance for social interaction with peers and teacher.

That self concept affects social behavior. Gregor (1971) found that individuals with high self esteem will reciprocate in kind whereas individuals with low self esteem will reciprocate with the opposite. He interpreted lack of reciprocity as an aggressive act to restore self esteem. However, in accepting the judgement of others, there was less reciprocity by people with high self esteem.

That self concept affects future educational plans. Ford (1972) found self concept to be an intervening variable between SES and educational career plans. He saw self concept as a product of the socialization

process via home, school, and neighborhood and thought of it as comprised of analytically distinct dimensions or a series of 'selves'.

Summary. Factors assumed, by more than one investigator, to influence self concept include:

1. reinforcement - (Weisgerber & Soares, 1971)
2. student role - (Soares & Murray, 1971)
3. other people - (Soares, Murray, & FERDC, 1971; & Ziller, 1973)
4. identification - (Murray & Eylon, 1971)

It was found that, in order to improve self concept via role modeling, it was necessary for the subject to see the model's behavior being reinforced (Weisgerber, 1971), and that reinforcement of self by significant others was more important to the self concepts of low SES subjects than was academic achievement (Soares, 1971).

On the other hand, if it has been communicated to a subject that he is a success in the student role, he will identify with that role and will incorporate it into his self conception (Murray, 1971).

In large measure, reinforcement, via communication of success or by other means, is done by other people (Murray, 1971). Furthermore, we learn our self concepts largely from observing the reactions of other people toward us (FERDC, 1971).

We learn, therefore, to identify with reinforced behavior (Eylon, 1971).

## B. Importance of Self Concept

### 1. Social Consequents

The importance of self concept to social behavior and to behavior--both overt and covert--that can become of concern socially has been extensively documented: Wylie (1961), Coopersmith (1967), Hamacheck (1965),

Branden and Glasser (1969), Furkey (1970), Wells (1971), Yamamoto, Kirkhardt, Ford, Felsenthal, and Massard (1972), and Ziller (1973).

Social consequents of high self concept. Wylie (1961) suggested that a positive self concept might result if a person had a 'well organized Gestalt' and if that person could not even dimly perceive any contradictory material. This person would, as a result, experience minimal tension and his behavior would be consistent with the organization of his concepts about his self structure. Even though self concept might be non-verbal and not on the conscious level, it could still function as a 'guiding principle' in the person's behavioral and response pattern. The phenomenal field of an individual does, therefore, determine to a great extent his general behavior. Studies (Wylie, 1961) revealed that self acceptance was significantly related to such consequents as: attitude toward performance, estimates of performance, recall of performance, degree of perceptual accuracy, greater degree of affect, lower incidence of depression signs, smaller number of psychosomatic symptoms, fewer reasons to explain unhappiness, more optimism with respect to future college success, greater satisfaction with present period of life, and low anxiety scores.

In studies of 'adjustment' behavior (Wylie, 1961), self concept was found to be an 'insulating' factor preventing 'good' boys from becoming delinquents. Shifts from negative to positive self concepts were found to be associated with shifts toward better 'adjustment'.

Rorschach indices (Wylie, 1961) demonstrated negative correlations between self acceptance and anxiety, hostility, criticality, defensiveness, and indecisiveness, and positive correlations between self acceptance and



internalized values, realistic perception, emotional stability, maturity, capacity for social relationships, capacity to integrate self concept and to handle the complexity of relationships with others.

Significant correlations were found (Wylie, 1961) between acceptance of self and acceptance of others. The most secure subjects (Ss) voted standard photos as 'warm' more often than the least secure Ss and there was a " . . . greater tendency to ascribe to strangers proportionately more of the items on which S had reported self-ideal congruence." (Wylie, 1961, p. 237)

Level of aspiration (IA) was found to be a function of self regard (Wylie, 1961). Self regard was found to be more enduring than IA and thought to be antecedent to it.

Among other things, then, Wylie (1961) found high self concept attributes to be associated with such socially desirable behaviors as non-delinquent behavior, acceptance of others, and high level of aspiration.

Coopersmith (1967) found people with high self concepts were better able to defend themselves against inner and external distress. Low anxiety is the result.

The integrity of the self is the main source of strength of the individual and this perception of self determines behavior (Hamacheck, 1965).

Branden (1969) believes that self concept plays a crucial role in value choices. This is important because,

"The subconscious is regulated . . . by a man's long-term interests, values, and concerns. These affect how material is retained and classified, under what conditions it is reactivated and what kind of subconscious connections - in response to new stimuli or data - are formed."  
(Branden, 1969, p. 76)



Branden (1969) sees self evaluation as an 'omnipresent factor' in man's psychology with profound effects on thinking processes, emotions, desires, values, and goals. As a matter of fact, he sees it as the single most significant key to behavior with 'profound motivational power'. He would classify it as, ". . . a basic need without which man cannot live the life proper to him." (Branden, 1969, p. 134) If a man accomplishes what Branden (1969) calls 'authentic self-value', there should be no clash between what he recognizes to be real and the preservation of his self esteem. He would originate his own goals and not depend on others to determine what he would or would not enjoy. He would neither expect, nor want to be told what to do with his time or what to admire or pursue. He would not expect his career to be selected for him. He would recognize the need for help and accept it in terms of rational guidance and education, but not in the provision of goals and values. He would be the 'self-generator' of his own values and not be fearful of the responsibility. Unafraid, he would deal with the objective universe of facts and reality.

Branden (1969) further believes that this self valuing and self positive attitude would affect a man's response to his body. He writes,

"The single most pertinent factor in determining a person's sexual attitudes is the general level of his self-esteem: the higher the level of his self-esteem, the stronger the likelihood that his responses to his own sexuality will be appropriate, . . . that he will exhibit a healthy sex psychology." (Branden, 1969, p. 192)

Among the many socially desirable consequents of high self concept noted by Coopersmith (1967), Harachek (1965), and Branden (1969), some of the primary ones seemed to be low anxiety, inner strength, substantive value choices, and healthy sexual attitudes.

Wells' (1971) feeling about the social importance of high self concept is best expressed in his own words.

" . . . developing self concept is the first and most critical process in developing fully functioning persons . . . students who have been helped to become fully functioning human beings will be more creative, spontaneous, honest, democratic, and trusting and will have a deep commitment to mankind. . . . for it is how he sees himself that truly determines who he is, what he is, what he does, and what he will become."  
(Wells, 1971, pp. 8-9)

Wells (1971) believes that self concept is 'the prime motivation for all behavior' and elevates it to 'our highest value'.

Yamamoto (1972) feels that self concept serves as a guide for action, keeping the pattern of growth reasonably consistent, unified, and purposive, since most ways of behaving that are adopted by the organism are consistent with the self concept. He believes that the basic purpose of all human activity is to protect, maintain, or enhance, not the self, but the self concept, or symbolic self. Since self concept is the basis for most of our thoughts and actions, it is reflected in our life styles. To him the meaning of self esteem is a basic respect for wholeness and potential and high regard for life.

Felsenthal (1972) describes youngsters who have high self concepts. She says they are self assured and confident and do not appear to be frightened or intimidated: when you speak to them, they look you in the eye. They relate well to adults and peers, have a strong sense of right and wrong, and know how to distinguish between the two. They are happy,

vibrant, and energetic, but when unhappy, they can express it verbally. These children are well-liked and accepted by others. She noted that they looked for opportunities for independence and were quite willing to express their ideas and opinions. They were also able to accept increasing responsibility. Felsenthal (1972) noted that they frequently had same sex parental identification.

Massard (1972) noted that self concept can affect oral speech and determine both the kind and the quantity of language used.

Wells (1971) and Yamamoto and Ford (1972) related the consequences of self concept in terms of behavior, calling it the prime motivator and the basic purpose of all activity. Felsenthal (1972) made the point by describing the socially desirable behavior exhibited by children of high self concept and Massard (1972) related self concept to verbal behavior.

Ziller (1973) found that individuals with high self concepts were not completely subject to environmental contingencies. Instead they showed long-range adaptation and consistency. Their self esteems seemed to facilitate their hierarchical ordering of self and others along some status dimension. Their behavior was more integrated and their cognitive processes seemed to be characterized by a selective consideration of relevant social elements. The consistency in their behavior was brought about by their perception of control over their environment, yet they enjoyed social support. Two components of their self-other orientation--self esteem and complexity of self concept--allowed them a latitude of responsiveness not seen in individuals with low self concept. They were not 'captive of events' and did not feel compelled to accommodate the self to the situation.



They enjoyed more meaningful encounters with a wider variety of other people. In general these people, " . . . attend to a broader range of social stimuli, perceive more similarities between self and other, and are more responsive to others." (Ziller, 1973, p. 70) Rather than being victims of their environments, they become controllers or even creators of their environments and act in accord with these perceptions. In attempting to explain how self concept influences social behavior, Ziller (1973) writes,

"It is proposed here, that cognitive factors associated with the social self influence social behavior in a way similar to that in which experimental set influence learning behavior." (Ziller, 1973, p. 168)

He illustrates the foregoing with the following example: if a 'good' boy lives in a high delinquency area, his self concept can serve as an insulating factor against engaging in delinquent behavior because he defines himself in such a way that delinquent acts would be incompatible with his self definition.

Role behaviors are similarly influenced. Role behaviors, as defined by Ziller (1973), involve relationships between self and others. They are, therefore, influenced by the way self and others are seen. Ziller (1973) sees self concept to be so all-encompassing that he concludes, "It is not necessary to assume that every personal problem stems from concerns with self-esteem, although it does appear to be a key concern." (Ziller, 1973, p. 177) His belief in the influence of self concept is revealed through the way he writes about it, i.e., it is a 'working theory of behavior'-- a cognitive category--borne out of interaction with the environment; it is a 'personal theory of behavior' which the individual may draw upon in novel situations or when he feels threatened by inconsistency.

Summary. High self concept, then, seems to be related to such diverse socially desirable phenomena as non-delinquent behavior, acceptance of others, high level of aspiration, low anxiety, inner strength, substantive value choices, and healthy sexual attitudes. It is considered to be the prime motivator of behavior allowing the fortunate possessors to become the creators of their own environment.

Social consequents of low self concept. Low self concept, on the other hand, has been shown to have social consequents that are far less than desirable.

Studies of 'adjustment' (Wylie, 1961) have shown low self regard to be indicative of, or an aspect of, or perhaps even a cause of, maladjustment. Ss who admitted low self regard were more apt to deny their problems, and their self rejection was more serious than 'adjusted' Ss. Studies of neurotics showed them to be less self-accepting and more self-critical. They rated undesirable items higher on 'like me' categories. Hospitalized psychiatric patients demonstrated their inadequate self concepts by giving a greater incidence of 'own name' responses and fewer 'group membership' and 'uniqueness' responses when tested. Schizophrenics testified to liking their handwriting, voices, and names, but not themselves. Ss in the 'normal' group, on the other hand, disliked their handwriting, but favored their voices, names, and themselves. Comparisons among normal, neurotic, and schizophrenic Ss revealed that neurotics were less self favorable and both maladjusted groups were less able to tolerate low predictability in relation to themselves. They were also less accepting. Improvement in therapy correlated with more acceptance. Although the neurotic group was the most self-derogatory, they recognized their inadequacies and wished help. Normals were found to have the highest self regard.



Other studies (Wylie, 1961) demonstrated a relationship between self regard and sociometric status. A feeling of 'fitting in' seemed to be important to self concept. Discontent with the self, disorganizing anxiety, and distortive defenses were related to inaccurate interpersonal perceptions.

Rorschach indices (Wylie, 1961) showed a correlation between self ideal discrepancies and signs of depression. Self report measures demonstrated a negative correlation between self acceptance and psychosomatic symptoms. Low self esteem was associated with conventional sex attitudes, virginity, and low masturbation.

High anti-Semitism scores among Jewish males (Wylie, 1961) correlated with negative attitudes towards themselves and their parents. Ss with low anti-Semitism scores showed no such negative attitudes.

Experimental success (Wylie, 1961) correlated with changes in self ratings and changes in ratings assigned to friends. No such changes occurred with experimental failure. This is evidence in support of the assumption that acceptance of self is associated with acceptance of others.

Studies attempting to relate self esteem to ethnocentrism (Wylie, 1961) revealed that high self dislike scores correlated with preference for the European over the American way of life. These Ss disliked their own group as well as themselves. Low self esteem Ss showed a greater desire to travel to foreign countries than high self esteem Ss.

IA studies (Wylie, 1961) revealed that self-rejecting Ss showed high goal discrepancy scores. Whether this was to demonstrate superior ambition or to fulfill a need for punishment through failure is yet to be determined, but unrealistic goal setting was shown to underlie poor self regard. Associations were demonstrated between the size of the IA

discrepancy score and the size of the self ideal discrepancy scores. Ss with unstable self concepts set goals in congruence with or below past performance. A curvilinear relationship was found between IA behavior and feelings of inadequacy. Both high and low extremes of goal setting were found associated with self rejection.

Here, then, are just a few of the many unhealthy symptoms Wylie (1961) has found attending low self concept: maladjustment, depression, psychosomatic symptoms, conventional sex attitudes, non-acceptance of others, negative ethnocentrism, and unrealistic level of aspiration.

Branden (1969) gives a vivid description of some types of people who have low self concepts. The picture he paints is of people who have to 'fake' the self esteem they lack. He believes they are driven to 'create the illusion of self esteem'.

"In the realm of work, the primary desire of a man of self confidence is to face challenges, to achieve and grow; the primary desire of the man lacking in self confidence is to be 'safe'." (Branden, 1969, p. 123)

Fear, according to Branden (1969) is the crop reaped from the seed of self deprecation. These lives are ruled by fear. Reality is feared because they feel inadequate to meet its demands, and they fear the facts about themselves which they have so carefully and systematically evaded or repressed. Because they see themselves as helpless and ineffectual, they act in a manner designed to confirm and reinforce their negative self images. They,

" . . . become, in effect, the psychological prisoners of their own negative self-image. They define themselves as weak or mediocre or unmasculine or cowardly or ineffectual, and their subsequent performance is affected accordingly." (Branden, 1969, p. 132)

They adopt an attitude of resignation toward their own state and thereby succumb to a destructive sense of determinism about themselves. They feel that this is their 'nature' and it cannot be changed. Branden (1969) believes that this generalized sense of guilt or unworthiness can significantly distort their introspection.

"In attempting to counterfeit a self-esteem he does not possess, he makes his perception of reality conditional; he establishes, as a principle of his mind's functioning, that certain considerations supersede reality, facts and truth in their importance to him. . . . Thus he is led to perpetuate and strengthen the same kind of anti-rational, self-defeating policies which occasioned his loss of self-esteem in the first place." (Branden, 1969, p. 133)

To whatever degree self esteem is not achieved, he believes, to that extent will a man experience the consequences: anxiety, insecurity, self doubt, a sense of being unfit and inadequate for reality--for existence. For this reason he is forced into a continuous struggle to 'fake it'. In a desperate attempt to circumvent its lack, to escape that 'inner dread', he builds around himself the tenuous shelter Branden (1969) has dubbed the 'pseudo-self-esteem'. The result of this kind of self esteem crisis is 'pathological anxiety' and a life haunted by terror. These feelings of self rejection and self condemnation characterize neurotic depression.\* The anxiety attending such self derogation stems from urgent self expectations in the form of demands and claims which the individual feels inadequate to satisfy. This makes him feel passive, futile, and generally worthless. This feeling of incurable worthlessness puts him outside the realm of moral expectations. The dependent lives in a world of people, and his reality is reality as perceived by them. In order to survive in such a world, these other people, he believes, must

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\*Mowrer (1972) believes that all so-called 'neuroses' are, in reality, 'identity crises'.

be pleased, placated, deceived, maneuvered, manipulated, or obeyed. He must adopt their standards of right, truth, and personal worth, for he has none of his own. Thus, one substitute for genuine self esteem becomes the approval of others.

Another technique might be to become a conformist. In this way values and view of life are easily adopted from the culture or subculture. Branden (1969) calls such individuals 'social metaphysicians' and describes several subtypes: the power-seeker, the spiritual social metaphysician, the independent social metaphysician, and the ambivalent social metaphysician.

The power-seeker feels that he must command the respect, obedience and love he feels he doesn't deserve, and so his aggressive and destructive acts become aimed squarely at what he fears the most--other people.

The spiritual social metaphysician tries to convince others that he is 'too good for this world'. He is so good, in fact, that he must not be expected to achieve anything 'tangible'. He must be loved and respected for what he is. After all, he would contend, the important things can only be 'felt'. He alleges the possession of some kind of superior soul.

The independent social metaphysician is what Branden (1969) calls a 'counterfeit individualist'. He rebels simply for the sake of being rebellious, claiming that whatever is, is wrong. He wears the badge of 'outcast' as proof of his superiority. In this way he saves himself the agony of possible rejection.

The ambivalent social metaphysician is more eclectic. While he feels it is quite safe to challenge the cognitive judgement of world figures, he quakes at the thought of challenging the value judgements of the folks next door.



Branden (1969), then, has described in detail the results of a failure to achieve a good self concept, i.e., the kind of deep-seated fear which manifests itself in a panic-stricken struggle to achieve pseudo-self-esteem and the resulting socially undesirable personalities.

Glasser (1969) sees the situation as either/or; i.e., people who do not manage to gain a success identity end up with a failure identity. This usually leads either to delinquent behavior or to withdrawal.

Folsenthal (1972) was able to relate low self concept to the following characteristics: low evaluative comments concerning the self, fear of new experiences, poor handling of failure, boasting, an unusually strong need for positive reinforcement, poor body image, possessiveness of material objects, and overtly submissive and accepting behavior.

In studies on the self concepts of minority groups (Yamamoto, 1972) it was noted that spurned minority group members rejected not only themselves, but other members of their group as well. Their own insecurity disallowed them the ability to tolerate the needs of others; i.e., because they were unable to accept themselves, they were unable to accept others. The 'hot-bed of self contempt', as Yamamoto (1972) puts it, is not a place where trust in and love for others can spring. Before one can affirm others, he must affirm himself.

The screening effects of low self concept were also noted by Yamamoto (1972). Not only do people tend to hear only those messages agreeable to their predispositions, but this selective exposure is consistent with the self concept.



Glasser (1969) and Felsenthal and Yamamoto (1972) related low self concept to several socially undesirable manifestations. Among them were: failure identity, rejection of own group, and selective perception.

Ziller (1973) suspected low self concept might be one of the etiological agents in alienation. In fact, he called it a 'pivotal component'. He supported his position by isolating the elements of alienation and relating them to the elements of low self concept. His case is strong and convincing. For example, powerlessness is a feeling associated with alienation. A person who feels powerless does not expect that his own behavior can determine the outcomes or reinforcements that he seeks. The alienated person experiences the feeling of meaninglessness. This, also, is due to his perceived loss of control. He experiences isolation because he senses the uselessness of his usual reinforcements. Because his activities are not self rewarding, he feels estranged. He is not capable of self reinforcement and does not expect it from others. The result of these feelings might be the perpetration of self-destructive acts associated with the search for negative reinforcement or negative identity. The conflict, in this case, is between the individual and society.

Studies (Ziller, 1973) demonstrated low self esteem to be a characteristic of: children with behavior problems, neuropsychiatric patients, and persons of increasing age.

Low self concept Ss (Ziller, 1973) were found also to be 'field dependent', tending to conform to the prevailing field or context.

Summary. Among the effects of low self concept found by Wylie (1961), Branden and Glasser (1969), Felsenthal and Yamamoto (1972),

and Ziller (1973) were the following, all socially undesirable: maladjustment, depression, psychosomatic symptoms, conventional sex attitudes, non-acceptance of others, negative ethnocentrism, unrealistic level of aspiration, fear-related pseudo-self-esteem personalities, failure identity, selective perception, alienation, behavior problems, and field dependency.

It would be safe at this point to say that it would benefit each and every individual to make every attempt in all interpersonal relationships, no matter how momentary those relationships might be, to give the kinds of social reinforcements that might lead to improving the self concepts of those with whom he comes in contact. While he may gain nothing, the cost is minimal, and the profits could be inestimable. For example, in Love and the Cabbie by Art Buchwald (Canfield, 1973) as two friends were walking down a street in New York City, one man said to his friend, "You just smiled at a very plain-looking woman!" The friend replied, "Yes, and if she is a school teacher, her class could be in for a fantastic day!"

## 2. Educational Consequents

The impact of self concept on education has been explored by numerous writers: Wylie (1961); Coopersmith (1967); Branden and Glasser (1969); Purkey (1970); Weisgerber, Trowbridge, Murray, Eylon, Gregor, FERDC, Hutchison, and Wells (1971); Ford, Yamamoto, Felsenthal, Linton, and Sears (1972); Ziller (1973); and Deveney (1974).

Educational consequents of low self concept. Wylie (1961) noted the interaction of self concept with failure. When the task was insoluble

anagrams, Ss with low self regard made more self-referrent comments and Ss with high self regard made more task oriented comments. If failure comes to a S with low self esteem, it may increase his anxiety and cause him to be less accurate and slower to complete the task. Not only that but, " . . . failure on an academic task, . . . will lower self esteem on an instrument tapping numerous nonacademic personality characteristics." (Wylie, 1961, p. 185)

A similar interaction was noted (Wylie, 1961) between self concept and learning. Nonsense syllables made up by Ss were recalled better than nonsense syllables drawn from Glaz's test. Possessions which were 'like the S' to own were recalled better than possessions which were 'not like S' to own.\* More errors were made in trying to associate self adjectives to persons intermediately similar to Ss than were made in trying to associate these same adjectives to persons similar to them.

Branden (1969) describes behavior which teachers can expect from students with low self concepts: a fondness for the familiar, the routine, and the unexacting and a fear of the new and the difficult.

"A man's self-appraisal has profound motivational consequences. . . . A mind does not struggle for that which it regards as impossible. . . . one of the most disastrous consequences of an impaired or deficient self-esteem is that it tends to hamper and undercut the efficiency of a man's thinking processes - depriving him of the full strength and benefit of his intelligence." (Branden, 1969, pp. 131-2)

Glasser's (1969) comments are in agreement with Branden (1969) above.

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\*By this the author meant that the Ss felt that certain objects would be either typical or atypical for them to own.



"Convinced that he is unable to fulfill his needs through the logical use of his brain, he will return to behavior directed by his emotions, behavior that he had learned to avoid when he was successful in the past. He will abandon the pathways of love and self worth and grope blindly toward what seem to him to be the only paths left open, those of delinquency and withdrawal." (Glasser, 1969, p. 27)

Wylie (1961), Cooperemith (1967), and Branden and Glasser (1969) have related low self concept to poor handling of failure, interference with learning, loss of motivation, and withdrawal or delinquent behavior.

Purkey (1970) related low self concept to poor academic achievement, lack of participation in extra-curricular activities, emotional life of poor quality, and feelings of anxiety. He felt that the ways in which a student views himself and the world around him is a primary force in his academic achievement. He says,

" . . . students' difficulties in basic academic skills are directly related to their beliefs that they cannot read, write, handle numbers, or think accurately, rather than to basic differences in capacity. In other words, many students have difficulty in school not because of low intelligence, poor eyesight, poverty, or whatever, but because they have learned to see themselves as incapable of handling academic work or to see the work as relevant to their perceptual worlds. There is reason to believe that these factors may also operate to restrict participation in special school activities such as athletics, dramatics, public speaking, student government, music, and clubs." (Purkey, 1970, p. 2)

Thus, Purkey (1970) is convinced that the ways in which a student views himself is a continuous and central factor in the causes of failure and the effects of the failing experience. He feels that low self concept results in students who come to school with a predisposition for underachievement and found self attitudes related to anti-social behavior. This 'invisible price tag' may be more destructive than a physical handicap because it is often over-looked. We fail to take the time to be sensitive.



Yamamoto (1972) related low self concept to such undesirable classroom phenomena as: lack of interest, ease of distraction, anxiety-related incapacitation, physical illness, unrealistic academic self appraisal, devaluation of the task, forgetting assignments, making excuses, and overdependence. In psychological terms he calls these behaviors: 'rationalization, repression-suppression, detachment, regression, and somatization', and says these can become quite maladjustive as far as the child is concerned. He found such low self concepts to be compensated for by the development of rigid and idealized self concepts which were much distorted views, both 'self-binding' and 'self-estranging', because the image, rather than the person, had been 'besmirched or mutilated'. He believes this sort of thing can lead to neuroses or even psychoses. He very strongly feels that much of the learner's ability to use his power to learn is determined by his self concept, by the way he believes others see him, and by the way he views the world and his own goals, purposes, and values.

Massard (1972) connected low self concept with such familiar classroom behaviors as: slowness in joining the group, restlessness, sagging shoulders and frown, clowning around, and strutting.

Ziller (1973) contributes this insight to the educator.

"An individual with low self-esteem prematurely withdraws from an exchange of views when his own beliefs and those of the group of which he is a member are in conflict." (Ziller, 1973, p. 5)

Studies (Ziller, 1973) showed that children who were rated by their teachers as being 'shy with teacher' identified less with the teacher than those children whose teachers had rated as being 'friendly with teacher'. This lack of 'connectedness' could lead to undesirable results.

" . . . the individual who maps himself apart from parents, friends, and teachers may be expected to perceive himself as independent of or excluded from others and behaviorally tend to move toward activities which do not require companionship." (Ziller, 1973, p. 145)

The undesirable behavior noted in adolescents with low self concepts is caused in part by what Ziller (1973) calls a 'cognitive leap of self deception'. These adolescents try to raise their self concepts by repeatedly reassuring themselves of their personal worth regardless of their overt behavior.

Summary. The educational consequents of low self concept found by Wylie (1961), Coopersmith (1967), Branden and Glasser (1969), Purkey (1970), Yamamoto and Massard (1972), and Ziller (1973) are all undesirable: poor handling of failure, interference with learning, loss of motivation, withdrawal or delinquent behavior, poor academic achievement, lack of participation in extra-curricular activities, an emotional life of poor quality, feelings of anxiety, and behavior disruptive of the on-going educational process.

Educational antecedents of low self concept. Although the antecedents of self concept will be discussed more fully later in the chapter (p. 62), it is best to discuss at this point those antecedents of low self concept for which the school may be directly responsible.

Purkey (1970) points out that the school is second only to the home in its effects on the self concepts of its charges. Yet, ironically, it is in the school where negative attitudes towards self, school, and learning often evolve. In spite of the recognition of these facts, he complains, very little attention is given in the school to this very vital aspect of educating 'the whole child', and this lack of attention is evident in the

lack of sensitivity training teachers receive in teacher preparation institutions to this important dimension of education. "Next to the home, the school is the single most important force in shaping the child's self concept." (Purkey, 1970, p. 40) Yet it is here, he says, that highly charged negative attitudes toward learning often evolve. Here the student faces failure, rejection, daily reminders of his limitations, and in some cases, deprecation and humiliation. If the school sets forth as valuable that which only a few can attain, then the stage is set for a general feeling of personal unworthiness for a great many students. In the school the student may be subjected to unofficial methods of scorn, sarcasm, and ridicule. In the school failure and defeat are often given to the very students who need success the most. It is no wonder that so many of them come to think of the school as an enemy.

Studies (Purkey, 1970) revealed a gradual decrease of self concept with age and found that the student's image of the school grows generally less favorable with time. This means a sense of inadequacy to many students. Schools must modify methods to prevent this, he pleads, and there needs to be a careful evaluation of present school policies.

"It is a personal tragedy and a social waste when a student spends year after year experiencing defeat and failure in school.

.....  
 Once the child becomes convinced that school is not the place for him, that it is a place of threat and anxiety where he cannot hope to succeed and where his identity is lost, then the school as well as the student is in a very difficult position." (Purkey, 1970, pp. 20 & 42)

Much of the damage done to self concepts in the school may be due in part to a lack of awareness by teachers. Very little has been done either to make them aware or to assist them if they are aware.



" . . . little has been done to equip teachers and counselors with simple clinical techniques and instruments which would enable them to be more sensitive to their students." (Purkey, 1970, pp. 57-8)

If the situation remains uncorrected, Purkey (1970) warns, ill effects can be expected. Besides its devastating effects on academic achievement, lack of interest in extra-curricular activities, the quality of emotional life, and anxiety, low self concept seems to be self-fulfilling, has a negative effect on peer relations, seems to permeate through dimensions of the personality not related to actual failure, predisposes students to under-achievement, and may be detrimental to social behavior.

Even though educators may feel that they are attending to their subject matter only, they should be aware that this is not possible. By the way they teach their subject matter or by the way they interact or fail to interact with students, they are in fact teaching self concept. Not only that, but Weisgerber's (1971) study lent support to the idea that a parallel between affective and cognitive learning exists. Just as low self concept students find it harder to learn cognitive material, they find it equally difficult to learn affective material because of the blocking effects of low self concept's screening of information via selective perception.

It is difficult to break through the low-self-concept-barrier once it has been established. It is not so much how the teacher is as how the teacher is perceived by the student that becomes important as far as self concept is concerned. Eylon's (1971) study lent support to this fact. When an observer (O) was perceived as warm and/or competent, Ss second self ratings were more similar to their rating of O than was their first



self rating. Furthermore, when the O was perceived as warm, he was also perceived as being more like S than under the perception of affective neutrality. Either sympathetic behavior of the O or similarity to him led to projection of Ss' self attributes onto the O. In other words, Ss were identifying more with warm Os. Therefore, if the teacher is attempting to be affectively neutral, students may not identify with her, and she may be ineffective in teaching both cognitive and affective material. The dedicated teacher, making every attempt to be detached, professional, and fair, could be making a fatal mistake in terms of teaching effectiveness.

If the teacher is aware of the effect of the school experience on self concept and sets about trying to correct it, she may become discouraged that her attempts seem futile. While she may make every attempt to be warm, understanding, and sensitive, she may find that the students are either eyeing her suspiciously or responding to her kindness with additional discourtesy. This Gregor (1971) showed, might be an expected result of low self concept. In his study, low self concept Ss reciprocated with the opposite behavior, while high self concept Ss reciprocated in kind. However, the teacher may have an advantage over the experimental situation, because the experimenter (E) found that the trend toward reciprocating with the opposite behavior was reduced somewhat when face-to-face confrontation was expected after the opportunity for reciprocity was given. I shall interject here, however, that face-to-face confrontation, in my experience, did not seem to deter crossed reciprocity. For example, students who certainly expected to see me again, would respond to courtesy with discourtesy. This adds to the difficulty in 'treating' them.

Yamamoto (1972) comes down hard on the schools for their part in the etiology of low self concept in students. Because American schools place such enormous emphasis upon competition, the educational experience becomes a means to the end of social achievement and is not savored for itself. Children, therefore, become driven by the 'nightmare of failure'. This threat of nonattainment is aggravated by: the student's assessment of his objective losses and damages, the social devaluation attending these losses, and the self devaluation which then becomes inevitable. The last two are what contradict self concept, he says, and loss of self concept then leads to tactics of counteraction which include attack, escape, and avoidance behavior. These tactics are all too familiar in today's classroom and attest to the progress this low self concept disease has made in American schools. Because of these conditions students feel that full mobilization is required, and, instead of enjoying school, life becomes a continuous test of performance. Yamamoto (1972) says that some unfortunates literally exert themselves to death psychologically.

Finally, Ziller (1973) found that children who were in school longer identified with the teacher less.

Lurkey (1970); Weisgerber, Eylon, and Gregor (1971); Yamamoto (1972); and Ziller (1973) have shed some light on how school practices can lead to the development of low self concept in students.

1. The school fails to recognize its importance in the development of self concept, i.e., its influence is second only to the home.
2. As yet teachers have not been given the help they need in this area.
3. The parallel between cognitive and affective learning has not been fully recognized.
4. Students do not identify with the affective neutrality that has been expected of teachers.
5. Teachers may be discouraged by the crossed reciprocity of low self concept students.
6. The American school places too much emphasis on competition.

Attempting change. If there is one clear message that science has to bring to the educator who wishes to do something about the self concepts of her charges it is this:

Man, to a greater extent than any other creature, has the ability to change, to control, and, in a sense, to create his own environment. Unlike other living organisms, he has to some extent outwitted his environment. To a greater extent than any other living creature, he need not adapt to survive. If it is cold, he builds a fire. Where food is scarce, he cultivates crops. Where disease runs rampant, he finds an antibiotic. He need not migrate or seek shade; he air conditions his buildings.

This in no sense means that man has no challenges. There are many unsolved problems, but science offers a way--a direction--hope--a sense of control.

Control, according to Branden (1969) is the key word in relation to self concept. When a man feels that he has no control over his life, he loses hope; he feels impotent and this affects his self concept. When man feels buffeted about like a leaf in the wind, he gives up. If a man is to feel better about himself, he has to be made to feel that he can take charge of his life and that he can direct its path. This sense of potency can pervade not only the physical environment, but, according to Gestalt psychologists, can also be related directly to man's inner world--his emotions, his thoughts, his feelings. Man can learn to create to some extent an inner environment as well as the external world.

The contribution which science can make toward building self concept should not be ignored by educators. It should be pointed up and used to create in the student a sense of species pride and personal potency and control.



There has recently been an increasing awareness among science educators regarding the responsibility of teachers of science in the area of self concept.

Leslie W. Trowbridge, president of the National Science Teachers Association (NSTA) and professor of science at the University of Northern Colorado, addressed the northern area NSTA convention in Boston in November, 1973. In this address on the future of science education, he said,

"There will be more concern for 'childrenness'. The focus of attention will revert to children and their progress, the development of their self concept, their feelings of success and worthwhileness.

"The subject matter of science will resume its rightful place as a vehicle for achieving true education - all the changes in attitude, behavior and growth that bring about maturity and fulfillment in the human being.

.....  
 "It is an era when we begin to see increased attention to the feelings and attitudes of children. We are beginning to recognize students as human beings, not just absorbers of facts and principles, or the operators of scientific processes, skills, and competencies. We are beginning to listen to students needs and requests. We begin to deem important the development of a good self concept. Appreciation of values has gained recognition. We begin to see that establishing good rapport with students is just as important as knowing and espousing information." (Deveney, 1974, pp. 28-9)\*

Educational consequents of high self concept. If more attention is given to this subject, and if the attention is profitable in terms of improving student self concept, we should expect changes in student behavior. The kind of changes we would expect should be in line with how students who already have attained high self concept behave.

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\*Italics mine.



Coopersmith (1967) found students with high self concepts more effective (competent) than students with low self concepts.

Purkey (1970) believes that academic success or failure is as deeply rooted in self concept as in I.Q.--maybe even more. His study revealed correlations between achievement and self report. As a result of this finding, he concluded that,

"It may well be that a positive conception of one's self as a person is not only more important than striving to get ahead and enthusiasm for studying and going to school, . . . but that it is a central factor when considering optimal performance." (Purkey, 1970, p. 17)

Other studies (Purkey, 1970) indicated that achievement was related to perceived self. The results of these studies were so convincing that the importance of paying more attention to self concept in the schools was again underscored.

Changes in student self view (Purkey, 1970) were associated with changes in failure rate and/or changes in the effects of the failing experience. This relationship was strong and reciprocal. This, he says, should, " . . . give us reason to assume that enhancing the self concept is a vital influence in improving academic performance." (Purkey, 1970, p. 27)

He suggests that self concept should be considered to be a vital and important aspect of learning and development and that the school should seek, through its educational process, to foster and promote it in every child.

Students with high self concepts were described by Purkey (1970) as: self confident, competitive, assertive, spontaneous, and original.

They had the determination to pursue activities with tenacity and were involved in their work and willing to pursue it to completion. Their behavior was expressive and exploratory.

The relationship between self concept and success in school (Purkey, 1970) was clear for boys but not for girls. For high school age Ss, however, achievers were found to have higher self concepts than underachievers. Successful lower class children rated themselves significantly higher personally, academically, and socially than unsuccessful lower class children.

High academic productivity (Purkey, 1970) was associated with high self concept and self concept of ability was significantly related to achievement. Concept of ability was found to be necessary for achievement, but, in itself, was not sufficient for achievement. There had to be high self concept as well.

In contrast, the unsuccessful student (Purkey, 1970) saw himself as less adequate and less accepted by others. Unsuccessful high school boys also found peers and adults less acceptable. Non-achievers held unflattering views about themselves, and poor reading was found to be bound up with feelings of personal worth.

Exactly what is the consequent and what is the antecedent in the foregoing is a moot point. Purkey (1970) feels that it is a two way street with continuous interaction. Each directly influences the other. The self concept influences performance just as our thoughts influence our behavior because our ideas about ourselves cause us to edit all incoming information, and this influences our future performance. When the self is influenced, changed, or threatened, this is reflected in our overt behavior and may

influence aspects of social learning. In support of this contention Purkey (1970) found self concept to be a better predictor of success than I.Q. in public school boys and in institutionalized delinquent boys.

Yet, he cautions, the sword cuts both ways. Performance has a heavy influence on self concept.

Branden (1969) spoke to this issue. He found productive achievement to be a consequence and an expression of healthy self esteem. He also attested to its effects on handling failure. He feels that a healthy self esteem gives man an inestimable weapon in dealing with errors. His description of children with high self concepts is vivid and gives the educator something to go by in terms of indications that her efforts toward improving self concept have been effective.

"The hallmark of healthy self-assertiveness in a child is his visible delight in the action of his mind, his desire for the new, the unexplored, and his insistent use of the word 'why?', his boredom with routine, his indifference toward the undemanding, his obsession with questions, his hunger for that which will invoke and necessitate the fullest exercise of his powers and thus allow him to achieve and experience the growing pride of self-esteem." (Branden, 1969, p. 162)

Coopersmith (1967), Purkey (1970), and Branden (1969) related high self concept to: increased competency, academic success, more expressive and exploratory behavior, and better handling of failure.

Weisgerber's (1971) study indicated that students with high self images, ironically, are more likely to have an advantage over low self image students in learning further self-enhancing behaviors.

Wells (1971) found self concept related to achievement in school and found that the relationship between the two was particularly strong in boys.

Hutchison (1972) found significant positive correlations between expressed attitudes toward reading and self esteem.

Ford (1972) related self concept to future educational career plans. As self concept increased, college plans became more long range. In contrast, students with low self concepts tended to drop out of the educational system. As Ford (1972) put it, they 'select themselves out'.

Felsenthal (1972) found achievement consistent not only with ability, but also with confidence in own ability.

Ziller (1973) found that students with high self concepts participate more frequently than students with low self concepts. High self concept was associated with higher frequency of participation in group discussion and greater consistency of response.

Results of studies (Ziller, 1973) indicated that those who have been supported by significant others tend to support others in turn.

Persons with more complex self concepts (Ziller, 1973) tended to assimilate new information into the system with greater facility.

"In response to a dissonant situation, the person with high self-esteem is, . . . more likely to overcome the imbalance by cognitive work, that is, Festinger's (1957) dissonance-consonance hypothesis is more likely to be upheld by persons with high self-esteem." (Ziller, 1973, p. 163)

On learning, Ziller (1973) feels that stable changes in learning can be effected only when a change in the self concept is achieved. He says, "A change in self concept which accompanies learning also represents a critical commitment to the learning objective." (Ziller, 1973, p. 174)

Summary. Coopersmith (1967); Branden (1969); Purkey (1970); Weisgerber and Wells (1971); Hutchison, Ford, and Felsenthal (1972); and Ziller (1973) have related high self concept to the following educationally desirable consequents: increased competency, academic success, more



expressive and exploratory behavior, better handling of failure, increased ability to learn affective materials, improved attitudes toward reading, more long-range educational career plans, increased participation in discussion, increased support for others, more rapid assimilation of information, cognitive responses to dissonant situations, and a deeper commitment to the learning objective.

If these goals can be achieved by the improvement of self concept, then there could be no loftier or all-encompassing educational goal.

### C. Self Concept Development

Before the improvement of self concept can be attempted or even discussed, some knowledge of the way self concept develops is necessary as a background from which to draw.

#### 1. Developmental Antecedents

Separating the 'developmental' antecedents of self concept from the 'social' antecedents is somewhat arbitrary and artificial since concept of self cannot develop except in the context of concept of other. Nevertheless, there are some aspects of self concept that are more social than others and some more developmental. In this section developmental antecedents shall be those aspects of self concept considered to be more maturational in nature, and social antecedents (pp. 78-96) shall be those aspects of self concept that are unmistakably related to social influences although some overlapping of the two is not only understandable, but unavoidable.

The development of self concept has been discussed by such theorists as: Wylie (1961); Hamacheck (1965); Coopersmith (1967); Glasser and Branden

(1969); Purkey (1970); Wells (1971); Yamamoto, Massard, Felsenthal, and Kirkhardt (1972); and Ziller (1973).

Antecedents to self concept that are the most easily observable, according to Wylie (1961), are those that are environmental and those that are subject characteristics.

One of the environmental antecedents which is easily observable is parental influence. Wylie (1961) noted the following parental influences on self concept:

1. If a child feels that his parents have high regard for him, this perception is associated with a high self concept in the child.
2. The perception a child holds about his parents' self concepts has been found to be associated with the child's own self concept.
3. The parents' actual (not perceived) regard for their child has been found to be associated with the child's self concept.
4. If parental ideals are for the child to be like his father, this is associated with the child's ideal for himself and with a similarity between father and child self concept; if both parents hold the same ideals for a child, this is associated with stability of the child's self concept.

The importance of body image was demonstrated by studies (Wylie, 1961) showing positive correlations between self cathexis and body cathexis. In adolescent boys self concept was found positively related to consistent retardation or acceleration of physical development. Ss in puberty showed positive correlations between body hair ratings and self reports.

Wylie (1961) proposes that self concept is developed and modified through learning. Ss recalled more accurately stimuli perceived and organized into some relationship with themselves. Self concept aspects found to be influenced through learning included: self regard, standards

of conduct, role, reality testing the acceptance of abilities and limitations and reality testing effects on others. Self concept is learned, she concluded, through success or failure in manipulating the environment. This includes both the physical and the interpersonal environment. Only after success were positive changes toward others noted.

Teaching method (Wylie, 1961) was also found to influence self concept. Studies showed that self acceptance was significantly correlated with having been taught by 'group therapy' methods rather than by the traditional classroom method.

Response set (Wylie, 1961) was shown to influence self concept. Under self esteem orienting instruction, ego strength was positively correlated with recall of task completion; while under task orienting instruction, ego strength was negatively correlated with recall of task completion. Under conditions of threat to self esteem, performance decrements were noted.

Self concept crystallization (Wylie, 1961) seemed to be reached prior to grade eight.

Wylie (1961), then, was able to relate self concept to: parental influence, body image, and learning, including teaching methods and E manipulated response set.

Self concept is to some extent developed through activities which, while common to all human beings, are unique in their manifestations, to each individual (Hamacheck, 1965). These activities are the 'dynamic unity' referred to by the word self. They are sensing, remembering, perceiving, imagining, thinking, feeling, and emoting. Every self relates stimuli in various ways but always with some uniqueness to its own developing conception of itself. The self is a 'unique active unity' but is readily influenced by demands outside itself--sometimes forced by them--but still consistent in eking out its own style and methods of adjusting.



"In the development of self image, the first year of life is the most important, each succeeding year becoming of less importance, until the image is essentially completed before adolescence." (Hamacheck, 1965, p. 7)

Self concept development (Hamacheck, 1965) has been related, then, to unique human activities, and its developmental sequence has been pinpointed in importance, i.e., the first year of life being the most important with self image essentially completed by adolescence.

Coopersmith (1967) related self concept development to type of child-rearing environment. High self concept was related to:

1. Control that was positive (rewarding)
2. Management procedures of restraint, denial, and separation
3. Punishment that the child believed to be deserved
4. Rules that were strict, but not harsh or unduly restrictive; rules that were large in number and comprehensive, but firm and decisive
5. Tolerance of: contrary opinion, independent opinion, and compromise
6. Child participation in decision making
7. Responsiveness to child's opinion
8. Resolution of differences through the use of reason and discussion

First born and only children were shown to have higher self concepts (Coopersmith, 1967) as were bottle fed babies. Low self concept children were associated with shifts from breast to bottle.

High self concept (Coopersmith, 1967) was also associated with close sibling relationships and agreement with family members.

Coopersmith (1967) found parental correlates to self concept to be:

- A. Low self concept
  1. father unemployed



- B. High self concept
  1. father satisfied with his performance
  2. close father/son relationship

...

- A. Low self concept
  1. mother married previously
  2. mother distant toward child
  3. mother the punitive agent

- B. High self concept
  1. mother employed longer
  2. mother's self concept high
  3. mother emotionally stable
  4. maternal attitudes: motherhood natural and expected, no sex preference for child, mother cares for child, no rest needed after birth, maternal role accepted
  5. mother affectionate

...

- A. Low self concept
  1. parents rejecting
  2. less acceptance and comradeship

- B. High self concept
  1. lack of tensions between parents
  2. parents more directive
  3. more knowledge of child's friends
  4. parents not viewed by child as being negative or destructive
  5. less permissive, stricter, regarding discipline as important
  6. parents more interested and available
  7. parents with high standards and more demands
  8. more zealous enforcement of rules

Coopersmith (1967) related high self concept to the following personal characteristics: walked earlier, better physique, I.Q. rating above average, high self ideals, and smaller self/self-ideal discrepancy.

Self concept was thought (Coopersmith, 1967) to be pretty well stabilized in the pre-adolescent.

Coopersmith (1967) related self concept development to: a gentle, but firm child-rearing environment, warm, but demanding parents, and the fulfillment of high self standards.

Glasser (1969) speaks to the development of self concept in the early school years. He feels that it is the school alone that pins the label of failure on children. He says,

" . . . the current philosophy of education, which emphasizes failure, prevents the students from developing self-worth. . . . If, . . . the child experiences failure in school during (the first) five years, . . . by the age of ten his confidence will be shattered, his motivation will be destroyed, and he will have begun to identify with failure." (Glasser, 1969, p. 25-6)

Glasser (1969) would deem the first five years in school as critical to self concept development.

Branden (1969) attests to strong parental influence on the development of self concept. On the negative side he says,

"Children often repress negative evaluations of their parents, finding it more bearable to reproach themselves in the case of a clash, than to consider the possibility that their parents are monsters." (Branden, 1969, p. 78)

On the positive side, he says that parents can contribute to the proper development of their children by encouraging and rewarding their independence and increasing responsibility and by keeping their behavior towards their children consistent and predictable. This causes the child to feel that he is living in an intelligible and knowable world.

The relationship between good self concept and sense of personal identity is emphasized by Branden (1969).

"Entailed by the process of achieving self-esteem is a corollary process; that of forming a strong, positive sense of personal identity - the sense of being a clearly defined psychological entity." (Branden, 1969, p. 161)

Branden (1969) thereby credits parental influence with the development of self concept and speaks of its strong relationship to personal identity.

Purkey (1970) feels that self concept is developed through experience-- experience perceived in terms of self relevance. These perceptions determine behavior. In this way the self is both the product and the producer of the experience. Self concept develops as the individual becomes competent in mastering this environment.

One of the experiences thought to be conducive to the development of positive self concept is a rich sensory awareness. Purkey (1970) says that the self is developed through layer after layer of direct experience with smells, sights tastes, feelings, and pressures. It is a general human need he says, to determine certain constancies from the world of continuous sensation. An enriched and varied perceptual environment can be expected to result, and this contributes to higher self concept.

Another area of self awareness that is needed in self concept development is body awareness. According to Purkey (1970), the self must learn to discriminate between the 'me' and the 'not me'. It must become aware of the parts of the body and how they relate to each other. In this way it finds the boundary between the body and the outside world and begins to sense value and worth as a human being. It begins to create itself.

Self awareness and an awareness of the presence of significant others emerge during the early months of life. The nature of the love and care received at this time has overwhelming influence on how the world and self are seen. According to Purkey (1970), self concept is molded by the repeated behavior of significant others, parents giving the earliest appraisals. The mother's role is strategic since she determines the stature of the father. The child's self regard becomes associated with his parents' regard for him, and this influence continues throughout the adolescent years.



The emotional climate of the family (Purkey, 1970) may be more important than economics or social factors although awareness of racial and religious group membership contributes to self concept, particularly race. There seems to be a greater awareness of this in Jewish children. Non-membership is sensed with as much impact.

Purkey (1970) believes self concept is developed through self relevant experience as the individual learns to master his environment. These self-relevant experiences include: sensory awareness, body awareness, and self awareness. Significant others provide the first appraisals as well as the nature of the love and care received in these early years. Although parents are especially important in this respect, family members and race and religious group membership perception, or lack thereof, also make a contribution to the developing self concept.

Wells (1971) believes that the self concept is learned. In his words,

" . . . how vitally important early childhood is in forming the kind of person we become. We are particularly vulnerable to the responses we get from our parents (particularly our mothers)." (Wells, 1971, p. 8)

Quoting Purkey (1970), he continues, "'For good or ill, the child is molded by the repeated behavior of the significant people in his life.'" (Wells, 1971, p. 8)

Wells (1971) believes that the self concept is learned from early childhood experiences with significant others, especially parents.

Yamamoto (1972) was concerned about the developing self concepts of minority group members due to the 'hereditary stratification' of ethnic minority groups. By age 2 or 3, race awareness has developed. Race preferences are established between ages 4 and 7. The initial phase of



budding self rejection and self hatred reflects a perceived low evaluation by generalized others. This rejection becomes directed toward the self as a whole rather than the self concept per se. The child rejects himself as a human being. Rejection by others, rejection of self, and rejection of others, then becomes a self-fulfilling prophecy. This is a result, Yamamoto (1970) believes, of the unspoken, but explicit declaration, 'You are not one of us and are not wanted here.'

Yamamoto (1972) points out that ethnic minority groups are not the only minority groups whose self concepts are devastated in this way. Others include: the mentally retarded, the mentally ill, the handicapped, the criminal, and so forth. These groups are stigmatized and held at arm's length with devastating effects on their self concepts.

Yamamoto (1972) believes self concept is established in early childhood, yet it remains pliable through the elementary years. This fact gives the teacher an extremely important role to play in the development of self image.

Yamamoto (1972) believes that the self concepts of minority groups are damaged through a perceived low evaluation by generalized others, and emphasizes the importance of the teacher in molding self concept through the pliable elementary years.

Massard (1972) points out how self concept is developed and signaled via both non-verbal and verbal communication.

Non-verbal communication includes: body language, use of time and space, and observation of others.

Concepts of self and others are both signaled and learned through the use of such body language as: a frown, a smile, a nod of the head,

socio-cultural gender signals, hand gestures, arm positions, walk, and respect signals.

The same is true for signals given by the use of time and space. For example, the first thought we have when the telephone rings in the middle of the night is that something is wrong. And what does being invited to a party 'at the last minute' do to our self concepts? Other cues might be given by signals of space ownership, i.e., when a person backs away as he is approached. All of these time and space signals affect our interpersonal relationships and our self concepts. They also give us cues to the self concepts of those we observe.

Keep observation of others (Massard, 1972) can give us cues to self concept. For example, a child may be playing to win or playing for pleasure. The tactics he uses may be meaningful. He may laugh heartily or giggle nervously. He may be crying for joy or for sorrow. Non-verbal sounds may give us cues as to how he feels about himself. These can also be indications of how he feels about us. Non-verbal communication works both ways. It can tell us how others feel about themselves and how they feel about us, i.e., these become a way of learning self concept and therefore become important in self concept development.

Massard (1972) discusses the development of verbal communication in detail because, with its development, self concept also develops just as all concept development occurs most frequently through the medium of language.

The first stage is the stage of 'sensorimotor intelligence'. This stage is egocentric and the world is considered to be an extension of the self bounded only by immediate time and space.

This is followed by a stage of 'preconceptual thought'. In this stage there is an overgeneralization between the concept of object and the concept of class.

The next stage is the stage of 'intuitive thought'. In this stage perceptual mechanisms still play a major role. What is seen, felt, and heard, provides the basis for beliefs and thought structure. Speech is egocentric with no regard for the listener. In contrast, socialized speech facilitates real communication with the listener.

At about age 11 or 12 comes the stage of 'formal operations' from which point on there is a strong relationship between the language employed and the mode of reasoning.

An alternative version of verbal communication development (Massard, 1972) is somewhat shortened. The stage of 'naive psychology' brings an awareness of the body and the immediate environment. In this stage thought and speech begin to unite. In the next stage speech is egocentric. This stage assists in the process of individualization because this speech becomes the speech for oneself--inner speech or verbal thought.

Thus, Massard (1972) believes that self concept is both learned and communicated through non-verbal signals and, that the development of verbal communication and the development of self concept occur together, verbal communication mediating the structuring of concepts, including concept of self.

Development of self concept begins (Felsenthal, 1972) in the prenatal period and in early infancy. The prenatal period should be of concern because the physical self plays an important role in self concept. In the first months of life, self concept is developed through the satisfaction,

or lack of satisfaction, of biological needs, but non-biological need satisfaction is equally important: trust, security, recognition, and love. In this period these needs are most often met through tactile stimulation. From this point on, significant others become extremely important. Self attitudes become consistent with those expressed by significant others and are largely derived from their reflected attitudes. The mother assumes a most important role: mothers with higher self esteem have been found to have higher self esteem children. Size and structure of family are also important. Higher self esteem is possible when there is easy and compatible mother-father interaction. High self concept has been associated with:

1. Acceptance and respect for individuality  
(Children are included in discussions.)
2. Realistic parental expectations  
(The child's own criteria of evaluation are used and the child is encouraged to develop independence.)
3. Freedom with controls  
(The child gains experience in decision making processes and learns to live with the consequences of those decisions.)

Low self concept has been found where comparative evaluations between siblings are made.

Once the child enters school Fesenthal (1972) cautions, the teachers can serve as surrogate parents, thereby becoming significant others.

Fesenthal (1972) has suggested that self concept development begins in the prenatal period and early infancy through satisfaction of both biological and non-biological needs and is thereafter adopted from significant others through their reflected attitudes. Child-rearing environment is important, as are family relationships. Here, the parents, particularly the mother, assume the major role.



Kirchardt (1972) structured in detail those antecedents to self concept he called 'psychological pathogens'.

1. Lack of consistency and limits. Sometimes a highly damaging interactive pattern develops, with mother, dad, and sometimes teacher unable to decide, with any consistency, on what the limits for the child should be. It is often hypocritical because the extreme and extravagant threats which are sometimes made in desperation cannot be carried out leaving the child with no limits at all. The child develops internal inconsistency, and his behavior becomes increasingly disorganized. The result is an anxious, insecure, and angry child.

2. Overcoerciveness. As a result of this the child becomes unsure and fearful of new situations. He will, therefore, constrict his efforts to reach out into the environment.

3. Perfectionism and criticality. Sometimes a child is bombarded with ill-defined and constantly accelerating standards for achievement. This leads to chronic frustration, demoralization, depression, and despair. It makes it hard for the child to acquire a really good feeling about himself. A child whose expectancy of success is low because of extremely high goals will predictably fail because there is too much focus on deficiencies. For this, he will feel only anger and resentment.

4. Failure to achieve success in responsibility assumption skills. This occurs when not enough structure has been provided, when teaching has been inadequate, and when there has been insufficient practice to insure success. This leaves the child unable to frustrate the whims of the moment for the sake of long term goals.

5. Overindulgence. In this case the child is kept dependent and relatively helpless.
6. Rejection by significant adults. Rejection can be perceived from such diverse occurrences as: death, divorce, serious illness, arguing, and being ignored. The peer group tends to take over as the dominant influence.
7. Identification with adult neurosis. An adult neurosis can be directly incorporated by the child; it is a straight-line learning process.
8. Primary identification with the opposite sex adult role. Sex role identification (Kirkhardt, 1972) is probably the keystone of the self system. Inappropriate sex role identification can result from insufficient attention from the parent of the opposite sex.
9. Dishonesty and deception. The child is sometimes confused by the adult tendency to maintain a double standard. This confusion decreases his ability to cope with the difficult realities of life. He increasingly confuses reality with the fantasies of rationalization and self justification. His self punishment may range from guilt feelings to acute psychotic delusional states.
10. Family stress. Problems which place stress on families include: sibling rivalry and competitiveness, communication breakdowns, marginality, and instability and breakdown of the family unit. In a situation of intense sibling rivalry and competitiveness, the child can become overwhelmingly discouraged. This aggressive pattern can also become a way of life. Every failure in this unhealthy game is a blow to the self concept. Communication breakdown can begin when a child is told regularly to 'keep quiet'. Substitutions for communication include: quarreling and bickering,

silence, and attacking each other rather than the issue. Marginality occurs when family members feel that they are less privileged than others. Sometimes this can be due to economic insufficiency and sometimes to social isolation. Family units as a whole become unstable when divorce and separation are threatened constantly. The child becomes nervous, insecure, and chronically worried. Other threats to family stability include: alcoholism, serious disabilities of parents, severe mental problems, psychological disturbances, death, and institutionalization.

11. Physical abnormalities and deviations. Imperfect or exceptional physical growth can create in the child a massive feeling of inferiority and a lack of healthy interest in other people. Other debilitating abnormalities may include: unusually high or low intelligence; being especially handsome, dull, or homely; and the depressive effects of malnutrition such as listlessness and apathy.

12. Guilt. Guilt is the by-product of anger and resentment. It can result from wishing another harm or even death. Guilt can also result from sexual feelings which tend to be inhibited in our culture such as masturbation and exploration of genital parts. Other culturally tabooed activities such as stealing, dishonesty, vanity, and envy can also bring on guilt feelings. Unresolved guilt can result in: accident-proneness, self-induced failure, depression, unwarranted feelings of inferiority, and irrational fears.

13. Socio-cultural problems. These problems become the concern not only of the family, but of the school and religious institutions as well. One problem is personality breakdown which includes mental illness.

alcoholism, and delinquency. 'Generation gap' problems can produce feelings of isolation and alienation and, in some cases, antisocial behaviors and even boredom. These problems wear away feelings of initiative, dignity, and adequacy. Population increase produces crowding with its attendant feelings of anger and aggressiveness. The physical problems of overcrowding, such as biological breakdown are worsened by the psychological breakdown accompanying these, i.e., reduction in sense of personal identity and creativity. The phenomenon of segregation by age and television's violent, callous, and superficial modeling effects increase alienation, indifference, and violence. Sudden situational factors such as accident, hospitalization, rape, and witnessing violence such as murder or acts of war are harder to deal with when there has been previous, insidious erosion of psychological stability through these socio-cultural problems.

Kirkhardt (1972), then, has pointed out the 'psychological pathogens' which can be so detrimental to healthy self concept development.

Studies (Ziller, 1973) found self concept to be highest in the first grade with a marked decrease in the second grade. Thereafter, it tended to increase until about the sixth grade.

Marginality is detrimental to self concept according to Ziller (1973). Marginality can be brought about by membership in such 'fringe' groups as ethnic groups, distinctive racial groups, the adolescent group, and even membership in a marginal group such as first line supervisors. Being in such a group is like being trapped within the field forces of two opposing groups, i.e., the group above may see the individual as an intruder, and the group below may see him as a disloyal member. In either case, he is rejected or, at least, not fully accepted.



Wylie (1961); Hamacheck (1965); Coopersmith (1967); Glasser and Branden (1969); Purkey (1970); Walls (1971); Yamamoto, Massard, Felsenthal, and Kirkhardt (1972); and Ziller (1973) have deemed as important to self concept development, the following antecedents: significant others, especially parents, body image, learning, unique human activities, child-rearing environment, self standards, personal identity, self relevant experiences, self awareness, generalized others, non-verbal and verbal communication, biological and psychological needs, 'psychological pathogens', and marginality.

It was generally agreed that the development of self concept begins in the prenatal period and remains pliable until pre-adolescence when it becomes more or less stabilized.

## 2. Social Antecedents

Although the developmental antecedents to self concept were by no means devoid of 'significant others', it will be seen that the social antecedents are far more other-involving.

Wylie (1961) says that self concept is learned through observing the reactions of other people.

The importance of the influence of significant others is explored in Hamacheck (1965) where some very strong statements regarding this influence are made. Structures related to the self are thought to have to do exclusively with interpersonal relations and are morally oriented. This is because, it is believed, these self traits have been structured under strong moral pressures, i.e., what significant others see as 'right' and 'good' is demanded, and what they see as 'bad' or 'wrong' is rejected. Being or doing what is considered 'bad' or 'wrong' by significant others contributes to feelings of inadequacy.

This fact can be used to good advantage by the educator (Hamacheck, 1965) because it is to the extent that one feels inadequate that he can be taught. Further, it is possible for people outside the family, including peers and teachers, to become significant others making the teaching process all the easier. However, by the time this influence might come into play, the individual is that much older and, therefore, less helpless and dependent. This reduces impact and influence.

In large measure, (Hamacheck, 1965) improving self concept involves discovering and clarifying faulty maneuverings arising out of invalid assumptions through the discovery of unsatisfied needs.

The importance of interpersonal relationships is underscored (Hamacheck, 1965). What every human being wants is a respect for his who-ness and, even better, to have his individuality treasured. Only those who have experienced the worth and value of others through empathy can really understand human nature. If an individual is given the opportunity to express and explore his potentials, he will respond favorably.

Permanent and creative learning (Hamacheck, 1965) cannot be forced. Learning can occur only when it is willed by the individual. Forced learning is temporary and inconsistent. As soon as threat is removed, it will disappear. There is no such thing as direct teaching; there is only the facilitation of learning, i.e., making it easier for the individual to learn. Facilitation of learning includes making provision for the acquisition of information and materials; the setting and the atmosphere; and 'being there' in a true sense. Learning is an individual experience unique to each person. Even though learning might prove to be self-enhancing, it is still, for many, a difficult process.

The perfect setting for the facilitation of true learning (Hamacheck, 1965) would be one in which threats to the self are at a minimum, and the uniqueness of the individual is appreciated and respected. Another requirement would be the freedom of the learner to explore the available resources, following his own interests and potentials. Individuality needs cultivating, not weeding out. It is absolutely necessary that the individual have the freedom to 'affirm, express, actualize, and experience' himself as a unique person.

But, Hamacheck (1965) warns, in educating the individual, it should never be forgotten that there is the ever present element of significant other.

"We might clarify further by saying that whatever made the significant people feel more comfortable is accounted as right and whatever made them feel uncomfortable is accounted wrong." (Hamacheck, 1965, p. 3)

The structure of the psyche (Hamacheck, 1965) is such that self value is determined by the attitudes of significant others and any effort that is made to counteract this appraisal, is best made before the development of language and the higher thought processes, for true being is both self and other; both individual and universal; both personal and cultural. Anyone attempting to alter self concept must keep all of the elements of self concept development in mind not only in order to know what to do, but also in order to know the difficulties which will be encountered--the obstinate obstacles in his path.

Hamacheck (1965), ~~then~~, not only shows the educator how to move toward developing self concept through the educational process, but warns that the influence of the significant others is a powerful force which,



rather than being overcome, is best recognized, and possibly used, insofar as the educator can attain the status of significant other.

Coopersmith (1967) is convinced that one of the specific conditions or experiences relevant to the formation of self concept is success. Success can be experienced in 4 areas: power, significance, virtue, and competence. His study seemed to indicate that the areas of significance and competence were most important to the development of self concept.

In order to feel successful in the area of significance (Coopersmith, 1967), a person must receive support and encouragement. People must show interest in him and affection for him. Rational discipline seems to be one way to bring this about. Another way to feel significant is to receive recognition.

To feel success in the area of power (Coopersmith, 1967), one must be able to control not only his own behavior, but also the behavior of others.

Success in the area of competence (Coopersmith, 1967) is experienced by high levels of performance.

Success is experienced in the area of virtue (Coopersmith, 1967) if a person judges himself to be highly moral, ethical, or religious. This area includes what is usually thought of as the 'higher' goals.

Competence may become valued (Coopersmith, 1967) through experiences gained in school. Self concept can be markedly improved if methods are appropriate to the environment and realistic for the individual.

There is an awareness of social distinctions communicated by the way a child is received in school (Coopersmith, 1967). Success in the area of significance can be provided by the teacher giving support and



encouragement to the student, showing an interest in him and affection for him, by giving him recognition, and by using rational discipline.

Success in the area of power (Coopersmith, 1967) can be given by allowing the student the experience of controlling his own behavior and taking responsibility for it.

Success in the area of competence (Coopersmith, 1967) can be provided by allowing the student to succeed in performance and by helping him to close the gaps between his aspirations in this area and his performance.

Success in the area of virtue (Coopersmith, 1967) can be provided by helping him to be true to himself, to be freely expressive, to be self-valuing and self-trusting, and in helping him to develop the ability to defend himself.

Coopersmith (1967) points out that our society makes the greatest demands for independence and freedom from the influence and control of others and at the same time for reliance upon others for judgement of esteem. We come to rely on the important interpersonal influences of acceptance and support. Assistance for achievement of high self esteem can be given through acceptance, limit definition, and respect. Sensory enrichment is also important since under these conditions self initiation increases. Success depends on the importance of an immediate, affective interpersonal environment enhanced through acceptance and expression. All people use the expectation of success rather than the hope of success as a guideline.

Coopersmith (1967) has suggested that self concept is developed through the experience of success in the areas of power, virtue, competence, and significance and has provided a few guidelines for accomplishing these ends through the educational process.

Glaser (1969) feels that there are only 2 kinds of failure. These are failure to love and failure to achieve self worth. These, he believes, are so closely intertwined, that it is artificial to separate them. Children, he says, need affection desperately, both from their teachers and from each other. Once they feel worthwhile, they are then better able to tolerate some of the rejection they will encounter when they try to love. Only a person who is loved develops the motivation needed to succeed and feel worthwhile.

Love and self worth are so interdependent, says Glaser (1969), that they may be properly related under the term identity. This is the single basic need that people have: to believe that they are someone distinctive from others and that this someone is important and worthwhile.

The only 2 places where children can achieve successful identity (Glaser, 1969) are in the home and in the school.

Respect for individuality in education is again stressed.

(When students are) " . . . rewarded for remembering what others deem necessary and important, (They) . . . begin to believe that either right answers will solve all problems or, . . . that problems are generally unsolvable through . . . education." (Glaser, 1969, p. 31)

Glaser (1969) maintains that the two kinds of failure, failure to love and failure to achieve self worth, are intertwined into a failure to attain identity, the single basic need people have. This has implications for the educator who hopes to develop self concept in the classroom.

Purkey (1970) also emphasizes the importance of interpersonal relationships in the development of self concept. He says that the main influences on the development of self concept are those influences brought

to bear by significant others. Self evaluation, he believes, arises directly from evaluations of self by others. He feels that it would be difficult indeed to overestimate the impact of significant others. Children behave as their significant others expect them to. These expectations become internalized and become self expectations. The fulfillment or lack of fulfillment of these affects self concept.

In the interpersonal environment of self (Purkey, 1970), another influence is the general feeling of acceptance. Unconditional acceptance enables expansion as a person. Only in an environment where one is loved and surrounded by loving persons will the capacity for love be developed. Interpersonal relations, therefore, must involve love, warmth, concern, and being seen as a person of value.

Respectful treatment (Purkey, 1970) and considering the child's views help to enrich this type of environment. He should be made to feel that people care about him and have a positive regard for him. He should be able to perceive affection from them.

In the school (Purkey, 1970), a sense of group membership should be developed with a sense of affective meaning attached to it. This is important to really 'get into' a person and be able to help him see his value. It can be done, however, only after group trust in interpersonal relationships has been built up. This can be facilitated by teaching students to listen to each other--to listen for meanings rather than merely for words.

The importance of success to which Coopersmith (1967) referred is picked up by Purkey (1970).

" . . . when one ability is important and highly rated, a failure of that ability lowers one's self evaluation of other, seemingly unrelated abilities. Conversely, the success of an important and highly rated ability raises the self evaluation of other abilities." (Purkey, 1970, p. 9)

Purkey (1970) concludes with one needed caution: the critical factor, after all, is not how the child is viewed, but how he interprets the views of him.

Purkey (1970) has reinforced the stress on the significance of interpersonal relationships in the development of self concept and has pointed especially to the importance of a feeling of acceptance by others. He also agrees with Coopersmith's (1967) assessment of the importance of success to the developing self concept.

FERDC (1971) points to what Kirkhardt (1972) might call a 'psychological pathogen'. He warns that the school environment is not positive. The child is repeatedly informed of his failures by a person who is 'older, louder, bigger, and vested with authority'. He says schools accentuate the negative and zero in on misbehavior and wrong answers. This can contribute to the developing self concept in a way that is detrimental to both child and educational process.

Yamamoto (1972) complains about what the American culture does to the developing self concept. He condemns the competitive standards for judging a person's worth and the accent on 'whatness' achievement. Since making something out of oneself is stressed, someone must lose if another wins. This has a detrimental effect not only on self concept, but as a direct consequence of its detrimental effects on self concept, it has



detrimental effects on interpersonal relations. This is because, he says, patterns of coping with desired objects and with interferences of other people in the pursuit of these objects are learned at the same time and in the same way.

He complains of the 'social audience' that determines whether certain individuals should be regarded as different by pinning on them degrading labels and making degrading interpretations on some facets of their being. This same social audience then goes on to determine the roles they wish these 'deviants' to play. He gives the following example of how far these interpretations have gone in their permeation through the American culture.

Yamamoto (1972) found that an obese child (an aesthetic impairment) was least liked by girls, and the forearm amputee (a functional impairment) was least liked by boys. These negative attitudes in children were shown to increase with age.

Yamamoto (1972) says that most theorists agree that social interactions are of crucial importance in self concept development. Man perceives and defines himself as he believes others perceive and define him. This has been called 'the reflected looking-glass self'. Social sanctions, demands, rationales, and models are gradually translated into personal values and incorporated in the self. This 'subjective public identity' then serves as a stable reservoir of information for the self concept, the 'private identity'.

However, there is dynamic interaction here (Yamamoto, 1972). The self concept is sometimes eclectic of the information in the social reservoir. In conformance with self concept, some roles are accepted and some

rejected. On the other hand, personal values and judgments can be sacrificed on the altar of security and affection (real or imagined) from significant others, i.e., parents, teachers, and peers.

Yamamoto (1972) would agree with other theorists on the importance of parental and teacher influence. Their important influence is in the capacity of mediators and models with definite views and values. Since they are significant others, their views and values are not taken lightly. I can exist only through, and in relationship to Thou.

Yamamoto (1972) noted the power of the American culture over the developing self concept through its emphasis on competitiveness and the influence of the social audience. Social interactions and sanctions include those wielded by the significant others, parents and teachers.

Massard (1972) supports the idea that self concept is developed through maturation and through learning, both conscious and subconscious. This development is socially mediated through communication with or without language. The child slowly develops a perception of what is self and what is not self through the influence of this communication. Massard's definition of communication is broad. ". . . all behavior, both conscious and subconscious, by which people influence each other." (Massard, 1972, p. 27)

Massard (1972) feels that self concept is learned through conscious and subconscious communication from others.

Felsenthal (1972) is convinced that self concept is learned from observing the reactions of others. External appraisal is a gauge for self evaluation.

It would seem that one of the primary sources for observing with self appraisal in mind is parents, although Felsenthal warns that most

studies are correlational and, therefore, no direct cause and effect inferences can be drawn. Some of the greatest parental effects on self esteem seem to come from consistent acceptance with respect and concern, and freedom and independence within carefully defined limits. However, how a parent expresses love has been found to be another very powerful influence.

Felsenthal (1972) outlines some of the social learning aspects in the development of self concept. There is an identification with the parental model, early learning often becoming imitative. Not only are overt actions learned in this way, but also feelings, attitudes, and self awareness. This is observational learning.

Felsenthal (1972) believes that self concept is learned from observing the reactions of others, particularly parents. This learning is socially mediated through identification, modeling, imitation, and observation.

It would be expected that Ziller (1973) would have the most to say about the social antecedents of self concept since his whole theory rests on the dependency of concept of self on relationships with other. He calls his theory a self-other concept theory.

He describes self concept as a mediating agent between the organism and the environment. Self evaluations, he believes, are rendered in terms of a social frame of reference provided by significant others, and that these self evaluations are, therefore, not absolute, but relative. Self esteem, then, is associated with consistency of response to the environment and regulates the extent to which the self system is maintained under conditions of strain.

He believes self concept is learned in the same way any other concept is learned. New information about the self is continually available; the

self concept is, therefore, subject to continuous differentiation. This is followed by the reintegration made possible by the relatively enduring social schemata.

"These social schemata include self above other, with other, more than other, separated from other, included with other, similar or dissimilar to other, more central than other, different than other, close to other, and connected with other." (Ziller, 1973, p. 143)

Ziller (1973) agrees with other theorists about the importance of significant others in the development of self concept. He feels that the basis for self esteem is perceived membership in a group of significant others. He writes,

" . . . there exists for each individual, . . . a relative ordering of significant others, and self meaning is a function of the personal weighting of others and the others' evaluation of the person." (Ziller, 1973, p. 111)

Parents are the first and most important significant others (Ziller, 1973).

"In the process of socialization and self-acceptance, the child adopts the point of view of the parents and gradually substitutes self-reinforcement for parental reinforcement. At first, he identifies with the parents and reinforces himself on occasions similar to those when he has been supported by parents. In time and with increased independence the self concept rather than the parental concept serves as a more meaningful and reliable model for the reinforcement process." (Ziller, 1973, p. 8)

When the child reaches the stage where people other than the parents may become significant others, (Ziller, 1973) information concerning the possible consequences of his behavior is usually transmitted directly to him rather than to the parent-child complex. In this way he begins to establish his identity as a separate and unique individual.



Although Ziller (1973) found no relationship between self concept and SES, high self esteem was associated with the regularity of the father's employment. The extent of a father's job-related absence and the mother's rating of the stability of his employment could be related to the discrepancy found between the child's self report and the teacher's rating of his self esteem.

High self esteem (Ziller, 1973) was found related to:

1. mothers with high self esteem and emotional stability
2. fathers more likely to be attentive and concerned thereby making sons more likely to confide in fathers
3. husband and wife relationships more compatible and marked by greater ease of exchange
4. clearer patterns of authority and areas of responsibility
5. first born and only children
6. more positive social experiences in early years, i.e., parents more loving; closer relationships with children, being more concerned about their children's companions, and being more available to their children

In Ziller's (1973) words, high self concept children,

" . . . were socialized in such a way that they developed a clear understanding of the norms of the majority in the large community and were reinforced by parents for behavior consistent with these norms.

.....  
 "Adherence to the norms of the majority has a higher probability of positive reinforcement by others leading to higher evaluations of the self." (Ziller, 1973, p. 104)

Low self concept (Ziller, 1973) was related to:

1. more previous marriages
2. mothers uncertain of feeding and shifted from breast to bottle
3. less guidance, but more harsh treatment: parents use punishment rather than reward, parents inconsistent in their regulatory behavior, parents less demanding and more permissive in their attempts to control their children's behavior

According to Ziller (1973), low self concept,

" . . . develops from a poorly delineated basis for social reinforcement and subsequently, a lack of social reinforcement.

.....  
 "The child with low self-esteem develops in an environment with poorly delineated models for behavior or conflicting models, whereas the child with high self-esteem has before him a clearly depicted model and is consistently reinforced for behavior which is congruent with the model's behavior." (Ziller, 1973, pp. 104-5)

The presumption here (Ziller, 1973) is that self esteem derives from the parents' support of the child when his behavior matches their expectations.

Concerning the beginning of self concept development Ziller (1973) says,

"The self as a system, . . . begins . . . when the infant is subjected more and more to the social responsibilities of the parent. . . . the infant learns that the environment is cooperative only under certain conditions. . . . (It is an environment of) contingent reinforcements.

.....  
 "The inherent conflict between self and others becomes clarified, and in the process, the infant learns to distinguish the self from others . . .

" . . . the social self emerges . . . with the development of the concept 'I', . . ." (Ziller, 1973, pp. 94-5)

Once the self concept has started to develop, other pressures, such as those of the culture or society as a whole, come into play. Assistance in the evaluation of abilities, opinions, and emotions comes from the social comparison process.

"Group affiliations add further information about the self through comparisons and contrasts with members and with other groups.

"Festinger's theory of social comparison is based on the assumption that a correct appraisal of one's own opinions and abilities in relation to those of others is presumed to derive from a more basic need for a clearly defined self concept." (Ziller, 1973, p. 78)

In support of this contention, studies (Ziller, 1973) showed the interdependence of self acceptance and social acceptance. This may well be the way to the achievement of a stable self system, i.e., by screening personal behavior through the sieve of: the expectations of others, the norm of the group, identification with others, and social trust. This is true because in any self-other situation, it becomes crucial to the individual that he is able to expect support from the other. He insures himself against an undesirable outcome in this way.

"The classic conflict between self and other may be resolved in part by forming a coalition with the other, that is, by perceiving oneself as included within a group of significant other persons." (Ziller, 1973, p. 29)

Such an arrangement benefits society by providing assurances that social behavior will be consistent and by serving as a mechanism to control conflict. It should not be forgotten, however, that conflicts may still arise because the individual needs both autonomy and mutuality.

Ziller (1973) relates the effects of the social comparison mechanism to certain aspects of social learning, pointing out that the social comparison mechanism would be most ineffective without the expectation of social reinforcement.

"In terms of social learning, the ecological concerns include the criterion for social reinforcement, sources of social reinforcement, and the effect of social reinforcement.

"The criterion for social reinforcement may be expected to be determined, in part at least, by the characteristics of the family and the culture." (Ziller, 1973, p. 102)

As a child, the desired reinforcements are food, care, and affection. In order to obtain these, the child becomes oriented toward meeting the expectations of the key family members. In a Kibbutz (Ziller, 1973) the situation is different. Here the children orient themselves toward many others rather than a significant few.



Studies of mobile and non-mobile children (Ziller, 1973) lead to the same conclusion. Mobile children were found to orient toward stable significant others for maintenance of self definition, but these others were seen in relation to the self. On the other hand, the less mobile child saw the self in relation to significant others. In either case, ". . . when the family is the locus of social reinforcement, the child indicates high self-esteem." (Ziller, 1973, p. 125) On the other side of the coin, persons with high self esteem (Ziller, 1973) were found to have histories of social reinforcement. For example, high self concept was found to be associated with social acceptance, winning an election, socio-economic status, parental reinforcement, and recent marriage. People with high social interest were found also to have received support from significant others. The close interrelationships among these processes is demonstrated by Ziller (1973).

"Since self-esteem is socially derived and reinforced, reduced social interest also is associated in turn, with reduced self-estimate, which in turn, is associated with increased self-centrality and reduced social interest. The process is cyclical and degenerative."  
(Ziller, 1973, p. 65)

For example, persons institutionalized for social maladjustments (Ziller, 1973) were found to have low self estimates. This contention is further documented.

"The inability to maintain a workable degree of stability under conditions of self-other conflict is assumed to stem from inadequate guides for behavior (low self esteem and low social interest) which are assumed to lead to withdrawal (high self-centrality)." (Ziller, 1973, p. 64-5)

In order to insure an adequate amount of needed social reinforcement, self-other conflicts must, to some extent, be resolved. One way of accomplishing this is through the process of the ego identity and group identity



duality (Ziller, 1973). Ego identity is equated with self esteem, and group identity is equated with social interest. This duality enables an individual the freedom to identify himself both apart from and included with others. Self support is provided via self esteem, and social support is provided via social interest since for this interest, he expects reinforcement from others. It is via this duality that social adaptation takes place. As Ziller (1973) puts it, "We learn to react to ourselves as others have reacted toward us." (Ziller, 1973, p. 34) It is this process of introjection that is involved in identification with others. Identification may be viewed as modeling behavior. The socialization process involves the imitation of selected models after having observed the model's behaviors and attitudes. If the model is perceived as similar to the self or if the model is an admired person, the individual is required to make fewer adaptations for differences. Through modeling or identification with others, the probability for having behavior supported increases. At first it is the parents who serve as models. Children who lived in fatherless homes, for example, identified less with father than children of the same age and SES who lived in homes where the father was present. Later, peers and teachers may become the models. The more models an individual has, the greater are his prospects for social reinforcement.

"Identification can be said to occur when an individual adopts behavior derived from another person or a group because the behavior is associated with a satisfying self-defining relationship to this person or group." (Ziller, 1973, p. 164)

These adopted behaviors can become internalized when the behavior is in congruence with the individual's value system.

This kind of social learning (Ziller, 1973) may involve change in role. These new roles are socially reinforced when the role behaviors meet with the expectations of group members.

This adaptive process may continue until there are changes in the life style. Ziller (1973) says,

" . . . environmental changes coupled with the normal demands for resocialization accompanying changes in expectations associated with age and position may endanger the adaptive process." (Ziller, 1973, p. 96)

Studies (Ziller, 1973) backed up these contentions. As Ss increased in age, there was increased identification with various groups, but as retirement age approached, group reference scores diminished.

"Increasing age is associated with increasing identification with significant others and increasing self-esteem, at least up to age 40. It is possible that this age is accompanied by a decreasing growth in the number of supporting groups of other persons, and, in fact, the slow erosion of existing groups such as family, through various forms of attrition . . . " (Ziller, 1973, p. 100)

These environmental changes that come with age may be major factors causing observed changes in self concept (Ziller, 1973).

Ziller (1973) saw identification as an alternative to marginality. In order to avoid marginality, the individual may identify with either group or assume a position between the two.

Alienation, according to Ziller (1973), occurs when there is a lack of congruence between the individual's evaluation of himself and his evaluation by others.

Summary. The social antecedents to self concept development were attended to by Wylie (1961); Hamacheck (1965); Coopersmith (1967); Glasser (1969); Purkey (1970); FERDC (1971); Yamamoto, Massard, and Felsenthal (1972); and Ziller (1973).

It was found that self concept is learned through observing the reactions of other people, can be developed through the educational process, is influenced by significant others, is developed through the experience of success in the areas of power, virtue, competence, and significance, is dependent on interpersonal relationships and a feeling of acceptance by others, is damaged by the school's accentuation of the negative, i.e., misbehavior and wrong answers, is damaged by the American culture's stress on competitiveness, is influenced by the social audience, is learned through the social learning processes of identification, modeling, imitation, and observation, and is molded through the social comparison mechanism in the hope of social reinforcement. Failure in its development is an identity failure due to failure to love and failure to achieve self worth.

At this time the definition of self concept begun in Chapter I can be completed. Through the exploration of the social and educational consequences of self concept and through tracing its development, its effects on behavior become dramatically clear. The final definition of self concept is the following:

My self concept is a feeling I have about me, resulting from a cluster of value judgements made by me on me as a result of my experiences, and it manifests itself in my behavior.

This definition includes all of the aspects necessary to fully define self concept: emotion, multidimensionality, evaluation, learning, and behavior.

## CHAPTER III

### PROCEDURE

North Middlesex Regional High School is a 1600 student junior-senior high school located in Townsend, Massachusetts. The region incorporates the towns of Pepperell and Ashby as well as Townsend. These towns are located in north central Massachusetts bordering on the New Hampshire line. The size of the region necessitates bussing students for distances up to 20 miles.

Biology is a required subject taught in the 10th grade. There are 3 tracks from which students may choose: college biology, general biology, and Ideas and Investigations in Science (IIS) biology, the last 2 usually referred to as 'general biology'. Students who enroll in college biology are usually those who expect to go on to college, junior college, community college, nursing school, or some other technical school. General biology is offered to those students who do not plan to go on to college after high school. Usually these students are those enrolled in the business curriculum and those planning to enter other skilled trades after graduation. IIS biology is limited to those students who are having an unusually difficult time in science, not having been able to achieve more than a D or an F in previous science courses. Their grades in other subjects are usually similar to their grades in science.

IIS biology is a curriculum especially designed for these students. The text is in 5 parts or 'ideas' and at the end of each idea the student



is allowed to keep his book. The printing is large; the reading level, approximately 4th grade; and the text, replete with pictures and cartoon characters. The course is approximately 99% laboratory or activity oriented, therefore the text is largely a laboratory manual in which the students may write their answers and observations.

The 5 ideas which make up the curriculum are: inquiry, evolution, genetics, homeostasis, and ecology. Each book takes about 2 months to complete.

#### A. Population Definition

The 2 groups of students involved in this study were those enrolled in the general biology curriculum using IIS materials. From September, 1973, to mid-January, 1974, these classes were performing comparably both academically and behaviorally. Their language was crude, often obscene; their peer relationships were replete with hostility, i.e., stealing, hiding, and defacing each others' property; teacher/pupil interaction with both groups was less than desirable with more time being spent in discipline and keeping them on task than on instruction per se; degree of task orientation in both groups was low with a great deal of mischief, such as throwing water and propelling elastics and spitballs, replacing their assigned task activities; and much teacher time had to be spent tracking down laboratory equipment that had been 'misplaced' or replacing equipment that had been damaged or defaced.

The experimental class, C block, consisted of 21 students. The control class, B block, had 24. Both classes were composed of about equal numbers of boys and girls. I taught both classes.

In mid-January, both classes were measured with 2 self concept assessing instruments and 1 classroom interaction analysis instrument. These instruments will be discussed in more detail later in the chapter.

From this point on, the control group, B block, was taught general biology with IIS materials. The experimental class, C block, was taught general biology with IIS materials, supplemented approximately once a week with self concept building activities. These activities are discussed in more detail in the appendix.

At the end of June, 1974, these classes were again measured with the same 2 self concept assessing instruments and the same classroom interaction analysis instrument. The results of these appraisals will be discussed in Chapter IV.

## B. Self Concept Measuring Instruments

Before deciding on the best self concept assessing instrument to be used in this study, it was necessary to research self concept measuring devices per se.

### 1. Historical development

Table 4 (pp. 100-107) shows the historical development of self concept assessing instruments. Without a doubt the most common types are self reports and projectives. The projective tests (Bourrisseau, 1972) were the first to become popular, dominating the first 15 years of self concept measurement. From 1951 on self report measures became increasingly common, gaining in popularity by the middle 1960s. Direct observation techniques

TABLE 5

 HISTORICAL DEVELOPMENT OF SELF  
 CONCEPT ASSESSING INSTRUMENTS\*

Date	Developed or Described by	Type of Test	Test
1931	Rogers	. . .	Self vs. Self Ideal Inventory
1935	Morgan & Murray	Projective	Thematic Apperception Test
1948	Machover	Projective	Draw a Person Test
1949	Schneidman	Projective	Make A Picture Story Test
1950	Blum Bellak & Bellak Krout	Projective . . . Projective	Blacky Pictures Children's Apperception Test Symbol Elaboration Test
1951	Hulse Van Lennop & Machover Machover . . . . . . Bills, et. al.	Projective Projective . . . Self Report . . . Self Report	Family Drawing Test Figure Drawing Line Quality . . . Completions Index of Adjustment and Values

\*Reference is Collier (1971) unless otherwise indicated.

TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1954	Butler & Haigh Creelman	Projective Projective	Q-sort-Self vs. Self Ideal Creelman Self Conceptions Test
1956	Buck	Projective	Figure Drawing
1958	Lipscomb	...	Self vs. Ideal Self
1959	Cooperwith Howarth & Waltman	Self Report Projective	Self Esteem Inventory Rock-a-Bye, Baby
1960	Kuhn Riley ... ... ...	... Projective ... ... ...	Twenty Statements Test of Self Attitudes--Who am I? Animal Picture Q-sort Role Play Doll Play Combinational Procedures
1961	Wylie*	...	Q-sort-Self vs. Self Ideal
1962	... Meyerowitz	... Self Report	Q-sort-Self vs. Self Ideal Illinois Index of Self Derogation

\*Wylie (1961)



TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1963	Eisenson, Auer & Irwin . Engel & Raine Goodenough & Harris Combs & Soper . Butler Sears Combs & Soper	Direct Observation Self Report Projective/Self Report . . . . . Direct Observation Self Report . .	Speech Rating Scale Where Are You Game Goodenough-Harris Drawing Test Combinational Procedures Rating Scale Self Concept Subscale Self Concept Inventory Perception Score Test
1964	Bourrisseau Koppitz Meerloo Piers & Harris	Projective . . . Self Report	Picture Stories Line Quality Speech Piers-Harris Children's Self Concept Scale-Subscale for Children: The Way I Feel About Myself
1965	Dinkmeyer Dinkmeyer . Stillwell	. . Self Report . . Self Report	Sociometrics Autobiography Semantic Differential Global and Specific Self Concept Scale Primary
1966	.	Self Report	Symbolically Contrived Situations

TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1966	Brown	Self Report	The Brown IDS Self Concept Referents Test
	Woolner	Self Report	Freschool Self Concept Picture Test
1967	Levin & Lufferty	Projective	Measurement of Self Concept in Kindergarten Children
	Woolner	...	Freschool Self Concept and Picture Test--A Semantic Differential
	McDaniel	Direct Observation	Inferred Self Concept Judgement Scale Rating Scale
	...	Self Report	House-Free-Person (HTI Cincinnati) Self Concept Index
	...	Projective	Self Concept Instrument: A Learner Scale
	Liddle	Self Report	Self Concept Instrument
	Moellenberg	Self Report	Criticalness of Self and Other Persons Test
	...	Projective	Self Acceptance Test
	Long, et. al.	Projective	Children's Self-Social Constructs Test
1968	Benney	...	Sociometrics
	Cordon	Self Report	How I See Myself Scale
	McNamara	Self Report	What Happened?
	Helms, et. al.	Self Report	Children's Self Concept Index
	Farrak, et. al.	Self Report	Self Concept and Motivation Inventory

TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1968	Maryland McNamara, et. al.	Self Report Self Report	Self Concept of Ability Scale Children's Projective Pictures of Self Concept
1969	Hodgkiss Dilorenzo Dilorenzo Dilorenzo Frymier Scott & Jeffness Riley Dilorenzo  Thomas Fischer	. . . Direct Observation Direct Observation Direct Observation . . . Self Report Self Report Projective Direct Observation  Self Report Self Report	Semantic Differential-Freschool Rating Scale Work Posting Perceived Approval Situation Dolls-Self Test Faces Scale The Faces Make a Boy/Girl Teacher Measurement of Pupil Self Concept Thomas Self Concept Values Test Self Concept as a Learner Scale Elementary
1970	AIR* Myers Cratty Collier Nimnicht Fitzgibbon  Fitzgibbon	Self Report . . . . . . Behavioral Trace Behavioral Trace Behavioral Trace  Self Report	When Do I Smile? Sociometrics Muscle Coordination Parents' Report on Children's Behavior Attendance Records Rating Scale for Measuring a Child's Self Concept Responsive Self Concept Test

\*American Institute for Research

TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1970	Bolea, et. al.	Self Report	Fictorial Self Concept Scale
	IOX	Self Report	Self Appraisal Inventory--3 levels: Primary, Intermediate, and Secondary
	IOX	Self Report	Class Play
	IOX	Self Report	Television Actors
	IOX	Self Report	What Would You Do Inventory
	IOX	Self Report	Parental Approval Index
	IOX	Direct Observation	Perceived Approval Situation
	IOX	Self Report	Choose a Job Inventory
	IOX	Direct Observation	Work Posting
1971	AIR	Self Report	How Much Like Me?
	Weisgerber*	Self Report	Would You?
	Weisgerber	Self Report	How I am--Semantic Differential
	Weisgerber	Self Report	How I Would Like to Be--Semantic Differential
	Weisgerber	Self Report	Most of My Classmates Think I am--Semantic Differential
	Weisgerber	Self Report	Would John?
	Weisgerber	Self Report	Self Description Inventory
	Weisgerber	Self Report	Semantic Differential
	Cooper (Cooper, 1971)	Self Report	Primary Self Concept Scale
	Muller (Muller, 1971)	Self Report	Who am I?
	Murray (Murray, 1971)	Self Report	Picard Self Esteem Scale
	Picard (Picard, 1971)	Self Report	modified Coopersmith's Self Esteem Inventory
	Trowbridge (Trowbridge, 1971)	Self Report	

\*Weisgerber (1971)



TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1971	...	...	Orange County Inferred Self Concept Scale
	FERDC (FERDC, 1971)	...	Inferred School Self Concept
1972	Campbell (word, 1972) Landis (Landis, 1972)	Self Report Self Report	Self Concept Scale modified Coopersmith's Self Esteem Inventory
	Maefjen (Landis, 1972)	Self Report	Maefjen's Self Concept as Learner Scale
	Instructional Objectives Exchange (IOX)*	Self Report	Self Appraisal Inventory--3 Levels: Primary, Intermediate, and Secondary
	IOX	Self Report	Television Actors Primary Level
	IOX	Self Report	The Class Play--Primary and Intermediate Levels
	IOX	Self Report	Parental Approval--Primary and Secondary Levels
	IOX	Self Report	What Would You Do?--Intermediate and Secondary Levels
	IOX	Self Report	How About You?--Intermediate Level
	IOX	Self Report	Word Choice
	IOX	Direct Observation	For All I Know--Secondary Level
	IOX	Direct Observation	Work Posting
			Perceived Approval Situation
1973	Ziller (Ziller, 1973)	Self Report	Complexity of Self Concept
	Lichens (Ziller, 1973)	Self Report	Self Concept as Learner Scale

\*IOX (1972)

TABLE 5--Continued

Date	Developed or Described by	Type of Test	Test
1973	Ziller (Ziller, 1973)	. . .	Social Self Esteem Scale
1974	Quesada *	Direct Observation	Classroom Interaction Analysis Instrument

\*Developed by author.

did not appear until the early 1960s but never reached the status of either of the previously mentioned types. In 1970 the behavioral trace technique made a brief appearance but never gained much popularity.

Basically, there are 2 types of self concept measuring techniques (Bourisseau, 1972): formal and informal. In formal techniques uniform methods are generally used and the data gathered is normative. Informal techniques are simply suggestions for observation.

Formal techniques (Bourisseau, 1972) include projectives, self versus self/ideal inventories, semantic differential techniques, sociometrics, and the like. Informal techniques may be either verbal or nonverbal. An example of a verbal technique might be as simple as listening to comments made to the teacher or attending to verbal interaction with peers. By these methods insights might be gained concerning the child's perception of himself. Other verbal techniques might include listening to what the child says through the medium of puppetry or reading what he wrote in an autobiography. Non-verbal techniques include: teacher observation, evaluation of handwriting, analysis of speech patterns, observing the role assumed in free play, or attending to degree of muscle coordination.

Formal techniques (Bourisseau, 1972) dominated the first 20 years of self concept testing. The first informal technique appeared in 1951: Machover's suggested analysis of line quality in handwriting. This was a nonverbal technique. The first verbal informal technique appeared in 1963 with the direct observation of speech patterns.

The projectives, which dominated the first 15 years, use ambiguous tasks (Bourisseau, 1972) allowing Ss to structure the situation in their own way. The projective test,

" . . . deals with the aspect of the personality which ascribes to something or someone a feeling or an emotion which originates from within." (Bourisseau, 1972, p. 86)

It is an unconscious mechanism (Bourisseau, 1972) not recognized as a projection by the Ss. Projectives use such techniques as figure drawing, sentence completion, and picture stories.

Figure drawing is generally used more often than any other projective with children. The oldest figure drawing projective was described by Machover in 1948. It is called the Draw a Person Test. The child is told to draw a person and makes his own decision about 'what, where, and how'. It is, " . . . a representation of the self, or the body in its environment." (Bourisseau, 1972, p. 88) Meaningful are: the size and proportion of parts, details included or deleted, overall emotional tone, placement on the page, and line quality and control. Other figure drawing projectives include the Family Drawing Test described by Hulse in 1951 and the HTP developed in 1967.

Sentence completion projectives (Bourisseau, 1972) are semistructured. The S is provided with a sentence stem or one or more words and is instructed to complete the sentence with the first thought that comes to his mind. The disadvantage of this kind of test is that its purpose can be recognized. Mainly it reveals conscious concerns, fears, wishes, attitudes and feelings. One caution with sentence completion tests must be noted: they are greatly influenced by immediate circumstances requiring that they be redone over time since, over time, there is a, " . . . consistency of the internal phenomenal state in expression." (Bourisseau, 1972, p. 95)



One of the most widely used sentence completion projectives (Bourisseau, 1972) was described by Kuhn in 1960 and is called the Twenty Statements Test of Self Attitudes - Who am I? Ss are asked to respond 20 different ways to the question, "Who are you?"

The results of the picture story projective (Collier, 1971) depend on a child's perception of his environment. The child is asked to tell a story when stimulated by a relatively ambiguous picture. Imagination is stressed in order to avoid the rote repetition of something heard or read previously. One of the oldest is the Thematic Apperception Test (TAT) described by Morgan and Murray in 1935. Another well known one is the Children's Apperception Test described by Bellak and Bellak in 1950.

If clinical tests are not available (Bourisseau, 1972), suitable pictures can be taken from magazines, picture books, or coloring books. It is important that it be an action picture, portraying conflict if possible, and pertinent to the child. Resolution of the conflict should be unpredictable.

The picture story projective (Bourisseau, 1972) is appropriate throughout the elementary grades. The child is instructed to begin with events prior to the picture and to develop an ending. Identification with a small figure in the picture is assumed. The child's stories can indicate feelings regarding adult/child relationships, peer relationships, ability to relate to authority figures, and conflict situations. Analytical emphasis should be on story content and development.

Another type of formal technique (Bourisseau, 1972) is the self versus self/ideal inventory. The assumption underlying this technique is that the

stable, well-adjusted child is satisfied with himself. The S is presented with a list of characteristics which he rates on a scale that represents the degree to which he thinks he is like the quality named. The second response requested from the S is that he rate these characteristics according to the degree he would want to possess them. A wide discrepancy between the 2 ratings would indicate that the S is unhappy with himself and, thus, has a poor self image. When self concept is measured, this is a device commonly used. It is a good research tool because it can be quantified. A disadvantage is the structured format. Rogers developed the first self versus self/ideal inventory in 1931. Others include the one developed by Butler and Haigh in 1954 and the one described by Lipscomb in 1958.

There are 2 basic types of self versus ideal/self inventories (Bourissau, 1972): the Q-sorts and the personality adjustment inventories. Q-sorts are individual tests of which there are 27 types ranging from words to sentences. Ss are asked to sort cards on which items, descriptive of personality traits, have been individually written. The cards contain equal numbers of positive and negative traits plus some neutral ones. Depending on the test, there can be from 80 to 100 items in all. The S sorts these cards into stacks which range from most like him to least like him. Scoring consists of giving the cards in the 'most like' stack a value of 1. The cards in the 'least like' stack are given values according to the number of stacks, other items falling in between. In the second sorting, the cards are arranged according to the degree the traits match the self ideal. Ss are asked to distribute most of the cards near the center. High self and self ideal correlations indicate that the S feels better about himself and

has a better self concept. Lower correlations indicate poorer self concepts. This technique is recommended for second grade and up.

Large sections of personality adjustment inventories (Bourisseau, 1972) use a form of the self versus self/ideal method. In one form characteristics are attributed to fictitious children by name, the name depending on the sex of the S. The S responds in terms of self and then self/ideal. In addition Ss are asked which fictitious child would be most acceptable to father and then to mother. Ss responses indicate whether or not they are satisfied with themselves and provide insight into the compatibility of their feelings about themselves in relation to their parents' aspirations for them. If the child's interests and ambitions are different from his parents', conflict and emotional concomitants can be suspected.

A third formal measure (Bourisseau, 1972) is the semantic differential technique. This technique polarizes attitudes and attributes and then asks the S to determine where, on a continuum between positive and negative, he sees himself.

One such measure (Collier, 1971) is the Preschool Self Concept Picture Test described by Woolner in 1966 which can be used up to about kindergarten level. The test consists of 10 plates with paired pictures on each plate. The pictures represent personal characteristics in the preschooler's cultural environment. The test rationale is related to needs, concerns, characteristics, and developmental tasks of children, parents, and teachers. There are separate but compatible subsets for Negro and Caucasian boys and girls. Ss are asked which boy or girl they are and then which they would like to be. In this way both self and self/ideal are represented. The greater the agreement, the greater the satisfaction with self.



Another semantic differential (Bourisseau, 1972) was developed by Hodgkiss in 1969. It is called the Hodgkiss Self-Concept Scale for Children. The test is in pictorial form, the pictures depending on the sex of the S. Activities pictured depict polarized concepts such as happy/sad or sharing/selfish. The set contains 14 pictures in all. The S places pegs in holes indicating the degree to which the picture is like him. The holes are numbered from 1 to 7 with the negative aspect given a value of 1 and the positive, 7. Good self concept is indicated by a high score. This instrument is properly used from nursery school through second grade.

Another well-known formal technique (Bourisseau, 1972) is sociometrics. The assumption underlying this technique is that a student's position and changes in position in the social structure influence his progress and development. Sociograms determine stars and isolates. Stars are those children selected as friends by many classmates. Isolates are not regarded as desirable friends in a peer choice; they are rejected children. Children are asked to check, from a prepared list, classmates they would like to be with in a social situation and then in an academic situation. Choices are recorded on graph paper. It is important that the children recognize the purpose for the sociogram. The sociogram is appropriate for every age level. In interpreting sociograms it is important to remember that it is relatively impossible to feel good about oneself while being isolated and rejected, but one can be accepted by a group and still not feel good about himself. Isolates are almost certain to have low self concepts, but usually there is a differentiation made between social and academic situations. The success of the sociogram depends on the relationship between students and teacher and the implementation of the results, but one thing remains clear--



self concept is affected by social status. Sociometric devices were described by: Dinkmeyer in 1965, Benney in 1968, and Meyers in 1970.

One of the informal verbal techniques (Bourisseau, 1972) is conversation. For this purpose, 4 types of structured interview have been developed. In the first the student is asked to tell about 3 wishes. Here it is possible for the teacher to expand and clarify statements. The second technique involves asking the student which animal he would like to be and why. The third technique is more appropriate for upper elementary levels and involves asking questions in written form. Engaging students in conversation about their dreams is a fourth technique. A dream which is sufficiently bizarre or different may suggest problems.

Puppetry (Bourisseau, 1972) is another informal verbal technique. It is often easier for children to communicate through the personage of a puppet. The characters should represent persons pertinent to the child such as parents, teachers, and peers. Stories should be in simple language, related to the children's ideas, direct, forceful, and obvious. Action is initiated by asking the children to enact an ending to a conflict situation posed by the teacher, or they might be asked to make up a story from their own imaginations. Roles may be suggested for children to play. This technique is appropriate for all grade levels.

An informal verbal technique (Bourisseau, 1972) appropriate for upper elementary students is the autobiography. It is essential to assign it as an exercise in creative writing. The teacher should specify topics such as: a self description, a description of parents, siblings, and anyone else in the home, type of family activities, how the child spends his time and what he likes to do, and his ambitions and dreams. An autobiographical device was described by Dinkmeyer in 1965.

The first of the informal non-verbal techniques (Bourisseau, 1972) is simply teacher observation. Any isolated bit of behavior can be a clue.

Handwriting (Bourisseau, 1972) is another non-verbal informal technique. Poor self concept may affect handwriting. Things to look for might include line quality that is light, sketchy, and indecisive, or a strong start which disintegrates. These may indicate loss of motivation to complete the task. Line quality observation techniques were described by Machover in 1951 and Koppitz in 1964.

Another informal non-verbal technique (Bourisseau, 1972) is the observation of speech for content, volume, inflection, and choice and ordering of words. Undertalking may indicate deep feelings of inadequacy and a basic feeling of lack of self worth, whereas overtalking is more indicative of anxiety. Speech observation techniques were described by Eisenson, Auer, and Irwin in 1963 and Meerloo in 1964.

A fourth non-verbal informal technique is that of observing the role assumed in free play. Periodic notations may reveal difficulties in social adjustment. Consistent playing alone may reflect a basic rejection of self. Other notations might include who the child is playing with and what he is doing. At the same time, conversations among children may be noted.

Observation of muscle coordination (Bourisseau, 1972) is a fifth informal non-verbal technique. Children with learning problems usually have difficulty in body management. An impaired sense of left and right and difficulty in judging space cause running into and stumbling over things. Things to note include lack of arm and leg coordination and distractibility or hyperactivity. Almost without exception, the child who has difficulty managing his body has a poor self concept. A technique for observing muscle coordination was described by Cratty in 1970.

Other informal nonverbal techniques (Bourisseau, 1972) include the use of body language such as eye expression, muscle tension, and distance to others.

Wylie (1961) discussed the reliability and validity of some of these self concept assessing instruments. She felt that reliability tests on Q-sorts were needed and that the forced sorting affected construct validity. Yet, she found the results of Q-sort measures positively correlated with tested and judged differences between groups. Differences in Q-sortings were also noted pre- and post therapy. She noted that the self sort is less stable than the ideal sort, probably because the ideal self may be a cultural stereotype. The positive correlations found pre- and post therapy caused her to feel that these tests had some discriminant validity, but she felt satisfaction with self and satisfaction with other should also correlate. In Q-sorts, she cautioned, item simplicity and clarity is important. She complained,

"For three-fourths of all sets of Q-sort items no reliability information is available in published sources. For 90% of all sets, no information on construct validity for inferring the phenomenal self is available in published sources . . ." (Wylie, 1961, p. 61)

On the other instruments (Wylie, 1961) (rating scales, questionnaires, and adjective check lists), she reported incomplete information on reliability and construct validity. Yet, she admitted, predictions regarding differences between groups that were made based on these instruments were confirmed. Further problems with these instruments included response set acquiescence. She advised balancing positive and negative items to control for this. Another difficulty was that global scores were obtained without weighting. She cautioned that the importance of honesty needs



to be stressed and anonymity should be insured. She suggested that self concept be elicited in the context of other ratings so that it would appear innocuous to the Ss and thereby be more revealing of the phenomenal self than are private actual self ratings. Concerning the instruments reviewed, she concluded,

"For two-thirds of all instruments, no reliability information is available in published sources. For 80% of all instruments, no information on construct validity for inferring phenomenal self is available in published sources . . ." (Wylie, 1961, p. 86)

Even when reliability was reported (Wylie, 1961) it was the split-half variety which does not measure time associated errors. Yet, she felt that test-retest reliability overestimates total reliability. Nevertheless,

" . . . there is some evidence that scores derived from different instruments, utilizing varying content, different operations on Ss part, and different scoring procedures, do tend to be measuring a common variable or variables . . ." (Wylie, 1961, p. 107)

Coopersmith (1967) felt that there were 2 ways of measuring self concept: subjectively and behaviorally. Subjective measures involve asking the respondent to answer direct questions. Although the validity of this procedure has been questioned (Wylie, 1961), Coopersmith (1967) found that discrepancies between subjective and behavioral indices were rare--less than 10%. He found that the majority of respondents were non-defensive, and, therefore, subjective measures might be more valid than projective indices. He supported his contention that the self report was a valuable and valid self concept assessing technique by drawing from the thoughts of other self concept theorists: Rogers; Allport; Sarbin and Rosenberg; Strong and Feder; and Purkey, who felt that the self report was a sample of self concept that was valuable, useful, quick, and



meaningful. They felt that the individual has a right to be believed and that the key to the value of the self report depends on freedom from threat. They agreed that characteristics revealed by the self report could be important to teachers.

More than merely defending the validity of a self concept assessing technique, Coopersmith (1967) went on to defend the validity of using the construct 'self concept' in a scientific study. He said,

" . . . it seems reasonable to assume that self attitudes are neither more nor less reliable or scientifically meaningful, or less open to experimental study, than are other constructs, . . . The basis for inclusion within scientific bounds is, after all, to be resolved on empirical rather than exhortatory grounds." (Coopersmith, 1967, p. 28)

## 2. Instruments Used Since 1960

Self concept researchers from the 1960s on, although using a variety of assessing techniques, showed a great deal of preference for the self report type of measure. Table 6 (pp. 119-125) describes some of these self report devices. A brief scanning shows not only that they are many and varied, but also that most of these instruments were designed for use from the elementary level through high school. A more careful perusal of the table provides a fairly good idea of the nature of these instruments, rendering a more detailed discussion both repetitive and unnecessary.

Although the self report device seems to be the most popular in recent years, it is by no means the only device still used. Direct observation (Collier, 1971) is a technique that can be used in conjunction with rating scales as well as by itself. In 1963 Butler described the use of a Self Concept Subscale to be used to record such observations. It consisted of 6 items described by a 5 point rating scale.

TABLE 6

SELF REPORT MEASURES  
USED SINCE 1960\*

Date	Developed or Described by	Test	Description/Comments
1963	Engel & Rainco	Where Are You Game	Graphic multiple choice - stick figures on a vertical ladder are described by E with opposing statements - S asked where he is in relation to stick figures
	Sears	Self Concept Inventory	48 items - 5 point descriptive rating scale from 'excellent' to 'not so good'
1966	Brown	The Brown IDS Self Concept Referrents Test	Provides self-as-subject and self-as-object subscores
	Woolner	Preschool Self Concept Picture Test	Symbolically contrived situation - S selects from 2 pictures, which is like him and which he would like to be
1967	Liddle	Self Concept Instrument: A Learner Scale	Statements about self to which S responds with yes/no or true/false
	Moellenberg	Self Concept Instrument	Symbolically contrived - pairs of drawings depict opposite extremes - S responds with most like me/most like them/the best way to be

\*Reference is Collier (1971) unless otherwise indicated.

TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1968	Hjelms, et. al.	Children's Self Concept Index	Children are shown predrawn human stick figures - E ascribes characteristics to them - S asked which is most like him - assesses peer, home, school, and self regard dimensions Numerically descriptive multiple choice Numerically descriptive multiple choice
	Gordon* Maryland	How I See Myself Self Concept of Ability Scale	
	McNamara, et. al.	Children's Projective Pictures of Self Concept	Contrived - Ss choose child who is doing what they would do - significant gains reported on post-test for Head Start children
1969	Thomas	Thomas Self Concept Values Test	Child shown picture of self and reports orally to bipolar alternative choice scale as he sees himself/as mother sees him/as teacher sees him/as peers see him - High SES Ss scored higher than low SES Ss - more positive with higher educational level of father - older children more positive in regard to mother
	Frymier	Faces Scale	Happy and sad faces - orally defined
	Scott & Jeffness	The Faces	Graphic alternative choice scale Symbolically contrived - stick figures shown in depicted situations - S chooses from 5 stick-on faces--from very happy to very sad

TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1970	AIR	When Do I Smile?	Uses faces for response purposes but more than 2 faces are used to define points
	IOX	Parental Approval Index	Behaviors described - S imagines himself behaving this way and is asked to rate parental approval of such behaviors on a 4 point scale from 'strongly approve' to 'strongly disapprove' - S then asked how mother would feel about him as a person - ratings go from 'love me' to 'hate me'
	IOX	Class Play & Television Actors	Ss pretend they have been selected to assume a role - they respond with a 'yes' or a 'no' as to whether or not they would play it - then they are asked which role they might be asked to play by teacher and family members and which role they would be willing to assume
	Fitzgibbon	Responsive Self Concept Test	S's photograph is pasted between the photographs of someone he knows and someone he doesn't know - S asked who E is talking about
	Bolea, et. al.	Fictorial Self Concept Scale	S judges if central cartoon figure with star on shirt is like him/not like him/sometimes like him and places cartoon in indicated pile
	IOX	Self Appraisal Inventory	80 statements to which Ss respond on a 4 point scale from 'strongly agree' to 'strongly disagree' - subscales for peer, school, family, and general, plus global score



TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1970	IOX	What Would You Do Inventory	Contrived situations - 20 items - 3s asked what they would do in these situations - 3s choose from 4 possible responses, 2 indicate good self concept and 2, poor self concept 40 items - job descriptions in 'want ad' style - Ss asked what 10 jobs they would apply for
1971	Weisgerber*	Would John?	Evaluation of film hero - 30 items - point descriptive scale from 'almost always' to 'almost never'
	Weisgerber	Would You?	10 items from Would John? - 5 point descriptive scale as in above
	Weisgerber	How I Am, How I Would Like To Be, & Most of My Classmates Think I Am Self Description Inventory	Semantic differential - 10 items - paired adjectives - 5 space scale - 3 places X on chosen line
	Weisgerber	Self Description Inventory	30 items - matched to Would John? above
	Cooper (Cooper, 1971)	. . .	Semantic differential - 11 sets of bipolar adjectives - 7 point scale from 'strong' to 'weak' - described by an X in the appropriate space
	Muller (Muller, 1971)	Primary Self Concept Scale	24 items - pictorial - each item depicts at least 1 child in a positive role and at least 1 child in a negative role - 5 told story about each illustration and draws a circle around the person most like self

\*Weisgerber (1971)

TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1971	Trowbridge (Trowbridge, 1971)	modified Coopersmith's Self Esteem Inventory	58 items - Ss respond with like me/ unlike me - subscales: general self, social self-peers, home-parents, and school-academic plus 8 lie items not scored - these are absolute state- ments to which few children would answer 'like me' responses indicated by circles in- stead of faces as in the 1970 version, When Do I Smile?
		How Much Like Me?	
1972	Campbell (Ford, 1971)	. . .	75 items described by a 4 point scale from 'strongly agree' to 'strongly dis- agree' - determines whether self con- cept is characterized by mastery over personal life or futuristic fatalism. differentiated between high and low ability groups - 53 items - responded to with like me/unlike me - measures control of environment, self-confidence in personal attributes, achieving in school, and relating to others 50 items described on a 5 point scale from 'completely true' to 'completely false' - measures motivation, task orientation, intellectual ability, and class membership dimensions of self con- cept - correlated significantly with measure above
	Landis (Landis, 1972)	modified Coopersmith's Self Esteem Inventory	
	Waejten (Landis, 1972)	Waejten's Self Con- cept As Learner Scale	

TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1972	IOX <sup>a</sup>	Television Actors Primary Level	18 items - Ss asked to consider television roles which he would be willing to play in a fictitious television show - some roles generally considered aversive - score is the number of roles he would be willing to play
	IOX	The Class Play - Primary and Intermediate Levels	20 items - Ss pretend that children are being selected for a class play and are asked which roles peers would choose for them - score is number of 'yes' responses
	IOX	Parental Approval Index - Primary and Intermediate Levels	20 items primary; 10 items intermediate - behaviors described - Ss asked how mother would feel if they had just behaved this way and then how mother would feel about them as a person - 3 point descriptive scales: approve/not approve/wouldn't care and like me/dialike me/wouldn't care - for primary level responses are yes/no to would mother approve/would mother dislike you
	IOX	What Would You Do? - Intermediate and Secondary Levels	18 items intermediate; 19 items secondary - contrived situations - Ss asked to choose, from 4 alternatives, which way they would behave - 2 behaviors indicate good self concept and 2, poor self concept - score is number of positive alternatives chosen

TABLE 6--Continued

Date	Developed or Described by	Test	Description/Comments
1972	IOX*	How About You - Intermediate Level	10 items - 3 alternative choices - measures scholastic dimensions of self concept
	IOX	For All I Know - Secondary Level	10 items - contrived situations - Ss asked to choose, from 4 alternatives, which way they would behave - 2 choices indicate good self concept, and 2, poor self concept - situations have to do with scholastic dimensions of self concept
1973	Ziller (Ziller, 1973)	Complexity of Self Concept Scale	adjective check list of 110 high frequency adjectives - S checks adjectives that describe himself - measure of complexity is number of words checked
	Lichens (Ziller, 1973)	Self Concept As Learner Scale	50 items - responses described by a 5 point scale from 'completely true' to 'completely false'

\*IOX (1972)



The Inferred Self Concept Judgement Scale, described by McDaniel in 1967, is another instrument (Collier, 1971) that is used to record the results of direct observations. It consists of 37 behavioral descriptions which are rated on a 5 point scale from 'never' to 'always'.

In 1969 DiLorenzo described several direct observation techniques (Collier, 1971), only one of which utilized a rating scale for behavior recording. This one is called the Teacher Measurement of Pupil Self Concept. It is a paired comparison rating scale of only 3 items. Observers rate how the S sees himself compared to peers, teacher, and classroom materials.

Direct observation techniques (Collier, 1971) can be used with or without rating scales, in structured, unstructured, or contrived situations. A contrived situation described by DiLorenzo in 1969 is the Dolls-Self Test. In this test the child is asked to find the body part, depicted in a picture, on a doll and then on himself.

FERDC (1971) discussed the use of direct observation to infer self concept. For this technique the O uses a checklist of adjectives describing the child's behavior and then fills in a questionnaire called the Inferred School Self Concept Scale. It consists of 15 items based on observed behavior statements, responded to on a 5 point scale from 'negative' to 'positive'. FERDC described a similar instrument called the Orange County Inferred Self Concept Scale which also consists of 15 items with responses similarly described on a 5 point rating scale from 'negative' to 'positive'.

In 1970 (Collier, 1971) a technique called the behavioral trace was described by Nimnicht. It consisted of researching the attendance and tardiness records of children to infer self concept. Because of its nature, this technique is called 'archival'. It can be used to indicate accretion

and erosion of groups as well as to infer self concept. If used in this way, it is called a 'physical tracing'.

Another behavioral trace technique (Collier, 1971) involving the use of a rating scale called The Rating Scale for Measuring a Child's Self Concept, was described by Fitzgibbon in 1970. It is a retrospective devise measuring 9 psychosocial factor areas described on a 5 point scale from 'high' to 'low'.

In 1970 Collier developed another retrospective behavioral trace technique to be used in conjunction with a rating scale called the Parents' Report on Children's Behavior. This technique involves asking parents to rate, from memory, their children's behavior.

A somewhat different direct observation technique developed by IOX (1970) is called the Perceived Approval Situation. The teacher announces to the class that certain members have impressed her with their general behavior and way of doing things. She says that these students are not necessarily at the head of the class as far as grades are concerned, but that she is generally very pleased with them. She then adds something such as, "If you think this applies to you, please see me sometime during the week so that I may talk with you". Students who respond are assumed to have better self concepts than those who do not respond.

IOX (1972) revised this technique somewhat, but it remains basically similar. Students who report are given a few words of encouragement, asked if they would like help with extra projects, or if they would like to undertake one on their own.

Work Posting, developed by IOX (1972), is another kind of direct observation technique recommended for use in grades K-6. It consists of

having the teacher announce that students may either turn in their work or post it on the bulletin board, equal credit to be given either way. It is assumed that students who choose to post their work have better self concepts than those who do not.

In 1967 (Collier, 1971) Levin and Lafferty described a projective technique using cued construction called the Measurement of Self Concept in Kindergarten Children. It involves requiring children to draw pictures.

The Criticalness of Self and Other Persons Test (Collier, 1971) is a projective developed in 1967 which involves presenting the S with a picture of an unknown child and requiring yes/no responses to the test items. The type of response elicited is called 'view of the stimulus through choice and/or ordering'. There are at least 3 forms of this test.

Another projective (Collier, 1971) developed in 1967 elicits the same type of response as above. It is called the Self Acceptance Test and requires Ss to sort pictures of animals and humans into like me/not like me piles.

A similar type of response (Collier, 1971) is elicited in the Children's Self-Social Constructs Test, a projective developed by Long and her associates in 1967, but this instrument requires both choice and ordering.

Some projectives, such as RTP and Make a Boy/Girl, were discussed in the previous section, but not all projectives are as formal as the ones described above. Observation of self expression in role play, doll play, and other play techniques are classified as projectives.

Although the reliability and validity of some of the older instruments and techniques were discussed in the last section, more needs to be said



of the reliability and validity of some specific instruments used since 1960. The reliability of some of these instruments can be found in Table 7 (p. 130).

Coopersmith's Self Esteem Inventory, developed in 1959, was validated (Hutchison, 1972) via teacher observation of behavior. Correlations found were high.

The validity of the Primary Self Concept Scale described by Muller (1971), was obtained in 2 ways. Concurrent validity was obtained by comparing it with another instrument; content validity, via authorities.

FERDC (1971) reported greater validity for their Inferred School Self Concept test than they found with self report. Their conclusion was based on the comparative predictive capabilities of the 2 measures. Their instrument was more predictive of what the child did in school than what he himself reported.

Most independent self measures were found to have significant, but low correlations with each other. The Picard Self Esteem Scale, developed in 1971, was found to have a correlation of .63 (Gregor, 1971) with Coopersmith's Self Esteem Inventory. Independent self measures were found also to have low correlations with direct observation measures using the observer as instrument. However, most of the instruments are norm referenced rather than criterion referenced.

Cautions in the construction of self concept assessing instruments (Purkey, 1970) include attending to the form of the instrument, the tone of the items, response restrictions, instructions, and response frequency, as well as proper data processing.

Sometimes the form of the instrument (Purkey, 1970) may result in a response set for one end of the scale. For example, Ziller (1973), in



TABLE 7

THE RELIABILITY OF SELF  
CONCEPT TESTS USED  
SINCE 1960

Date	Developer	Test	Type of Reliability	Reliability
1959	Coopersmith	Self Esteem Inventory	Test-retest	.88 & .91
1963	Sears	Self Concept Inventory	Not Specified	.90
1968	Gordon	How I See Myself Scale	Test-retest	mean = .79 in 15 studies
1971	Picard	Self Esteem Scale	Test-retest	.84
1973	Ziller	Social Self Esteem Scale	Test-retest	.50
1973	Ziller	Social Self Esteem Scale	Split-half	.80
1973	Ziller	Complexity of Self Concept	Split-half	.92

developing his Social Self Esteem Scale, found a right to left status hierarchy in several trials with different groups. Changing the form of the instrument can correct this difficulty.

The tone of the items, positive or negative, may influence S responses in a way not anticipated by the researcher (Purkey, 1970) and, thus, invalidate the results. Item tone, therefore, should be carefully scrutinized.

In forced choice items, one difficulty (Purkey, 1970) is the inherent response restriction. The frustration thus produced might lead to a negative attitude on S's part thereby invalidating his responses.

Instructions (Purkey, 1970) must be worded so as not to influence the perceptual process in a way not intended by the experimenter. Responses can sometimes be set by the way instructions are worded or given.

Response frequency (Purkey, 1970) can contaminate results, especially if the items and/or choices are similar or if there is repeated retesting.

Even if all goes well, the results of a study can be rendered invalid (Purkey, 1970) if there is improper scoring, if statistical measures are inappropriate, or if interpretation is incorrect or shallow.

The instruments described in this chapter by no means comprise an exhaustive list of self concept assessing measures. Q-sorts, for example, not only measure self and self ideal, but also test self satisfaction, self references, self awareness, and behavioral alternatives in various combinations.

In addition to the paper and pencil tests described, there are (Wylie, 1961) social personality inventories, attitude scales, social

maturity scales, and problems inventories. In various combinations they may use such devices as dichotomized adjectives, personality word cards, ranking self and others, socially oriented anxiety clusters, self regarding spans, and rating as peer group would. The things which these devices measure, relating to self concept, can range from resistance to delinquency to feelings of personal worth.

Although most theorists would attest to the value of instruments to measure self concept, not all of them would restrict self concept assessment to the results of such instruments. Branden (1969), for example, contends that one clue to a man's self concept might be gained by attending to his value system. He says that differences in values may reflect differences in a man's basic premises, in his fundamental view of himself, in his view of others, and even in his view of existence. Man's values may reflect his views of what is possible for him and what he feels he can expect from life. He says,

"A man's basic values reflect his conscious or subconscious view of himself and of existence. They are the expression of (a) the degree and nature of his self-esteem or lack of it, and (b) the extent to which he regards the universe as open to his understanding and action or closed . . ." (Branden, 1969, p. 125)

Branden (1969) further contends that a good estimate of a man's self concept may be gleaned from attending to his aspirations and goals.

"The scope of a person's productive ambition reflects, not only the range of his intelligence, but, most crucially, the degree of his self esteem. The higher the level of a man's self esteem, the higher the goals he sets for himself and the more demanding the challenges he tends to seek." (Branden, 1969, p. 123)

High self concept men, according to Branden (1969) want a challenging, effortful, and creative existence.

Massard (1972) claims that the language a person uses can be a means of estimating self concept. The context in which words are placed can alter meanings which, she contends, lie within the people who use the words.

Branden (1969) concurs. Self esteem deficiency can be suspected, he says, whenever someone is heard to ask, "Who am I to know? to judge? to decide?"

In therapeutic situations (Wylie, 1961) the following are regarded as indices of increasing health: new self descriptions indicating self awareness, statements indicating acceptance and responsibility for oneself and others, perceptions of actions and evaluations regarding self, and comparisons of present and past self perceptions.

### 3. Instruments Used in This Study

Two of the instruments selected for use in this study were developed by IOX (1972). They were chosen for several reasons, the first being that these particular instruments are critierion-referenced instruments, which, for the purpose of this study, I believe to be preferable to norm-referenced instruments.

In the criterion-referenced approach to test construction (IOX, 1972), the first step is to formulate an objective as clearly as possible, have its importance to the learner confirmed by appropriate judges, and then design test items to measure student attainment of that specific objective. "The emphasis is on the congruence between a defensible objective and the items used to measure that objective." (IOX, 1972, p. 111)

In contrast (IOX, 1972), the purpose of a norm-referenced test is to 'spread people out', i.e., to produce a test which will discriminate



among individuals. The main concern of such a test is not to determine the degree to which these individuals have attained a particular objective, as in the criterion-referenced approach. Further, the traits measured by norm-referenced tests are often rather general and stable, making these measures less sensitive to any changes which might be the possible result of an educational practice.

"A criterion-referenced test, on the other hand, is designed specifically for use in detecting the status of groups or individuals with regard to some specific criterion objective, both before and as a result of an educational treatment." (IOX, 1972, pp. iii-iv)

This, I believe, is the more appropriate kind of measure for the type of study undertaken here.

Another reason for choosing the instruments designed by IOX (1972) is that they are specific for group assessment.

"In IOX collections of affective objectives and measures development efforts have been focused on the preparation of materials which may be used to assess the quality of an educational program.\* Because the purpose to which these affective measures should be put is educational rather than clinical, it has not been necessary to defend the validity of a given attitude measure for an individual child. The user should be concerned instead with group assessment. While the validity of the instruments for providing information about groups has been ascertained, it is highly doubtful whether the instruments can be used diagnostically with individual students. This, of course, places upon the user of the material the responsibility to employ them solely for the purpose for which they were designed--group assessment." (IOX, 1972, p. iv)

Since it was group assessment that was aimed at in this study, this feature provided additional appeal.

The care taken by IOX (1972) to validate and continuously control the quality of these instruments was another appealing feature. Items

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\*Single italics mine.

are periodically reviewed by subject matter experts in the field, educational evaluators, and teachers in the grade levels concerned. In addition, measures were field tested prior to publication. These precautions result in periodic restructuring and reordering of materials as well as the incorporation of new developments either in the field per se or in teaching approaches. At the same time, obsolete items were deleted or refined.

A wider, but less formal means of continuous field testing is the solicitation by IOX (1972) for users of the materials to provide feedback in terms of suggestions for specific improvements such as changes in structure or format or inputting test results obtained. The materials used in this study are the result of a major revision undertaken on the first set of materials published in 1970 (IOX, 1970).

The fourth reason for choosing instruments from the IOX (1972) collection is that these instruments are devoted exclusively to affective goals.

The IOX (1972) collection contains 2 types of measures, self report devices and observational indicators. Two self report measures were selected from the collection for use in this study. One is a direct self report measure and the other is an inferential self report measure.

"Direct self report measures solicit the learner's opinions in a straightforward, question-answer fashion. This type of measure possesses high content validity, for most persons inspecting the items would assert that an individual who truthfully responded in a certain way was manifesting a positive (or depending on the item, a negative) attitude. Responses to such items unfortunately, are relatively easy to fake as the 'socially desirable' response may be apparent to the respondent.

"Inferential self report measures are devised so that their chief purpose is camouflaged. Inferences regarding a person's attitudes and interests are thus made from an individual's responses to more oblique stimuli. These measures are, in general, less fakeable than the direct self report devices because it is less clear to the respondent what the 'appropriate' response should be." (IOX, 1972, pp. 1-2)

An additional limitation of the study, then would be the 'fakeability' of the direct self report measures. However, IOX (1972) reassures researchers that stressing honesty of response, together with guaranteeing anonymity and making it both perceived and real should control sufficiently for this limitation.\*

At this point, the background of the IOX (1972) development of these materials might be of interest. The development of the original (1970) collection began when Title III representatives from about 40 states met in Washington, D.C., for the purpose of discussing objectives and measuring devices in the affective domain that could be used in programs of needs assessment and educational evaluation. Representatives of IOX at that meeting, reported the dearth--after 18 months of nationwide searching--of affective objectives and measures. Title III representatives decided to pool their resources and contracted the Exchange (IOX) to carry out a developmental project on these materials. After some deliberation, 2 high priority areas were identified: learner attitude toward school and learner self concept.

"The IOX staff surveyed all the major self report measure of self concept that were available, most of which were direct rather than inferential. Also consulted were a number of educators familiar with the self concept topic and with attitude assessment techniques. Finally, the staff began to produce items which, in a rather direct fashion, solicited the learner's opinions regarding his self concept." (IOX, 1972, pp. 4-5)

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\*The resulting inability to match students pre- and post test necessitated the use of the t-test rather than the more desirable multivariate analysis of variance.



This had been preceded by a rather extensive survey of self concept literature per se.

The foregoing constitutes a fifth reason why these measures were chosen, i.e., the extensive research and painstaking care that went into the development of these devices. Items were screened and rescreened; worked and reworked; field-tested and retested with individuals, small groups and larger groups on children in each age level for which the instruments were being prepared. After extensive trial and revision, analyses of results centered around those items which did not seem to produce any appreciable response variability.

"We were, therefore, using two criteria in reviewing the items. First, we wished responses to an item to represent one's self concept. Secondly, we wanted to have items to which at least some students responded differently. Only items were included in the final versions of the direct self report measures which satisfied both criteria." (IOX, 1972, p. 6)

Construction of the inferential measures was less direct. IOX staff members thought of items which, in their opinions, would be 'non-fakeable' and yet elicit from the student how he felt about himself. After the try-out/revision/try-out cybernetic loops with both small and large sample groups, the inventories were designed.

"The accuracy with which scores on these measures would yield valid estimates of one's self concept was subjected to considerable scrutiny throughout the various phases of development. Not only were these measures tried out on learners, but the *validity\** of the general rationale, and the scoring of particular individual items were constantly checked with members of the IOX staff as well as external consultants." (IOX, 1972, p. 6)

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\*Single italics mine



The revised publication, from which measures for this study were selected, was the result of an item by item reappraisal, in terms of congruence with objectives, which consumed more than one year. The same extensive process of validation, testing, try-out, and revision that resulted in the first publication was again carried out until the 1972, revised edition, was finally published.

The test-retest stability indices for the 2 instruments chosen for this study are as follows:

Self Appraisal Inventory - .87  
Word Choice - .86

Although these indices are perfectly acceptable, they may indeed be even higher than what these figures generally mean when used in application to more cognitively oriented scales. To explain,

"It should be emphasized, however, that the measures in this collection deal with affective, not cognitive, learner goals. These (sic) educators who have been accustomed to expect reliability coefficient (sic) approximately .80 to .90 must recall that one would anticipate more stability and perhaps more internal consistency from a measure of mathematical competency or intellectual aptitude than from a measure of one's more vacillating self-esteem." (IOX, 1972, p. 15)

The sixth reason for selecting these instruments was the fact that their reliabilities were within acceptable limits.

The validity of these instruments was obtained via external authorities and the IOX staff which consists, among others, of some distinguished psychologists: Eva L. Baker, W. James Popham, John D. McNeil, Anne S. Anton, Sherry Frankel, C. Wayne Gordon, Ernest Taub, Connie L. Giguere, Cathy Lekas, Diane Narikawa, Nola Paxton, Judith Safford, Holly Schaffer, and Lani C. Steele. This fact constitutes a seventh reason for selecting these particular instruments.

An eighth and very practical reason for selecting these instruments was the fact that, in small groups, hand scoring is not only feasible, but is relatively quick and easy.

The fact that these instruments were designed, and their use suggested for this specific type of study constituted a ninth and very important reason for selecting them.

"In general, measures of self concept would be used in connection with the evaluation of programs designed to improve learner's self concepts (or impede increasing negativism in their self concepts.) The efficacy of these programs could be ascertained by using the measures on a pre- and post-instruction basis." (IOX, 1972, p. 17)

The tenth reason for selecting these instruments is also very practical, ease of administration. The directions are straightforward and easy to understand, and the administration times are short enough to complete both measures in one class period without producing boredom and/or fatigue on the part of the students.

The direct self report measure selected was the Self Appraisal Inventory, secondary level. It contains 62 items responded to on a 4 point descriptive scale from 'strongly agree' to 'strongly disagree'.

The inventory explores 4 dimensions of self concept: family, peer, scholastic, and general. Subscale scores are obtainable (IOX, 1972), but the entire inventory is taken as a global estimate of self concept. Examples of items from each category are:

- General - "I can always be trusted."
- Family - "I seldom act like my family thinks I should."
- Peer - "Most children have fewer friends than I do."
- Scholastic - "Schoolwork is fairly easy for me."

Items which represent each subscale are given in the publication (IOX, 1972) as well as directions for administration, directions for scoring, and a

scoring guide. Administration time for this inventory is approximately 15 to 20 minutes.

In January the inventory was distributed to the students in both the experimental (C block) and the control (B block) classes and the directions were read aloud. Time was provided for students to ask questions. Following the language used in the publication (IOX, 1972), the students were told that this was an 'opinion survey' and the importance of honesty of response was stressed. ("After all, if you want to express your opinion, and you're not honest about it, then it's not really your opinion!") Anonymity of response was guaranteed ("Besides no one will know whose paper is whose anyway") and was both perceived and real.

If the students asked questions pertaining to particular items, they were told, as suggested by IOX (1972), that only 'general impressions' were required so that they did not have to worry about specific interpretations. However, there were very few questions, and the students seemed not only to understand what to do, but also seemed interested in filling out the inventory.

As suggested by IOX (1972) it was emphasized that there were no 'right' or 'wrong' answers, ("How could there be? It's your opinion! How can your opinion be wrong?") and students were instructed not to write their names on the answer sheets. The inventory, in its entirety, is on the next 5 pages.

SELF APPRAISAL INVENTORY

## Secondary Level

Directions:

Please show whether you agree or disagree with each of the statements in this booklet by marking one of the spaces on the answer sheet.

A = Strongly Agree, B = Agree, C = Disagree, D = Strongly Disagree

For Example:

	A	B	C	D
I want to be a movie star.	0	0	X	0
I like chocolate cake.	X	0	0	0

There are no right or wrong answers, so respond to each statement as honestly as you can.

Do not write your name on the answer sheet. Mark whether you are a boy or a girl and write your block\* on the top\* of your answer sheet before you begin the booklet.

Do not write on the booklet.

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\*I substituted 'block' for 'age and grade' and 'top' for 'bottom'.



1. School work is fairly easy for me.
2. I am satisfied to be just what I am.
3. I ought to get along better with other people.
4. My family thinks I don't act as I should.
  
5. People often pick on me.
6. I don't usually do my share of work at home.
7. I sometimes feel upset while I'm at school.
8. I often let other people have their way.
  
9. I have as many friends as most people.
10. Usually no one pays much attention to me at home.
11. Getting good grades is pretty important to me.
12. I can be trusted as much as anyone.
  
13. I am well liked by kids my own age.
14. There are times when I would like to leave home.
15. I forget most of what I learn.
16. My family is surprised if I do things with them.
  
17. I am often not a happy person.
18. I am not lonely very often.
19. My family respects my ideas.
20. I am not a very good student.
  
21. I often do things that I'm sorry for later.
22. Older kids seem to like me.
23. I sometimes behave badly at home.
24. I often get discouraged in school.
  
25. I often wish I were younger.
26. I am usually friendly toward other people.
27. I don't usually treat my family as well as I should.
28. My teacher makes me feel I am not good enough.
  
29. I always like being the way I am.
30. I am just as well liked as most people.
31. I cause trouble to my family.
32. I am slow in finishing my school work.
  
33. I often am not as happy as I would like to be.
34. I am not as nice looking as most people.
35. I don't have many friends.
36. I feel free to argue with my family.
  
37. Even if I have something to say, I often don't say it.
38. Sometimes I am among the last to be chosen for teams.
39. I feel that my family always trusts me.
40. I am a good reader.

41. It is hard for me to make friends.
42. My family would help me in any kind of trouble.
43. I am not doing as well in school as I would like to.
44. I find it hard to talk in front of the class.
  
45. I sometimes feel ashamed of myself.
46. I wish I had more close friends
47. My family often expects too much of me.
48. I am not very good in my school work.
  
49. I am not as good a person as I would like to be.
50. Sometimes I am hard to make friends with.
51. I wish I were a different person.
52. People don't usually have much fun when they are with me.
  
53. I am an important person to my family.
54. People think I am a good student.
55. I am not very sure of myself.
56. Often I don't like to be with other kids.
  
57. My family and I have a lot of fun together.
58. There are times when I feel like dropping out of school.
59. I can always take care of myself.
60. Many times I would rather be with kids younger than me.
  
61. My family doesn't usually consider my feelings.
62. I can't be depended on.

ANSWER SHEET

a = Strongly Agree, b = Agree, c = Disagree, d = Strongly Disagree

	a.	b.	c.	d.
1.	0	0	0	0
2.	0	0	0	0
3.	0	0	0	0
4.	0	0	0	0
5.	0	0	0	0
6.	0	0	0	0
7.	0	0	0	0
8.	0	0	0	0
9.	0	0	0	0
10.	0	0	0	0
11.	0	0	0	0
12.	0	0	0	0
13.	0	0	0	0
14.	0	0	0	0
15.	0	0	0	0
16.	0	0	0	0
17.	0	0	0	0
18.	0	0	0	0
19.	0	0	0	0
20.	0	0	0	0

	a.	b.	c.	d.
21.	0	0	0	0
22.	0	0	0	0
23.	0	0	0	0
24.	0	0	0	0
25.	0	0	0	0
26.	0	0	0	0
27.	0	0	0	0
28.	0	0	0	0
29.	0	0	0	0
30.	0	0	0	0
31.	0	0	0	0
32.	0	0	0	0
33.	0	0	0	0
34.	0	0	0	0
35.	0	0	0	0
36.	0	0	0	0
37.	0	0	0	0
38.	0	0	0	0
39.	0	0	0	0
40.	0	0	0	0

ANSWER SHEET

a = Strongly Agree, b = Agree, c = Disagree, d = Strongly Disagree

	a.	b.	c.	d.		a.	b.	c.	d.
41.	0	0	0	0	61.	0	0	0	0
42.	0	0	0	0	62.	0	0	0	0
43.	0	0	0	0					
44.	0	0	0	0					
45.	0	0	0	0					
46.	0	0	0	0					
47.	0	0	0	0					
48.	0	0	0	0					
49.	0	0	0	0					
50.	0	0	0	0					
51.	0	0	0	0					
52.	0	0	0	0					
53.	0	0	0	0					
54.	0	0	0	0					
55.	0	0	0	0					
56.	0	0	0	0					
57.	0	0	0	0					
58.	0	0	0	0					
59.	0	0	0	0					
60.	0	0	0	0					



Depending on the response, score points from 1 to 4 are assigned each item. For example,

Item 1: "School work is fairly easy for me."

A = Strongly Agree, B = Agree, C = Disagree, D = Strongly Disagree

A = 4 points, B = 3 points, C = 2 points, D = 1 point

The sum of the scores on all items constitutes the global score. To find class means, the global scores of all students are summed, and this sum, divided by the number of students.

The inferential self report measure used in this study was Word Choice, secondary level. It is a 19 item inventory of paired adjectives that might be used to describe general, personal, and social attributes. Items are described on a 7 point scale by placing X on the chosen space. Administration time is only 5 to 10 minutes.

In January, 1974, both the experimental class (C block) and the control class (B block) were distributed the Word Choice inventory. This inventory was given to both classes immediately upon completion of the Self Appraisal Inventory, and they assumed that this was the second part of the 'opinion survey'. Directions were read aloud, and there were very few questions; the students seemed to understand and were interested in completing the inventory. Again anonymity was guaranteed and was both perceived and real.

The entire inventory is on the following 2 pages.

WORD CHOICE

## Secondary Level

Directions:

On the following page you will find a list of words that your friends may use to describe you to another person. There are 19 pairs of words with seven spaces between each pair. You are to mark an X in the space that in your judgement best represents how you think your friends would describe you.

For example, if you are looking at how your friends would describe you with the word pair "Clean - - - - Dirty" and you think most of your friends would think you are extremely clean, you would place your X at the extreme left space.

clean X \_ \_ \_ \_ \_ dirty

There are no right or wrong answers, so answer as honestly as you can.

I think that my friends would describe me in the following way:

- |                  |       |              |
|------------------|-------|--------------|
| 1. Friendly      | _____ | Not Friendly |
| 2. Unattractive  | _____ | Attractive   |
| 3. Dumb          | _____ | Smart        |
| 4. Popular       | _____ | Unpopular    |
| 5. Cold          | _____ | Warm         |
| 6. Fun           | _____ | Boring       |
| 7. Calm          | _____ | Nervous      |
| 8. Bad Sport     | _____ | Good Sport   |
| 9. Truthful      | _____ | Not Truthful |
| 10. Sad          | _____ | Happy        |
| 11. Fat          | _____ | Slim         |
| 12. Generous     | _____ | Stingy       |
| 13. Intelligent  | _____ | Stupid       |
| 14. Many Friends | _____ | Few Friends  |
| 15. Active       | _____ | Passive      |
| 16. Good Student | _____ | Bad Student  |
| 17. Unhealthy    | _____ | Healthy      |
| 18. Failure      | _____ | Successful   |
| 19. Aware        | _____ | Unaware      |

Scoring was done by assigning each X a point value of 1 to 7 depending on the location of the X. For example, Item 1:

Friendly 7 6 5 4 3 2 1 Not Friendly

Total score was found by adding the points on all 19 items. Class mean was found by summing the total scores for all students and dividing by the number of students.

The Classroom Interaction Analysis Instrument was designed by me. The rationale behind the construction of this instrument was that as pupil self concept increased, pupil/pupil and teacher/pupil interaction would tend to become less negative, degree of task orientation would tend to increase, and treatment of materials and equipment would tend toward less abuse. In Chapter I a case was made for the relationship between these behavioral dimensions and self concept. The instrument was constructed, therefore, in an attempt to quantify an otherwise subjective estimate of behavioral changes pre- to post-treatment.

After the instrument was constructed, it was given to the 2 people who were to serve as observers in order to establish the clarity of the instrument. After discussion with them, it was obvious that it was clear in their minds what they were to do. Rater reliability was established by having these raters, in identical 30 second time blocks, look for negative behaviors and rate them +. If no negative behaviors were noted during that 30 second time block, the observers recorded a 0. At the end of a 50 minute observation period, the independent ratings were compared and were in agreement 86% of the time. This was felt to be an acceptable level of rater reliability. Once rater reliability was established, only 1 observer was used.



In January, 1974, a few days after the initial administration of the self concept assessing instruments designed by IOX (1972), O recorded her observations on both the experimental class (C block) and the control class (B block). It is doubtful whether the behavior of the students was effected by her presence in any significant manner, since North Middlesex Regional High School takes teacher trainees from the nearby Fitchburg State College and, therefore, the students are rather used to having people observe classes.

The Classroom Interaction Analysis Instrument is presented on the next 2 pages.

## CLASSROOM INTERACTION ANALYSIS INSTRUMENT

This rating sheet is in 4 categories: pupil/pupil interaction, pupil/teacher interaction, degree of task orientation, and treatment of materials and equipment. During the first 30 seconds, rate any negative behavior observed pupil/pupil with a + and, if none is observed, record a 0. During the second 30 second time block, rate teacher/pupil interaction in the same manner. During the third 30 second time block rate degree of task orientation and during the fourth 30 second time block rate treatment of materials and equipment. Continue alternating observations in the 4 categories for the full 50 minute period. This will give you 100 observations in a 50 minute observation period, 25 in each category or 1 observation every 30 seconds.

### Negative pupil/pupil interactions to be rated with a +:

Verbal - such as swearing, name-calling, accusing, commanding, demanding, tattling, or some combination of these.

Nonverbal - such as confiscating, hiding, or destroying property; propelling things such as water, spitballs, wet paper towels, etc.; hitting or pushing; spitting; writing on a student; or some combination of these directed at another student or his property.

Combination of verbal and nonverbal negative interaction - such as swearing at a student and then hitting him.

If no negative behaviors are noted during the 30 second time block, rate the observation with a 0.

### Negative teacher/pupil interactions to be rated with a +:

Pupil to teacher - such as swearing at teacher, talking back to teacher, mimicking teacher, calling teacher over to help in a rude manner, ignoring teacher, talking rudely to teacher, taking time about complying with teacher request, laughing at teacher, making fun of teacher, etc.

Teacher to pupil - such as reprimanding student, punishing student, sending student out of room, making student sit down, yelling at student, etc.

If no negative behaviors are noted during the 30 second time block, rate the observation with a 0.

### Non-task behavior to be rated with a +:

Activities not related to task, but nondisruptive such as talking, wandering about room, manipulating laboratory equipment for purposes other than task completion, looking at bulletin board, etc.

Activities not related to task and disruptive - such as throwing things, pushing, fighting, manipulating laboratory equipment for disruptive purposes, confiscating property, etc.

If no non-task behavior is noted in the 30 second time block, rate the observation with a 0.

Stress on materials and equipment to be rated with a +:

Non-deliberate such as accidental breakage, twisting faucets while daydreaming, etc.

Deliberate such as throwing seeds around lab, using scissors to pry open cabinets, twisting faucets to cause a leak, stuffing clay up faucets, stabbing books with forceps, bending forceps, cutting books with scalpel, writing on or defacing materials, shoving paper clips into sockets to see sparks fly, etc.

If no stress on materials is noted in the 30 second time block, rate the observation with a 0.





## Analysis of Degree of Task Orientation

Observation Number

B Block

C Block

1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

## Analysis of Treatment of Materials and Equipment

1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

Scoring of this instrument involves only the simple process of counting the number of negative observations out of a population of 100 observations.

During the last week of school in June, 1974, both classes were observed again by the same rater for the final classroom interaction analysis assessment. A few days after that, both self concept assessing instruments designed by IOX (1972) were given to both classes during the same period, following the same procedure used in January for a final self concept assessment on these instruments.

Between the January and June self concept assessment, B block, the control group, was taught IIS biology materials in the traditional manner used for the first half of the year, while C block, the experimental class, was taught IIS biology materials in the traditional manner used for the first half of the year, supplemented approximately once a week with the alleged self concept building activities to be discussed in the following chapter.

### C. Self Concept Building

In order to provide a rational transition into the discussion of self concept building activities and to provide a rationale for their presentation, it is proper to lay a foundation via a discussion of self concept building per se.

#### 1. Development of Strategies

Wylie (1961); Hamacheck (1965); Glasser and Branden (1969); Wells, Weisgerber, FERDC, and Murray (1971); Kremer, Landis, George, Snyder,

Kirkhardt, Massard, Yamamoto, and Sears (1972); and Ziller (1973) have contributed ideas on the development of strategies to improve self concept.

Wylie (1961) lent support to the idea that self concept can be influenced by learning.

In Hamacheck (1965) the importance of achieving self awareness as a pre-requisite to improving self concept is alluded to. A 'knowing and striving' self both knows and perceives itself as a 'particular behavioral system' or as a 'pattern of cultural values'. Through this knowledge or awareness, the self can evaluate its activities in life situations.

Glasser (1969) pointed out the need for the assumption of responsibility on the part of an individual if his self concept was to be improved. He said that the student must understand that he is responsible for fulfilling his needs; no one can do it for him. He must choose what he believes to be a better way of doing things and must commit himself to his choice. No excuse for not following through on a commitment can be allowed. This is the best kind of discipline. Pain should be seen as a consequence of his own behavior. This is unlike punishment. He says, "The age beyond which failure is difficult to reverse may be higher or lower than ten for any one child." (Glasser, 1969, p. 27) but ages 5 to 10 are crucial for teaching social responsibility.

Glasser (1969) also stressed the usefulness of value clarification and decision-making techniques for self concept improvement. Chapter 12 of his book contains an extensive list of questions for use in value clarification.

Branden (1969) supports Glasser (1969) on the importance of value clarification techniques in building self concept. He begins by explaining

what he means by the term 'value'. He says that a value is that which an individual considers to be conducive to his welfare. Because of this, values, he contends, become the objects of action. Because reality may offer an array of alternatives for action, it becomes vital for the individual to select his values and make value judgements. If a value is seen as beneficial to him, he will seek to acquire or retain it, and, once acquired, he will use and enjoy it. On the other hand, things become devalued if they are considered to be bad or harmful, thus the individual seeks to avoid or destroy them. If the thing being evaluated has no significance to him, he will be indifferent to it and take no action. Branden's (1969) foregoing rationale leads him to the conclusion that values direct action. They are, therefore, a basic motivation.

He would go so far as to say that emotions are value responses. He defines an emotion as, " . . . the psychosomatic form in which man experiences his estimate of the beneficial or harmful relationship of some aspect of reality to himself." (Branden, 1969, p. 64)

The sequence of events, according to Branden (1969) is from perception to evaluation to emotional response. In order for any individual to validate for himself the fact of this sequence, he contends, it is necessary that he first achieve competency at introspection. Most people, he feels, do not hold values in a clearly defined form.

"By analyzing the roots of his feelings and desires, a man can discover ideas he has held without conscious awareness, he can be led to a knowledge of values he has formed without verbal identification, to concepts he has accepted without thought, to beliefs that represent the opposite of his stated conclusions." (Branden, 1969, p. 68)



Because of the connection between emotions and values and between values and actions, Branden (1969) leads logically to the conclusion that every emotion contains within it an inherent action tendency. He says, "Every emotion reflects the judgement 'for me' or 'against me' - and also 'to what extent'." (Branden, 1969, p. 71)

From this point, connecting emotions to motivation is an easy step. "According to the values he selects, he makes the motivational power of his emotions work in the service of his life - or against it." (Branden, 1969, p. 73)

In order to improve self concept, man must take note of and conceptualize his emotional reactions and identify his reasons for them. If this is practiced consistently, Branden (1969) insists, repression is almost impossible.

Branden (1969), therefore, makes the importance of value clarification for building self concept dramatically clear when he says,

"Man cannot exempt himself from the realm of values and value-judgements. Whether the values by which he judges himself are conscious or subconscious, rational or irrational, consistent or contradictory, life-serving or life-negating - every human being judges himself by some standard; and to the extent that he fails to satisfy this standard, his sense of personal worth, his self respect, suffers accordingly. . . . in order to act, he needs to value the beneficiary of his actions - . . . In order to fight for his happiness, he must consider himself worthy of happiness." (Branden, 1969, p. 107)

This makes self awareness a very vital pre-requisite to building self concept. Man, Branden (1969) feels, must be given the opportunity to feel, in his own person, that life is a value and that he is a value. In this way he will allow himself the emotion of pleasure which can serve

'as the emotional fuel of his existence'. This makes it extremely important for man to seek the clearest possible awareness as far as his own actions and everything that bears upon them are concerned.

Once awareness is accomplished, a sense of very personal identity is possible, and this becomes another vital aspect of self concept building.

"A man's 'I', his ego, his deepest self, is his faculty of awareness, . . . A strong sense of personal identity is the product of . . . the possession of an integrated sense of values. Since it is values that determine a man's emotions and goals, and give direction and meaning to his life, a man experiences his values as an extension of himself, as an integral part of his identity, as crucial to that which makes him himself." (Branden, 1969, p. 162)

Another vital aspect of self concept building, according to Branden (1969), is self responsibility. Feeling good about oneself, " . . . rests on a person's acceptance of . . . responsibility for his own existence." (Branden, 1969, p. 162)

The role of values is seen even in this dimension of man's growth. This is because responsibility involves evaluation. Man is responsible for passing value-judgements and choosing goals.

" . . . the fear of relying on the judgement of one's own mind is felt most acutely in the realm of values because of the direct consequences of one's judgements for one's own life and well-being." (Branden, 1969, p. 164)

In self concept building it is important to start as early as possible teaching self responsibility. Branden (1969) points out that one does not begin life by choosing to be dependent. Dependency begins by failing to assume responsibility.

Sexual identity, Branden (1969) points out, is an integral part of an experience of personal identity, and therefore, development of a strong sexual identity becomes an important part of developing a strong personal identity in the self concept building process.

Feedback from others (Branden, 1969) is another part of building self concept. Others can serve as psychological mirrors.

"Man is able, alone, to know himself conceptually. What another consciousness can offer is the opportunity for man to experience himself perceptually." (Branden, 1969, p. 186)

Branden (1969) concludes with a statement summarizing the need for the clarity of awareness which comes from the ability to see oneself as object.

"Since man is the motor of his own actions, since his concept of himself, of the person he has created, plays a cardinal role in his motivation - he desires and needs the fullest possible experience of the reality and objectivity of that person, of the self." (Branden, 1969, p. 186)

Wells (1971) is another who would recommend developing self identity as one aspect of self concept building.

" . . . self-identity building lessons. . . . give the pupil a chance to step back and look at himself to see who he is and where he fits into the scheme of things. He begins to sense his own uniqueness and worth." (Wells, 1971, p. 14)

Wells (1971) also recommends helping a student to see his strengths and other desirable qualities which he as a unique individual possesses.

It should be pointed out to him that he can do things on his own. Once he can see that he has had successes, these successes can be hooked to his strengths for added impact. "You can strengthen the impact of any enhancing



experience by relating it to others the student has had or to other beliefs." (Wells, 1971, p. 14)

Providing many opportunities for decision-making and helping students to set specific goals and start working on them, will, according to Wells (1971), help him to build his self concept.

Wells (1971) agrees that building self responsibility goes hand-in-hand with self concept building.

" . . . fundamental to a self enhancing, self-actualizing classroom environment is, (sic) the student is basically responsible for his own behavior and learning. He must be given that responsibility and the opportunity to continuously exercise it." (Wells, 1971, p. 14)

To build self concept, Wells (1971) emphasizes, it is important to work on the students' central beliefs.

"Efforts that aim at more central beliefs have a greater impact on the student even though they're harder to change . . . If you can help the child to see himself as capable of learning, you are dealing with a central belief. If you can help a mischievous boy see himself as kind, or a girl see herself as attractive, you've made a difference in the life of the child." (Wells, 1971, p. 9)

Weisgerber (1971) tried role modeling via a film in his study on self concept improvement. The film, presented to black children, was one from the Profiles of Courage series which depicted Frederick Douglas as one who, in spite of great adversity, was able to 'discover' himself and rise to greatness. The film was followed by a discussion period. Weisgerber's (1971) rationale for taking this approach was his belief that a more critical self attitude is the first step in building self concept. This, he felt, would lead not only to a more realistic self image, but to the greater



level of self awareness necessary to readiness for a self development program. This he felt, might be the value of films.

FERDC (1971) suggested several strategies for improving self concept.

1. Have students draw pictures of themselves and talk about themselves. (self-identity)
2. Show them pictures of themselves in successful situations.
3. Have students talk with successful people of the same background. (identification)
4. Have the students play games in which they can be 'stars'. (success)
5. Give students encouragement and praise. (success)
6. Use behavior modification to change destructive and disruptive behavior.
7. Provide academic and social success experiences by: applauding effort, emphasizing progress, encouraging students to provide each other with success experiences, and using praise, smiles, and positive gestures.
8. Teaching students to trust and then to accept and desire praise and love.
9. Utilizing role playing.

FERDC (1971) warned that the program must be comprehensive and extensive over time. They felt that social success experiences, such as the ones suggested above, do enhance self concept if these experiences are not isolated from the total school environment. In their study the methods used resulted in improved on task behavior—from 65% to 95%.

In a study done on success and identification with student role, (Murray, 1971) achievement was found to be positively related to the frequency of identification with student role. It was a significant, direct, linear relationship. However, the booster effect of academic success seemed greater than the depressive effect of academic failure on student role identification.

Kremer's (1972) research points the researcher to various self concept improving techniques such as:

1969 - Gilpatrick - using a picture book to build self image

1970 - Carlson - puppetry

1970 - Schulthers - bibliotherapy - identification with a story-book character

1970 - Sanoff - various art forms

Landis (1972) found that random grouping favored concepts of self acceptance, self feelings, and belonging, and reduced anti-social tendencies.

George (1972) asked Ss to construct a life space drawing with an area of special concern included in the drawing. Ss were asked to indicate the percent of the focal area of concern included in the drawing and to list 3 issues of specific concern. Discussion dyads were formed on the basis of percentage of similarity. Discussions were directed toward understanding life space similarities with possible priority differences. Discussion pairs then joined other dyads which had indicated different proportions of concern in relation to the special life space topic. Questionnaires were issued, listing several possible courses of action with regard to the area of concern. The tactics suggested in the questionnaire expressed various degrees of action and commitment to the area of topical concern. The 7 possible positions offered ranged from active involvement to violent opposition. After the questionnaires had been filled out, Ss were asked to check those items that had been marked in the extreme and to indicate if they had demonstrated those behaviors in the past year, allowing them an opportunity to observe the degree of congruence between their verbal and manifest commitments. Ss were then asked to do a force

field analysis on the discrepant items to resolve the conflicts and were cautioned to note the restraining and facilitating forces responsible for any inactivity. Discussion dyads were formed to share the results and determine a course of action which could be initiated in the immediate future. Groups of 6 were formed on the basis of expressed action similarity for discussion of process and difficulty.

Snyder (1972) points out that the results of self concept learning cannot be expected to be different from the results of any learning experience, i.e., the new behaviors will be used or avoided depending on the satisfaction or frustration of the experiences.

Snyder (1972) also spoke of the effects of the peer group. She feels that the group's approval of the learning product is an influential reward of learning. She pointed to the Coleman Report which showed that school performance depended less on facilities and teacher qualifications than on the characteristics of the child's schoolmates. Further, she warns, the influence of peer interaction on school achievement increases with age.

She found (Snyder, 1972) that self concept was related to an interaction between the sex of the student and the sex of the teacher. Trends she found suggested that boys who have male teachers have better self concepts than boys who have female teachers, and that girls with female teachers, in turn, have better self concepts than girls with male teachers. Boys, she observed, tend to receive harsher discipline and are given lower grades than girls for the same level of achievement.

Snyder (1972) suggested the use of behavioral objectives as an aid to self concept building. She feels that they often help teachers to



clarify for themselves what learning styles and teaching strategies are most efficient for what they want to accomplish in both the cognitive and affective domains.

The importance of the interactions among age of child, learning style, and teaching strategy was stressed by Snyder (1972). The younger the child, she observed, when he is exposed to the appropriate teaching strategies for his particular learning style, the greater the possibility he will conceive of himself as a successful learner.

Finally, Snyder (1972) stressed the importance of an affective curriculum. The child should be guided to personal insight and changed attitudes and actions. He should be taught to identify and acknowledge his emotional states in an atmosphere of fairness and affection.

Kirkhardt (1972) suggested using what he called corrective emotional experiences to improve self concept. He suggested providing interest, concern, and a situational structure that would change the child's view of himself and his environment and help him stabilize his roles and values.

Kirkhardt (1972) also suggested mastery and responsibility assumption. He says that this would increase the child's sense of ego-adequacy and his feeling of potential confidence as a productive worker. However, he cautions, the work must fall within the range of his possible accomplishment so that failure experiences will be limited.

Positive socialization experiences were also recommended by Kirkhardt (1972) to help improve self concept. He recommends happy, noncompetitive experiences and interaction strategies, and happy experiences with people. He feels that children should be encouraged to develop empathy and sympathy



for others and be praised and rewarded for acts of helpfulness and unselfishness.

Kirkhardt (1972) warns the educator that habitual modes of response cannot be changed overnight but adds that the time spent in this attempt is one of the best possible investments.

For specifics such as daydreaming, fantasy, and social withdrawal, Kirkhardt (1972) recommends making real life much more rewarding than the world of fantasy.

Massard (1972) suggests more in-depth listening and seeing exercises. She says that hearing becomes meaningful only when it involves listening, permitting an individual to 'tune-in' to others and opening the door to understanding. Looking, likewise, becomes meaningful only when it involves seeing--another means of 'tuning-in'.

Role playing was another self concept improving technique suggested by Massard (1972). This technique can be effective because,

" . . . the role one learns to play in relation to the social world not only determines his evaluation of and behavior toward others, but also patterns the way in which he evaluates and behaves toward himself." (Massard, 1972, p. 49)

Massard (1972) also recommends fantasy as a method of creative expression and as a means of recalling emotional experiences.

Such methods of 'tuning-in' to the self as the foregoing, (Massard, 1972) as well as verbal and non-verbal methods of communication, provide means by which self concept may become apparent to the self. When this happens, it makes it easier to change.

Yamamoto (1972) recommends bringing about both feeling and valuing via self awareness exercises. He believes that self awareness is basic

to the development of self esteem or self acceptance because it enhances self concept by a closer approximation to the self.

Ziller (1973) feels that the building of social trust is important to the building of self concept. He feels that social trust is meaningful because persons act on the basis of their perceptions, and social trust carries with it the anticipation of positive reinforcement. This feeling brings about a desire for cooperation, where the welfare of the self as well as the other becomes the concern. This, Ziller (1973) believes, is a facet of self-other orientation.

Sometimes low self concept (Ziller, 1973) may involve feelings of marginality due to role conflict. This can lead to feelings of alienation. If this be the case, the first component of the self system to change, in order to redress alienation, is the self esteem.

"The procedure for reversing the alienation process now becomes evident. Those who initiated the exclusion must begin to positively reinforce the excluded person and encourage the former member to rejoin the group so that the probability of positive reinforcement may increase. In order to facilitate de-alienation, however, it may also be necessary to train the former members in ways which will mand reinforcement from the group members. For example, he may be trained to positively reinforce others," which tends to evoke positive reinforcements from the other by virtue of the norm of reciprocity . . . , that is, an expectation between most persons that one positive act deserves another in return. . . .

"De-alienation or resocialization will not be effected satisfactorily, however, until self-esteem, social interest, and self-centrality of the target person has changed toward some base line level of acceptance."  
(Ziller, 1973, p. 74)

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\*Italics mine

Ziller (1973) agrees that self awareness is a necessary step to self concept improvement. He proposes that self awareness may be brought about by feedback from others or what has also been called 'psychological mirroring'.

"Continuous confrontation with diverse others is assumed to encourage closer scrutiny of the self in terms of similarities and contrasts followed by the emergence of a more highly differentiated self concept. (Ziller, 1973, p. 79)

This allows the individual the freedom to assume control over his own life without the fear of self-deception. The use of cognitive processes can begin because the individual can attend to events and their consequences and perceive relationships between them.

"One corrective mechanism suggested by Sullivan . . . is 'consensual validation'. . . a tendency to subject one's observations and analyses with regard to the self in comparison through exchanges with others concerning comparable experiences." (Ziller, 1973, p. 138)

In seeking strategies to improve self concept, Ziller (1973) warns, it may be wiser to look for variables that apply to specific behaviors rather than to look for variables that might encompass all behavior. He reminds the researcher that the sequence of events within the person goes from a dichotomy between the conscious and subconscious to a unified self concept and finally to an awareness of social factors.

Ziller (1973) agrees that strategies might include non-verbal communication exercises.

". . . non-verbal communication is the learned method for expressing personal feelings regarding the relationship between the self and the other. . . . (It) requires close attention by the other to receive the message in order to learn the idiosyncratic language of the sender. (It) . . . is intimately shared



communication in that the message is not imposed on the receiver. The message is subtle, can be ignored with impunity, and requires careful monitoring and personal knowledge of the other." (Ziller, 1973, p. 146)

If change in self concept is sought through Ziller's (1973) self system, he warns that the time factor for change is different depending on whether the researcher is attempting change via moving up or down the hierarchy.

"Since the greatest disequilibrium is created by changing components higher in the system, the optimal strategy of personal change would seem to be dictated: (sic) change the self concept." (Ziller, 1973, pp. 153-4)

However, attempting change in attitudes first, (Ziller, 1973) permits the researcher to experiment--to pilot study the personal system, so to speak. After this, attempts can be made on the values, the behaviors, the roles, and finally up through the hierarchy until the self concept perse is assaulted.

"The self concept is, therefore, the most crucial component of the system. It is the most resistant to change and more time is required for change. Moreover, if the self concept is changed, there is a higher probability that other components in the system will change." (Ziller, 1973, p. 154)

If one were to attempt changing what Ziller (1973) calls 'other components of the self system', such as complexity of self concept and social interest, Ziller (1973) recommends that complexity of self concept be attempted first, followed by social interest, still recommending waiting until last before attempting change on the self concept.

" . . . strategies of personal change directed toward the self concept may be accomplished with greater facility if they begin with a concern for the complexity



of the self concept, in order to render the self system more adaptive." (Ziller, 1973, pp. 155-6)

Ziller (1973) hints that self esteem may be improved after a series of experiences in interpersonal relationships that have been positive in terms of the responsiveness of others to the individual.

"Indeed, an effective program to change self-esteem may not be possible to achieve directly but rather must emanate from social interest and the attendant positive social reinforcements." (Ziller, 1973, p. 156)

Ziller's (1973) best advice to the researcher is to employ a multi-dimensional attack including simultaneous assaults on self concept complexity, social interest, and self esteem. Sometimes, changing attitudes can lead to changes in values, which lead to changes in behaviors, which may lead to a change in self concept. But whatever the approach, self observation should be central to the framework.

One way of bringing about changes in the attitude component of Ziller's (1973) self system may be role-playing.

"Subjects who verbalized the other person's point of view, changed their attitudes more than subjects who were merely exposed to the other's point of view.

" . . . if the subject perceives himself as playing the role . . . , through the act of presenting an argument to two other persons, there is an increased likelihood that the subject will incorporate the attitudes in question in accordance with the expectations of others and himself relative to the role . . . Proper adoption of the role may become the issue of central concern, and attitudes consistent with this role are readily adopted. It is hoped that by changing crucial attitudes, role behavior may be affected." (Ziller, 1973, pp. 161-2)

In this approach, the researcher should be cautioned (Ziller, 1973) that it may be questionable as to whether or not the attitudes selected are proper or crucial to the role. Perhaps only the actor's perceptions can determine this.

If changes in the various components of the self system are to be attempted (Ziller, 1973), components fairly close to each other should be assaulted, particularly with older Ss.

"As the components of the personal system become more distal to each other, the probability diminishes that a change in the lower component in the hierarchy will increase the higher level component, particularly with increasing age.

"It has been noted repeatedly that the consistency of children's attitudes increases with age." (Ziller, 1973, p. 163)

Approaches suggested by Ziller (1973) include modeling, positive reinforcement, negative reinforcement, and desensitization. The attitude change approach should be reserved for use where the situation is such that the target behavior is not directly accessible or cannot be directly reinforced.

Attacks on role and behavior (Ziller, 1973) can be brought about by imitation and other social learning techniques.

"Given the social forces directed toward the individual occupying a given social position to behave in prescribed ways, a change in roles congruent with a desired change in behavior would appear to be a most simple and direct method for personal change." (Ziller, 1973, p. 166)

Role playing to imitate a real or symbolic model is particularly effective (Ziller, 1973) when the role is accepted, and the behavior attendant upon it is reinforced. Modeling, without role playing, may be a variation of role playing--vicarious role playing.

"Bandura . . . attributes the effects of modeling to three factors: (1) the observer may acquire new response patterns, (2) observation of modeled behavior and their consequences to the performer may strengthen or weaken inhibitory responses in observers, (3) the behavior of others often serves only as discriminative stimuli for the observer." (Ziller, 1973, p. 166)

A gauge of attitude change (Ziller, 1973) may be the S's willingness to participate in the activities in the first place.

Assaulting behaviors per se has been shown (Ziller, 1973) to produce changes in self concept.

"Wahler and Pollio demonstrated that behavioral changes produced in a boy through social reinforcement altered favorably his self evaluation as well as his evaluation of others." (Ziller, 1973, p. 167)

One way to change self concept, then, (Ziller, 1973) may be to work on changing behaviors.

Another approach may be to work on the cognitive factors that may influence behavior. These factors have been found to influence conditioning and extinction in profound ways.

Any changes in components which may be effected cannot be considered to be stable unless changes in roles and self concept--the 2 highest components--have been observed as well. "A synthesis of the levels of the personal system must be effected before a change is assured at any one level." (Ziller, 1973, p. 168)

Because roles are so close to the self concept in the hierarchy (Ziller, 1973), they can be expected to affect it. On the other hand, if a change in self concept can be brought about, there is a high probability that the lower components will 'swing into line' to affect an integration of the self system. If the changes brought about are on the lower end of the hierarchy--attitudes and behaviors, for example--a return to



the original state can be expected in order that these components may be made consistent with the self concept. The most practical approach might be to attempt changes at several levels of the system at the same time. ". . . changes at several levels of the self hierarchy simultaneously may be expected to lead to a change in the self system." (Ziller, 1973, p. 178)

Whatever approach chosen, it should be gradual, orderly, and non-threatening.

"Bandura proposes that the establishment of complex social behavior and the modification of existing response patterns can be achieved most effectively through a gradual process in which the subject participates in an orderly learning sequence that guides him stepwise toward more demanding performances.

"Initially, the subject is exposed to the least threatening event under favorable conditions . . . until his emotional responses are extinguished. Subsequent steps in the treatment process involve a gradual increase in the fear arousing properties of the aversive situation until emotional responsiveness to the most threatening stimuli is extinguished.

"The individual is desensitized to change by gradual increases in the degree of commitment.

"In this process, change is accomplished at a rate which the individual can accommodate." (Ziller, 1973, p. 169)

To this end (Ziller, 1973) the atmosphere in which the changes are to be attempted should be warm and accepting, and the individual should be slowly encouraged to explore threatening situations.

Change processes (Ziller, 1973) must involve attempts at every component in the hierarchy.

Summary. The following techniques and strategies for self concept improvement have been recommended by various self concept theorists:



1. Self concept is influenced by learning: Wylie (1961) and Snyder (1972)
2. Self awareness is a necessary first step to self concept improvement: Hamacheck (1965); Snyder and Yamamoto (1972); and Ziller (1973)
  - a. because it leads to a more critical self attitude: Wesigerber (1971)
  - b. it requires competency at introspection: Branden (1969)
  - c. psychological mirroring is a useful technique to bring this about: Branden (1969) and Ziller (1973)
3. Responsibility assumption is a necessary first step to self concept improvement: Branden (1969) and Wells (1971)
  - a. for consequences of own behavior: Glasser (1969)
  - b. for mastery: Kirkhardt (1972)
  - c. for decision-making and goal-setting: Wells (1971)
4. Value clarification is necessary to improve self concept: Glasser and Branden (1969); and Kirkhardt and Yamamoto (1972)
5. Recognition and acceptance of emotions is important in self concept improvement: Branden (1969); and Yamamoto, Snyder, and Kirkhardt (1972)
6. A sense of personal identity is a necessary first step in self concept building: Branden (1969); and Wells and FERDC (1971)
  - a. sexual identity is an important part of personal identity: Branden (1969)
    - (1) there is an interaction between sex of student and teacher and self concept: Snyder (1972)
  - b. students should be helped to see their strengths and other desirable qualities: Wells (1971)
  - c. students should be helped to achieve success experiences and be helped to see that they have had successes in the past: Wells and FERDC (1971)
7. In improving self concept it is important to work on students' central beliefs: Wells (1971)
8. Social learning techniques are useful in helping to build self concept:
  - a. Modeling: Welsgerber (1971)
  - b. Identification: FERDC (1971)
    - (1) with student role: Murray (1971)
    - (2) bibliotherapy - identification with storybook character: Schulthers (1971)
  - c. Role playing: FERDC (1971); Kirkhardt and Massard (1972); and Ziller (1973)

- d. Reinforcement:
  - a. both positive and negative: Ziller (1973)
  - b. via positive interpersonal relationships: Kirkhardt (1972) and Ziller (1973)
    - (1) via attentive listening and seeing: Massard (1972)
    - (2) via verbal and non-verbal communication: Massard (1972) and Ziller (1973)
  - c. via an affective curriculum: FERDC (1971); Snyder (1972); and Ziller (1973)
9. Behavior modification may prove to be a useful technique to improve self concept: FERDC (1971) and Ziller (1973)
10. Building group trust is an important step in self concept improvement: FERDC (1971) and Ziller (1973)
11. It is important to gain peer group approval for the self concept building program: Snyder (1972)
12. Behavioral objectives may be an important teacher tool in self concept building: Snyder (1972)
13. There may be an interaction among the age of child, his learning style, and the time when appropriate teaching strategies are begun: Snyder (1972)
14. Changing attitudes may be a useful technique toward self concept change: Ziller (1973)
15. A multidimensional approach, addressing all components in the self system may be the most useful technique to use in improving self concept: Ziller (1973)
16. Sequencing self concept building activities in a way designed to desensitize students is important to remember in any self concept building program: Ziller (1973)
17. A direct address to the cognitive factors which influence human behavior may be a useful technique in self concept building: Ziller (1973)
18. Miscellaneous techniques used by various researchers:
  - a. Pictures: Gilpatrick (1969)
  - b. Puppetry: Carlson (1970)
  - c. Various art forms: Sanoff (1970)
  - d. Random grouping: Landis (1972)
  - e. Life space drawing and discussion: George (1972)

In Chapter IV the degree of congruence between the treatment and the foregoing recommendations will be considered.

## 2. The Teacher's Role

Researchers and self concept theorists caution that, even though good self concept building techniques are handed to the teacher for use with her students, her role and impact on the self concepts of her charges is of paramount importance. Purkey (1970); Wells and FERDC (1971); and Snyder and Kirzhardt (1972) have all spoken to this issue.

Purkey (1970) informs the researcher on 4 levels: approach, essential understandings, responsibilities, and attitudinal characteristics.

The approach, he feels, should be a perceptual self concept approach.

It is essential (Purkey, 1970) that the teacher understand:

1. that she has a significant influence on the success of her students
2. that her beliefs are transmitted through: facial expression, postures, touch, and what, how, and when she speaks
3. that her attitudes (as perceived by students) have a strong impact on them.

"It is difficult to overestimate the need for the teacher to be sensitive to the attitudes he expresses towards students." (Purkey, 1970, p. 49)

To this end Purkey (1970) would encourage some teacher preparation.

" . . . we need to encourage in-service group counseling situations for teachers, in which their attitudes and feelings can be safely explored with others." (Purkey, 1970, p. 46)

Purkey (1970) sees the teacher's responsibilities in self concept development as follows:

1. to create program innovations and curricular changes to bring about the desired results



2. to prevent instilling negative self attitudes, since the self is conservative and thus prevention becomes vital
3. to convey expectations and confidence that the student can accomplish work, can learn, and is competent
4. to have well-defined standards of values and of demands for competence
5. to guide toward the solution of problems
6. to furnish necessary structure
7. to serve as a model of authenticity by being willing to share feelings with students
8. to insure success by waiting until chances of success are good and the material is relevant, offering challenge with little threat, conveying the feeling that failure is normal and expected, praising and approving, and pointing out areas of accomplishment

"People learn that they are able, not from failure, but from success."

(Purkey, 1970, p. 56)

9. to control with just the right combination of warmth and firmness--rewarding control
10. to try direct self concept raising through activities designed for this purpose
11. to enrich the emotional life of students through living and dealing with all of the affective aspects of classroom life
12. to help students clarify values they hold
13. to establish clear, firm, and demanding rules that are not rigid, inflexible, or unduly restricting
14. to enforce rules through restraint, denial, and separation
15. to avoid unfair and ruthless competition
16. to spread attention around and include each student
17. to insure that each student has a clear idea of what is acceptable and not acceptable in the classroom



18. to permit mistakes without penalty
19. to make positive comments on written work

With the exception of direct assaults on self concept as in numbers 1, 10, and 12, these practices were carried out in both classes--experimental and control--since they are simply good teaching practices which, to the best of my ability, I have been putting into practice for as long as I have been teaching. I saw no reason to treat the control group less well than I would be treating them had I not been doing research on self concept.

Attitudinal characteristics, Purkey (1970) feels, are more important than qualifications, training, knowledge, skill, or even ideological orientation. The teacher:

1. should hold positive attitudes about herself and her students' abilities
2. should be calm, supportive, and facilitative
3. should not neglect the aspect of warmth
4. should be receptive to all
5. should be tolerant toward: contrary opinion, independence, compromise, and child participation in decisions and discussions

Wells (1971) speaks of the importance of the authenticity of the teacher and her willingness to participate in the sharing of attitudes and feelings.

" . . . it is important that you as the teacher also share yourself with the class. This enables the students to see you as an authentic person and as a friend rather than just a professional role player."  
(Wells, 1971, p. 14)

Wells (1971) suggests that the optimum time period for self concept building activities seems to be the early afternoon hours.

FERDC (1971) recommends positive behavioral management including positive regard, consistent discipline, and an R/P (reward to punishment) ratio of about 4 to 1. Body contact through touch is highly recommended.

The RAID system of classroom management was worked out by FERDC (1971). It is as follows:

- R: rules - Rules should be clear, simple, stated positively, and clearly understood. They should be based on a real need for them and children should be allowed them.
- A: approve - Approval of desired behavior should be demonstrated.
- I: ignore - Undesirable behavior should be ignored.
- D: disapprove - Disapproval of serious misbehavior should be made clear.

Snyder (1972) feels that the personality of the teacher and her attitude toward and understanding of children are of paramount importance for the total social and emotional growth and adjustment of her pupils. Teachers who were high in self esteem tended to be associated with groups of students who also had high self esteems. Teacher/pupil interactions should be calm and accepting.

Kirkhardt (1972) also recommended an R/P ratio of not below 4 to 1. He defined a reward as anything that was ego-enhancing; anything that would make the child feel good about himself; anything that would help him to enjoy the rewards of his own capabilities; anything that would be a sign of the goodwill of significant adults. He suggests that an optimal R/P ratio would be 5 to 1.

It would be well at this point to clarify what preparation I had for attempting to run such a program on my own with my classes, since I am not a psychologist nor a counselor.

In addition to 13 years of experience with teenagers as a classroom teacher and a rather thorough research of the literature, I attended many workshops on humanistic education offered by the New England Center for Personal and Organizational Growth under the direction of Jack Canfield and psychologists, Drs. Judy Ohlbaum-Canfield and Susan LaFrance, as well as Dr. Jack Gibb, author of many humanistic articles and books.

I attended workshops on sex education out of the above mentioned center under the direction of Dr. Donald Reed and Susan Reed, counselor, as well as Dr. Howard Munson.

The humanistic education workshop I attended at the University of Illinois was directed by Dr. Thomas Long and facilitators included such distinguished psychologists as C. M. Patterson, Carl Rogers, and O. Hobart Mowrer among others.

In-service workshops on humanistic education I have attended include those run by Gerald Weinstein and Sidney Simon under the auspices of the University of Massachusetts.

In addition I have been in constant consultation with my husband, Raul Quesada, a certified school psychologist and Director of Pupil Personal Services at Quabbin Regional High School in Barre, Massachusetts and have received much help and advise via the mail from Dr. C. H. Patterson.

I have also consulted many times with Ann Elegant, counselor at North Middlesex Regional High School, and Dr. John Elegant who is Director of Counseling Services there.

In addition to this preparation, I tried out these activities in a pilot program--on the activities alone--the previous year with the same

kind of students as were used in this study.

The activities, per se, and some relevant verbatim on the results of these activities are included in the appendix.



## CHAPTER IV

### TREATMENT AND ANALYSIS

#### A. Self Concept Building Activities

Following the perceptual self concept approach recommended by Ziller (1973), the self concept building activities (see Appendix) are divided into 4 series: perception of uniqueness, perception of strengths, perception of values, and perception of integration. The activities in each series are:

##### Series One: Perceiving Uniqueness

1. The Name Game
2. What's in a Name?
3. Fingerprints and Silhouettes
4. Personal Coat of Arms
5. Who Am I?

##### Series Two: Perceiving Strengths

6. Success
7. Strength Bombardment
8. Feedback (Compliments)
9. Pride Line

##### Series Three: Perceiving Values

10. Value Line
11. Voting

##### Series Four: Perceiving Integration

12. Where Emotions Are Felt
13. Twenty-one Questions
14. If I Could Be . . .
15. Geography of Self
16. Top Dog/ Under Dog and I Can't/I Won't

The activities in the first series were selected to make the student become more aware of himself. The first 5 lessons focus the student's attention on his own uniqueness, i.e., what he does well, his name, his

fingerprints, his profile, his personal symbols, and the many facets he calls self. These things belong to him and him alone, and, except for names, perhaps, no other human being has these things, only him. He feels unique--one of a kind. He sees himself as rare, valuable, and irreplaceable. He begins to sense a very personal identity.

The 4 lessons in the second series develop in the student an awareness that he has been successful in the past and that he does have things to be proud of. They make him aware that others can see positive things in him also. He is given the experience of positive social reinforcement.

Series three consists of 2 lessons chosen because it was felt that they would bring the student to an awareness that he holds his own personal values, which may or may not be the values held by others; these values are clarified, and through them he can sense a unique identity.

There are 5 lessons in the fourth series. The first one was chosen to bring the student to an awareness of the unity of body and emotion and how each may affect the other. This perception of mind/body intregration is a necessary pre-requisite to the other lessons in the series. The second lesson in the series was chosen to help the student to assess where he is, where he wants to go, and to allow him a chance to choose a direction in which he wishes to grow and to start thinking about steps toward reaching that goal. The third and fourth lessons give the student a feeling for being 'real', for accepting himself and others, bring him to an awareness of the conflicts within himself, and allow him to start expressing himself more fully. The last activity in the series shows the student how to take responsibility for his own actions and feelings--how to take charge of his own life.

### B. Congruence With Procedure

The self concept building activities used in this study must be examined at this point to see how congruent they are in terms of the recommendations of the self concept theorists explored in Chapter III.

Proposition 1: Self concept is influenced by learning. All of the self concept building activities used in this study were lessons in that they were as direct an attempt to influence student self concept as cognitive lessons are at influencing student cognition.

Proposition 2: Self awareness is a necessary first step to self concept improvement. All of the self concept building activities used in this study forced attention on the self, but of specific potency in this regard were: WHO AM I?, GEOGRAPHY OF SELF, and TOP DOG/UNDER DOG AND I CAN'T/I WON'T. These activities riveted student attention intently on the self. Other activities with special potency for bringing about self awareness through psychological mirroring were: STRENGTH BOMBARDMENT, and FEEDBACK (COMPLIMENTS). These activities provided direct feedback to the student as to how others saw him.

Proposition 3: Responsibility assumption is a necessary first step to self concept improvement. The activities which placed the most responsibility directly on the student were: VALUE LINE, VOTING, and TOP DOG/UNDER DOG AND I CAN'T/I WON'T. These activities forced the student to take responsibility for his values and his behavior. However, student responsibility was stressed in both groups--experiential and control--throughout the year via the appointment of rotating team captains to be responsible for the care and dispensing of laboratory equipment and for the condition of the laboratory.



Proposition 4: Value clarification is necessary to improve self concept. Students were forced to choose values and make value judgements in VALUE LINE and VOTING, but TWENTY-ONE QUESTIONS and TOP DOG/UNDER DOG AND I CAN'T/I WON'T also forced the student to clarify value issues.

Proposition 5: Recognition and acceptance of emotions is important in self concept improvement. Fantasy trips into past emotions and integration with somatic reactions were accomplished specifically through WHERE EMOTIONS ARE FELT, but discussion questions eliciting emotion recognition responses were included in the processing of many of the other activities, particularly STRENGTH BOMBARDMENT and FEEDBACK (COMPLIMENTS), PERSONAL COAT OF ARMS also facilitates strong emotional reactions.

Proposition 6: A sense of personal identity is a necessary first step in self concept building. The first 5 activities: THE NAME GAME, WHAT'S IN A NAME?, FINGERPRINTS AND SILHOUETTES, PERSONAL COAT OF ARMS, and WHO AM I? focus directly on the uniqueness of the individual, i.e., his name, something he is good at, his fingerprints, his profile, his personal symbols, etc., but other activities pointed to uniqueness of response: VALUE LINE, VOTING, IF I COULD BE . . . , and GEOGRAPHY OF SELF. Perception of uniqueness questions were part of the processing of almost all activities as well as the ones mentioned above. A sense of personal identity was also brought about by exercises in strength recognition: STRENGTH BOMBARDMENT, FEEDBACK (COMPLIMENTS), and PRIDE LINE, and by success recognition: SUCCESS, STRENGTH BOMBARDMENT, FEEDBACK (COMPLIMENTS) and PRIDE LINE.

Proposition 7: In improving self concept it is important to work on students' central beliefs. Beliefs central to the self were explored in: WHO AM I?, PRIDE LINE, VALUE LINE, and VOTING.



Proposition 8: Social learning techniques are useful in helping to build self concept. Although no direct role playing techniques were used, identification of various roles were inherent in: WHO AM I?, IF I COULD BE . . . , GEOGRAPHY OF SELF, and TOP DOG/UNDER DOG AND I CAN'T/I WON'T. Social learning through reinforcement via positive interpersonal relationships was assured via STRENGTH BOMBARDMENT and FEEDBACK (COMPLIMENTS). The affective curriculum component of social reinforcement is inherent in the activities in toto.

Proposition 9: Behavior modification may prove to be a useful technique to improve self concept. Although no direct behavior modification techniques per se were used in this study, in a larger sense, any activity contrived and designed for a specific purpose, whether that purpose be to impart cognitive or affective knowledge, carries with it the intent to change behavior.

Proposition 10: Building group trust is an important step in self concept improvement. There were no activities specific to trust building, but the oral processing of each and every activity was designed to facilitate the sharing of feelings and thoughts on levels which the students might have previously thought were too risky. Very little progress along these lines was made, however, i.e., only a few students on only a few occasions dared risk inner thoughts and feelings orally, but were more open on paper. While they were quick to trust me, they did not ever really get to trust each other.

Proposition 11: It is important to gain peer group approval for the self concept building program. No specific activities were designed for

this purpose, but the fact of its accomplishment is without doubt. Not only were these students anxious to do anything that did not look like 'regular work', but also they soon came to think of these activities as a pleasant 'change of pace', and they requested the activities about twice as often as they were carried out.

Proposition 12: Behavioral objectives may be an important teacher tool in self concept building. Although specific behavioral objectives for each activity were not worked out, the objectives inherent in the hypotheses do spell out what was expected from the students as a result of the self concept building activities as a whole, albeit in null form.

Proposition 13: There may be an interaction among the age of the child, his learning style, and the time when appropriate teaching strategies are begun. Snyder (1972) said that the younger the child, the better. Unfortunately these students were 15 years old before the activities were tried on them, and no attempt was made in this study to ascertain learning styles for any individual child since this is a group study rather than a study of individual students.

Proposition 14: Changing attitudes may be a useful technique toward self concept change. Although all of these activities were designed to reverse negative self attitudes, direct assaults on negative self attitudes were made via: SUCCESS, STRENGTH BOMBARDMENT, FEEDBACK (COMPLIMENTS), PRIDE LINE, and TOP DOG/UNDER DOG AND I CAN'T/I WON'T.

Proposition 15: A multidimensional approach, addressing all components in the self system may be the most useful technique to use in improving self concept. A review of Proposition 14 on attitudes, Proposition

4 on values, Proposition 8 on roles, and Proposition 9 on behaviors, will show that in some sense all of the components of the self system were given attention and, of course, in a larger sense, all of these activities were directed toward change in self concept.

Proposition 16: Sequencing self concept building activities in a way designed to desensitize students is important to remember in any self concept building program. I should like, at this point, to lend my experience in support of Ziller's (1973) proposition. The year previous to this study, I did a pilot study on the self concept building activities and found out, in a very dramatic way, that students are extremely reluctant to try anything new if it seems to require that they make themselves in any way vulnerable to what Sidney Simon, a value clarifications expert at the University of Massachusetts, has called 'killer statements', i.e., they will make no personal disclosures that could be used against them by their peers. For this reason the activities in this study were carefully sequenced to begin in a non-threatening 'parlor game' fashion and proceed slowly and gradually toward the more threatening activities. For example, exploring the meaning of one's name in WHAT'S IN A NAME? is not nearly as revealing of the self as 'laying one's values on the line' in VOTING and, in turn, this is not as threatening as having to take full responsibility for one's every thought and action as in TOP DOG/UNDER DOG AND I CAN'T/I WON'T.

Proposition 17: A direct address to the cognitive factors which influence human behavior may be a useful technique in self concept building.

Although these students lack the sophistication to engage in cognitive analyses of their behavior, they were required, through the processing questions and discussion, to process cognitively to the best of their



abilities. In addition, certain activities lead to a more certain cognitive processing than others: PERSONAL COAT OF ARMS, WHO AM I?, PRIDE LINE, VALUE LINE, VOTING, WHERE EMOTIONS ARE FELT, GEOGRAPHY OF SELF, and TOP DOG/UNDER DOG AND I CAN'T/I WON'T.

In regard to the miscellaneous techniques suggested and used by various researchers (p. 175), pictures and art form techniques were used in: FINGERPRINTS AND SILHOUETTES and PERSONAL COAT OF ARMS.

These activities were carried out approximately once a week at different times of day, since North Middlesex Regional High School has a 7 day rotating schedule so that classes run at various times during the day and are designated by 'blocks' rather than by 'periods'. I soon found out, however, that the students seemed more receptive to these activities in the afternoon hours and, therefore, scheduled most of them for this period of time. This, of course, meant that these activities were not carried out on the same day each week. The students, therefore, never knew when they would have one of these activities and always seemed to welcome them when they were carried out.

### C. Results

#### 1. Initial Assessment

Table 8 (p. 190) shows the scores on the initial direct self report measure, the Self Appraisal Inventory, for both the experimental group (C block) and the control group (B block).



Table 8

SCORES ON THE INITIAL ADMINISTRATION  
OF THE SELF APPRAISAL INVENTORY

B Block (Control) Scores		C Block (Experimental) Scores	
1.	172	1.	148
2.	149	2.	145
3.	152	3.	175
4.	159*	4.	152
5.	177	5.	161
6.	136	6.	166
7.	<del>151</del>	7.	159
8.	165	8.	145
9.	156	9.	175
10.	140	10.	150
11.	174	11.	162
12.	161	12.	156
13.	145	13.	140
14.	156	14.	162
15.	163	15.	165
16.	165	16.	167
17.	162		
18.	179		
TOTAL:	2552	TOTAL:	2528
AVE.:	159.50	AVE.:	158.00

The highest possible score on this instrument was 248.00.

Note that only 18 students were present for the initial administration in the control group (B block) of a total enrollment of 24 and that 16 students were present in the experimental group (C block) of a total enrollment of 21. This means that 6 students were absent from the control group, and 5 were absent from the experimental group. This was a typical absentee rate for these groups during both the pre-experimental period

\*Numbers 4 and 7 were randomly eliminated from the control group scores for analysis in order to make Ns even (see p. 191).

and the experimental period. There was no evidence that the treatment affected absentee rate in the experimental group as compared to the control group, or that treatment affected the experimental group pre- to post in this respect. This may be of interest since behavioral trace methods look at absentee records as indicative of self concept.

In order to make the numbers (Ns) even, each score was assigned an identification (ID) number and, going to a table of random numbers, numbers 4 and 7 were randomly eliminated from the control group scores for analysis.

A t-test on the differences between means was run to compare these groups before treatment to insure that their self concepts, as assessed by this instrument, were not significantly different. The formula used for these independent samples was:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

where:

$\bar{X}_1$  = mean of group 1 = 159.50

$\bar{X}_2$  = mean of group 2 = 159.00

$n_1$  = number in group 1 = 16

$n_2$  = number in group 2 = 16

$S_1^2$  = variance of group 1 = 162.53

$S_2^2$  = variance of group 2 = 87.38

Interpretation of the t score was done for a 2-tailed test.

Table 9 (p. 192) shows the computation of variance for the control group (B block) on the initial Self Appraisal Inventory.

Table 9  
 COMPUTATION OF VARIANCE FOR THE  
 CONTROL GROUP ON THE INITIAL  
 SELF APPRAISAL INVENTORY

I.D.	Score	Score minus Mean	(Score minus mean) <sup>2</sup>
1.	172	12.50	156.25
2.	149	-10.50	110.25
3.	152	- 7.50	56.25
4.	177	17.50	306.25
5.	136	-23.50	522.25
6.	165	5.50	30.25
7.	156	- 3.50	12.25
8.	140	-19.50	380.25
9.	174	14.50	210.25
10.	161	1.50	2.25
11.	145	-14.50	210.25
12.	156	- 3.50	12.25
13.	163	3.50	12.25
14.	165	5.50	30.25
15.	162	2.50	6.25
16.	179	19.50	380.25

Sum of (Score minus Mean)<sup>2</sup> = 2438.00

Variance =  $\frac{2438.00}{15} = 162.53$

Table 10 (p. 193) shows the computation of variance for the experimental group (C block) on the initial Self Appraisal Inventory.

Table 10

COMPUTATION OF VARIANCE FOR THE  
EXPERIMENTAL GROUP ON THE  
INITIAL SELF APPRAISAL  
INVENTORY

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	148	-10.00	100.00
2.	145	-13.00	169.00
3.	175	17.00	289.00
4.	152	- 6.00	36.00
5.	161	3.00	9.00
6.	166	8.00	64.00
7.	159	1.00	1.00
8.	145	-13.00	169.00
9.	175	17.00	289.00
10.	150	- 8.00	64.00
11.	162	4.00	16.00
12.	156	- 2.00	4.00
13.	140	-18.00	324.00
14.	162	4.00	16.00
15.	165	7.00	49.00
16.	167	9.00	81.00

Sum of (Score minus Mean)<sup>2</sup> = 1680.00

Variance =  $\frac{1680.00}{15} = 112.00$

$$t = \frac{159.50 - 158.00}{\sqrt{\frac{(16-1)(162.50) + (16-1)(112.00)}{16 + 16 - 2} \left( \frac{1}{16} + \frac{1}{16} \right)}}$$

t = .362  
df = 15  
p > .50



Initially, then, the control group and the experimental group were not significantly different in self concept as measured by the Self Appraisal Inventory.

Table 11 shows the scores for both the control and experimental groups on Word Choice, the inferential self report measure, after its initial administration.

Table 11  
SCORES ON THE INITIAL ADMINISTRATION  
OF WORD CHOICE

B Block (Control) Scores		C Block (Experimental) Scores	
1.	108	1.	84
2.	78	2.	113
3.	105	3.	80
4.	92	4.	85
5.	99	5.	84
6.	82	6.	59
7.	91	7.	97
8.	101	8.	114
9.	94	9.	98
10.	114	10.	83
11.	96	11.	87
12.	117	12.	111
13.	110	13.	118
14.	91	14.	109
15.	96	15.	111
16.	96	16.	100
17.	109	17.	97
TOTAL:	1679	TOTAL:	1630
AVE.:	98.76	AVE.:	95.88

The highest score possible on this instrument was 133. Table 12 (p. 195) shows the computation of variance for the control group (B block) on the initial Word Choice.

Table 12  
 COMPUTATION OF VARIANCE FOR THE  
 CONTROL GROUP ON THE INITIAL  
 WORD CHOICE

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	108	9.24	85.38
2.	78	-20.76	430.98
3.	105	6.24	38.94
4.	92	- 6.76	45.70
5.	99	.24	.06
6.	82	-16.76	280.90
7.	91	- 7.76	60.22
8.	101	2.24	5.02
9.	94	- 4.76	22.66
10.	114	15.24	232.26
11.	96	- 2.76	7.62
12.	117	18.24	332.70
13.	110	11.24	126.34
14.	91	- 7.76	60.22
15.	96	- 2.76	7.62
16.	96	- 2.76	7.62
17.	109	10.24	104.86

Sum of (Score minus Mean)<sup>2</sup> = 1849.11

Variance =  $\frac{1849.11}{16} = 115.57$

Table 13 (p. 196) shows the computation of variance for the experimental group (C block) on the initial Word Choice.

Table 13  
 COMPUTATION OF VARIANCE FOR  
 THE EXPERIMENTAL GROUP  
 ON THE INITIAL  
 WORD CHOICE

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	84	-11.88	141.13
2.	113	17.12	293.09
3.	80	-15.88	252.17
4.	85	-10.88	118.37
5.	84	-11.88	141.13
6.	59	-36.88	1360.13
7.	97	1.12	1.25
8.	114	18.12	328.33
9.	98	2.12	4.49
10.	83	-12.88	165.89
11.	87	- 8.88	78.85
12.	111	15.12	228.61
13.	118	22.12	489.29
14.	109	13.12	172.13
15.	111	15.12	228.61
16.	100	4.12	16.97
17.	97	1.12	1.25

Sum of (Score minus Mean)<sup>2</sup> = 4021.69

Variance =  $\frac{4021.69}{16} = 251.36$

$$t = \frac{98.76 - 95.88}{\sqrt{\frac{(16)(115.57) + (16)(251.36)}{17 + 17 - 2} \left( \frac{1}{17} + \frac{1}{17} \right)}}$$

t = .62

df = 16

p > .50

Initially, then, the self concepts of the control and experimental groups were not significantly different as measured by Word Choice.

Table 14 shows the results of the initial administration of the Classroom Interaction Analysis Instrument, an observational instrument.

Table 14

SCORES FOR BOTH CONTROL AND EXPERIMENTAL  
GROUPS ON THE INITIAL CLASSROOM  
INTERACTION ANALYSIS  
INSTRUMENT

Group	Category	Number of Negative Behaviors	Total
Control	Pupil/Pupil	11	43
	Teacher/Pupil	4	
	Task Orientation	23	
	Treatment of Materials	5	
Experimental	Pupil/Pupil	10	44
	Teacher/Pupil	7	
	Task Orientation	22	
	Treatment of Materials	5	

Out of a possibility of 100 negative behaviors (100 observations), 43 were noted in B Block, the control group, and 44 were noted in C Block, the experimental group, on the initial observation.

Note that the greatest number of negative behaviors were non-task behaviors; the next greatest number of negative behaviors were pupil to pupil. Abuse of materials was equal in both groups, but the experimental group had slightly more negative teacher/pupil interactions than did the control group.

The z test for making inferences about populations using independent samples was used to test for significance. The formula is:



$$z = \frac{p_1 - p_2}{\sqrt{\left(\frac{f_1 + f_2}{n_1 + n_2}\right) \left(1 - \frac{f_1 + f_2}{n_1 + n_2}\right) \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where:

$f_1$  = the number of observations in the sample from population 1 possessing the characteristic being observed.

$p_1 = \frac{f_1}{n_1}$  = the proportion

$f_2$  = the number of observations in the sample from population 2 possessing the characteristic being observed.

$p_2 = \frac{f_2}{n_2}$  = the proportion

$n_1$  = the number of observations in group 1

$n_2$  = the number of observations in group 2

$$z = \frac{(44/100) - (43/100)}{\sqrt{\left(\frac{44 + 43}{100 + 100}\right) \left(1 - \frac{44 + 43}{100 + 100}\right) \left(\frac{1}{100} + \frac{1}{100}\right)}}$$

$$z = .142$$

The value of  $z = .142$  does not exceed the critical values of  $+1.65$  and  $-1.65$  at the .05 level of confidence. Therefore, there was no significant difference between the self concepts of the control group and the experimental group as measured initially by the Classroom Interaction Analysis Instrument.

ON ALL 3 MEASURES OF SELF CONCEPT, THEN, THERE WERE NO APPARENT INITIAL DIFFERENCES IN THE SELF CONCEPTS OF THE CONTROL AND EXPERIMENTAL GROUPS.

## 2. Hypothesis Testing

Null Hypothesis 1: After approximately 5 months of instruction, the control group, taught general biology, will show no significant gain in self concept as assessed by the direct self report measure, the Self Appraisal Inventory.

Table 15 shows the scores of the control group on the Self Appraisal Inventory both before and after the treatment period.

Table 15

### CONTROL GROUP SCORES PRE- AND POST SELF APPRAISAL INVENTORY

B Block Initial Scores		B Block Final Scores	
1.	172	1.	148
2.	149	2.	151
3.	152	3.	165
4.	159	4.	145
5.	177	5.	165
6.	136	6.	182
7.	131	7.	164
8.	165	8.	141
9.	156	9.	157
10.	140	10.	167
11.	174	11.	162
12.	161	12.	176
13.	145	13.	153
14.	156	14.	166
15.	163	15.	159
16.	165	16.	139
17.	162	17.	154
18.	179	18.	159
TOTAL:	2842	TOTAL:	2853
AVE.:	157.89	AVE.:	158.50

Table 16 (p. 201) shows the computation of variance for the initial Self Appraisal Inventory for the control group.

Table 16  
 VARIANCE ON THE INITIAL SELF  
 APPRAISAL INVENTORY FOR  
 THE CONTROL GROUP

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	172	14.11	199.09
2.	149	- 8.89	79.03
3.	152	- 5.89	34.69
4.	159	1.11	1.23
5.	177	19.11	365.19
6.	136	-21.89	479.17
7.	131	-26.89	723.07
8.	165	7.11	50.55
9.	156	- 1.89	3.57
10.	140	-17.89	320.05
11.	174	16.11	259.53
12.	161	3.11	9.67
13.	145	-12.89	166.15
14.	156	- 1.89	3.57
15.	163	5.11	26.11
16.	165	7.11	50.55
17.	162	4.11	16.89
18.	179	21.11	445.63

Sum of (Score minus Mean)<sup>2</sup> = 3233.74

Variance =  $\frac{3233.74}{17} = 190.22$

Table 17 ( p. 202) shows the computation of variance on the final Self Appraisal Inventory for the control group.

Table 17

VARIANCE ON FINAL SELF  
APPRAISAL INVENTORY  
CONTROL GROUP

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	148	-10.50	110.25
2.	151	- 7.50	56.25
3.	165	6.50	42.25
4.	145	-13.50	182.25
5.	165	6.50	42.25
6.	182	23.50	552.25
7.	164	5.50	30.25
8.	141	-17.50	306.25
9.	157	- 1.50	2.25
10.	167	8.50	72.25
11.	162	3.50	12.25
12.	176	17.50	306.25
13.	153	- 5.50	30.25
14.	166	7.50	56.25
15.	159	.50	.25
16.	139	-19.50	380.25
17.	154	- 4.50	20.25
18.	159	.50	.25

Sum of (Score minus Mean)<sup>2</sup> = 2202.50

Variance =  $\frac{2202.50}{17} = 129.56$

$$t = \frac{158.50 - 157.89}{\sqrt{\frac{(18 - 1)(129.56) + (18 - 1)(190.22)}{18 + 18 - 2} \left(\frac{1}{18} + \frac{1}{18}\right)}}$$

t = .141

df = 17

p > .50

Null hypothesis 1 is not rejected. After approximately 5 months of instruction, the control group, taught general biology, showed no significant gain in self concept as assessed by the direct self report measure, the Self Appraisal Inventory.



Null Hypothesis 2: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant gain in self concept as measured by the direct self report measure, the Self Appraisal Inventory.

Table 18 shows the initial and final scores of the experimental group on the Self Appraisal Inventory.

Table 18

EXPERIMENTAL GROUP PRE- AND POST  
TEST SCORES ON THE SELF  
APPRAISAL INVENTORY

C Block initial scores		C Block final scores	
1.	148	1.	159
2.	145	2.	170
3.	175	3.	166
4.	152	4.	163
5.	161	5.	154
6.	166	6.	140
7.	159	7.	176
8.	145	8.	157
9.	175	9.	165
10.	150	10.	177
11.	162	11.	135
12.	156	12.	164
13.	140	13.	155
14.	162	14.	148
15.	165	15.	173
16.	167	16.	143
		17.	170
TOTAL: 2528		TOTAL: 2545	
AVE.: 158.00		AVE.: 159.06	

N.B.: Number 17 was randomly eliminated to make Ns even.

Table 10 (p. 193) shows the computation of the variance for the initial administration of the Self Appraisal Inventory for the experimental group.

Table 19 shows the computation of the variance of the final scores of the experimental group on the Self Appraisal Inventory.

Table 19  
VARIANCE OF SCORES OF EXPERIMENTAL  
GROUP ON FINAL SELF APPRAISAL  
INVENTORY

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	159	- .06	.004
2.	170	10.94	119.684
3.	166	6.94	49.164
4.	163	3.94	15.524
5.	154	- 5.06	25.604
6.	140	-19.06	363.284
7.	176	16.94	286.964
8.	157	- 2.06	4.244
9.	165	5.94	35.284
10.	177	17.94	321.844
11.	135	-24.06	578.884
12.	164	4.94	24.404
13.	155	- 4.06	16.484
14.	148	-11.06	122.324
15.	173	13.94	194.324
16.	143	-16.06	257.924

Sum of the (Score minus Mean)<sup>2</sup> = 2415.944

Variance =  $\frac{2415.944}{15} = 161.06$

$$t = \frac{159.06 - 158.00}{\sqrt{\frac{(16 - 1)(161.06) + (16 - 1)(112.00)}{16 + 16 - 2} \left( \frac{1}{16} + \frac{1}{16} \right)}}$$

t = .26  
df = 15  
P > .50

Null Hypothesis 2 is not rejected. After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, did not show a significant gain in self concept as measured by the direct self report measure, the Self Appraisal Inventory.

Summary. After the treatment period, neither the control nor the experimental groups showed a significant gain in self concept as measured by the direct self report measure.

Null Hypothesis 3: After approximately 5 months of instruction, the control group, taught general biology, will show no significant gain in self concept as assessed by the inferential self report measure, Word Choice.

Table 20 shows the scores of the control group on Word Choice both before and after the treatment period.

Table 20

WORD CHOICE CONTROL GROUP  
SCORES PRE- AND POST  
TREATMENT PERIOD

B Block (initial)		B Block (final)	
1.	108	1.	104
2.	78	2.	85
3.	105	3.	50
4.	92	4.	59
5.	99	5.	103
6.	82	6.	<del>102</del>
7.	91	7.	98
8.	101	8.	106
9.	94	9.	108
10.	114	10.	120
11.	96	11.	116
12.	117	12.	89
13.	110	13.	104
14.	91	14.	103
15.	96	15.	82
16.	96	16.	87
17.	109	17.	106
TOTAL:	1679	TOTAL:	1627
AVE.:	98.76	AVE.:	95.71

- N.B.: (1) Number 6 was randomly eliminated to make Ns even  
 (2) The mean actually decreased during the treatment period.

Table 12 (p. 195) shows the computation of the variance for the control group initial scores on Word Choice.

Table 21 shows the computation of the variance for scores of the control group on the final Word Choice.

Table 21

COMPUTATION OF VARIANCE OF  
 SCORES ON CONTROL GROUP  
 FINAL WORD CHOICE

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	104	8.29	68.72
2.	85	-10.71	114.70
3.	50	-45.71	2089.40
4.	59	-36.71	1347.62
5.	103	7.29	53.14
6.	98	2.29	5.24
7.	106	10.29	105.88
8.	108	12.29	151.04
9.	120	24.29	590.00
10.	116	20.29	411.68
11.	89	-6.71	45.02
12.	104	8.29	68.72
13.	103	7.29	53.14
14.	82	-13.71	187.96
15.	87	-8.71	75.86
16.	106	10.29	105.88
17.	107	11.29	127.46

Sum of (Score minus Mean)<sup>2</sup> = 5601.46

Variance =  $\frac{5601.46}{16} = 350.09$

$$t = \frac{98.76 - 95.74}{\sqrt{\frac{(17-1)(115.57) + (17-1)(350.09)}{17+17-2} \left(\frac{1}{17} + \frac{1}{17}\right)}}$$

t = .58  
 df = 16  
 P > .50



Null Hypothesis 3 is not rejected. After approximately 5 months of instruction, the control group, taught general biology, showed no significant gain in self concept as assessed by the inferential self report measure, Word Choice.

Null Hypothesis 4: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant gain in self concept as assessed by the inferential self report measure, Word Choice.

Table 22 shows the scores of the experimental group on Word Choice both pre- and post treatment.

Table 22

EXPERIMENTAL PRE- AND POST  
TEST SCORES ON WORD  
CHOICE

C Block (initial)		C Block (final)	
1.	84	1.	78
2.	113	2.	91
3.	80	3.	101
4.	85	4.	119
5.	84	5.	114
6.	59	6.	109
7.	97	7.	98
8.	114	8.	113
9.	98	9.	105
10.	83	10.	95
11.	87	11.	108
12.	111	12.	107
13.	118	13.	114
14.	109	14.	102
15.	111	15.	87
16.	100	16.	107
17.	97	17.	113
TOTAL:	1630	TOTAL:	1761
AVE.:	95.88	AVE.:	103.59

N.B.: The mean of the experimental group increased after treatment rather than decreased as did the control group.

Table 13 (p. 196) shows the computation of the variance for the experimental group pre-treatment scores on Word Choice.

Table 24 shows the computation of variance of the experimental group scores on the final Word Choice.

Table 24

VARIANCE OF SCORES OF EXPERIMENTAL  
GROUP ON FINAL WORD  
CHOICE

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	78	-25.59	654.85
2.	91	-12.59	158.51
3.	101	- 2.59	6.71
4.	119	15.41	237.47
5.	114	10.41	108.37
6.	109	5.41	29.27
7.	98	- 5.59	31.25
8.	113	9.41	88.55
9.	105	1.41	1.99
10.	95	- 8.59	73.79
11.	108	4.41	19.45
12.	107	3.41	11.63
13.	114	10.41	108.37
14.	102	- 1.59	2.53
15.	87	-16.59	275.23
16.	107	- 3.41	11.63
17.	113	- 9.41	88.55

Sum of (Score minus Mean)<sup>2</sup> = 1908.15

Variance =  $\frac{1908.15}{16} = 119.26$

$$t = \frac{103.59 - 95.88}{\sqrt{\frac{(17 - 1)(119.26) + (17 - 1)(251.36)}{17 + 17 - 2} \left(\frac{1}{17} + \frac{1}{17}\right)}}$$

t = 1.65

df = 16

F < .10

Null Hypothesis 4 is not rejected. After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, showed no significant gain in self concept as assessed by the inferential self report measure, Word Choice, but there was a strong trend in the direction of improved self concept.

Summary. Neither the self concepts of the control nor the experimental groups improved significantly during the experimental period as measured by an inferential self report measure, but the self concepts of the experimental group showed a strong trend in the direction of improved self concept.

Null Hypothesis 5: After approximately 5 months of instruction, the control group, taught general biology, will show no significant reduction in negative classroom behavior as measured by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Table 25 shows the scores of the control group on the pre-post observations with the Classroom Interaction Analysis Instrument.

Table 25

SCORES OF THE CONTROL GROUP PRE-  
AND POST ON THE CLASSROOM  
INTERACTION ANALYSIS  
INSTRUMENT

Category	Initial	Final
Pupil/pupil interaction	11	1
Teacher/pupil interaction	4	1
Task Orientation	23	19
Treatment of Materials	<u>5</u>	<u>7</u>
TOTAL	43	28

$$z = \frac{(43/100) - (28/100)}{\sqrt{\left(\frac{43 + 28}{100 + 100}\right) \left(1 - \frac{43 + 28}{100 + 100}\right) \left(\frac{1}{100} + \frac{1}{100}\right)}}$$

$$z = 2.21$$

z exceeds the critical values of  $\pm 2.054$  for  $p = .02$

Null Hypothesis 5 is rejected at the .02 level of confidence.

After approximately 5 months of instruction, the control group, taught general biology, showed a significant reduction in negative classroom behavior as measured by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Null Hypothesis 6: After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, will show no significant reduction in negative classroom behavior as assessed by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Table 26 shows the scores of the experimental group both pre- and post treatment on the Classroom Interaction Analysis Instrument.

Table 26

SCORES OF THE EXPERIMENTAL GROUP  
PRE- AND POST TREATMENT ON THE  
CLASSROOM INTERACTION ANALYSIS  
INSTRUMENT

Category	Initial	Final
Pupil/pupil interaction	10	0
Teacher/pupil interaction	7	2
Task Orientation	22	4
Treatment of Materials	<u>5</u>	<u>2</u>
TOTAL	44	8



$$z = \frac{44/100 - 8/100}{\sqrt{\left(\frac{44 + 8}{100 + 100}\right)\left(1 - \frac{44 + 8}{100 + 100}\right)\left(\frac{1}{100} + \frac{1}{100}\right)}}$$

$$z = 5.80$$

z exceeds the critical values of  $\pm 3.719$  at the .0001 level of confidence

Null Hypothesis 6 is rejected at the .0001 level of confidence.

After approximately 5 months of instruction, the experimental group, taught general biology supplemented with self concept building activities, showed a significant reduction in negative classroom behavior as assessed by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Summary. The self concepts of both the control and experimental groups improved significantly during the experimental period as indicated by significant reduction in negative classroom behavior as measured by a behavioral indicator of self concept.

Summary of gain score results. The Self Appraisal Inventory, a direct self report measure, failed to show any significant gain in self concept during the experimental period for either the control or the experimental group.

Word Choice, the inferential self report measure, failed to show any significant gain in self concept during the experimental period for either the control or the experimental group, but there was a strong trend in favor of improved self concept for the experimental group during the treatment period.

The Classroom Interaction Analysis Instrument, a behavioral indicator of self concept showed a significant gain in self concept during the experimental period for both the control and experimental groups as indicated by

a significant reduction in negative classroom behavior in both groups.

Discussion of gain score results. It should be noted that as the purpose of the assessing instrument became less obvious in terms of the socially acceptable response, the assessing instrument seemed to become more sensitive to changes in self concept.

As has been mentioned previously in this paper, IOX (1972), the developers of both the direct and inferential self report measures, warned researchers that direct self reports are more easily 'fakeable' since it is obvious what the more socially desirable response would be.

If the direct measures had not been 'faked' initially in a positive direction, leaving little room for improvement on the final assessment, but assuming, as IOX (1972) contends, that the more socially desirable response was more obvious in the direct measure than in the inferential measure, the possibility exists that the responses could have been 'faked' in a negative direction by the experimental group on the final assessment, i.e., if the more socially desirable response is more obvious, then so is the less socially desirable response. That this possibility exists for the experimental, but not for the control group is explained by the fact that the experimental group had been exposed, through the self concept building activities to many 'survey-type' activities and may have been 'turned-off' to the final assessment as another one of these activities. This is a real possibility since the students lost their enthusiasm for the activities on about the last two (See Appendix). They became negative, 'phoney', and even a little bit hostile, refusing to do the cognitive/affective congruence questionnaire on the last two activities.

It is possible then, that they chose to express their displeasure at having to fill out another by deliberately choosing the obviously socially undesirable responses on the direct self report measure. Since the negative responses were less obvious on the inferential measure, they were less able to choose them and, thus, indicated a strong trend toward improved self concept.

If neither the control nor the experimental groups had 'faked' either the initial or the final direct self report measures, there still remains a viable explanation for the fact that the experimental group showed no significant improvement in self concept as measured by self report instruments. There is a very real possibility that the increased self awareness brought about by the activities may have increased the students' awareness of their shortcomings thereby reducing their scores. That this could be a possibility is supported by Weisgerber (1971) and Branden (1969), i.e., it could be that the experimental group, as a result of the activities, became more competent at introspection leading to greater self awareness and therefore a more critical self attitude. It is possible for one to be at once more aware of one's shortcomings and more accepting of them and, consequently, more determined toward self improvement. This could mean that while the experimental group felt much better about themselves, they were more aware of the shortcomings they wished to work on and therefore they reported these on the self report measure thus reducing their scores. If honest reporting is to be assumed, this is a real possibility.

The foregoing may serve as possible explanation for the results obtained with the self report measures, but the surprising results from the behavioral indicator needs to be explored. The possibility exists that the

behavioral indicator was a much more valid and sensitive measure of change in self concept than either of the self report measures. It is a matter of whether or not one wishes to place more emphasis on what a person does than on what he says. In this regard, the results obtained in the study done by FERDC (1971) were the same as the results obtained in this study, although the studies were totally different in regards to treatment and assessment of self concept. (See p. 129) They reported greater validity for their Inferred School Self Concept, an observational measure, than they found with self report. They based their conclusion on the fact that the observational measure was more predictive of what the child subsequently did in school than what the child himself reported. In this case, also, it was the observational measure that indicated change in self concept, not the self report measure, especially not the direct self report measure.

If the behavioral indicator was more sensitive to changes in self concept than the self report measures, the problem of significant improvement in both the control and the experimental groups needs to be explored. Since the behavioral indicator assessed behavior on 4 levels (pupil/pupil, teacher/pupil, degree of task orientation, and treatment of materials and equipment), it would be well to explore on what levels this improvement seemed to take place.

Table 27 (p. 215) shows the reduction in negative behaviors which took place in the control group over the experimental period.



Table 27

REDUCTION IN NEGATIVE BEHAVIORS  
IN THE CONTROL GROUP OVER THE  
EXPERIMENTAL PERIOD

Number of Negative Behaviors			Critical Values	z	Level of Confidence
Category	Pre	Post			
Pupil/ Pupil	11	1	+2.576	2.78	Sig. at .005
Teacher/ Pupil	4	1	+1.645	1.20	Not sig. at .05
Task Orient.	23	19	+1.645	.73	Not sig. at .05
Treat. M'tls.	5	7	+1.645	-.63	Not sig. at .05

Table 28 shows the reduction in negative behaviors for the experimental group over the treatment period.

Table 28

REDUCTION IN NEGATIVE BEHAVIORS IN  
THE EXPERIMENTAL GROUP OVER THE  
TREATMENT PERIOD

Number of Negative Behaviors			Critical Values	z	Level of Confidence
Category	Pre	Post			
Pupil/ Pupil	10	0	+3.090	3.13	Sig. at .001
Teacher/ Pupil	7	2	+1.645	1.56	Trend at .06
Task Orient.	22	2	+3.719	4.00	Sig. at .0001
Treat M'tls.	5	2	+1.645	1.07	Not sig. at .05

Summary. In the control group, the only category of behaviors that improved significantly during the experimental period was pupil/pupil interaction. Teacher/pupil interaction did not significantly improve, but negative teacher/pupil interaction was low to begin with in this group. Degree of task orientation showed no significant improvement and treatment of materials and equipment was worse, but not significantly so.

In the experimental group, both pupil/pupil interaction and degree of task orientation showed significant improvement. Further, although teacher/pupil interaction and treatment of materials and equipment did not improve significantly, both showed trends in that direction, a strong trend toward improved teacher/pupil interaction and a slight trend toward improved treatment of materials and equipment.

There is a possible explanation for the improved self concept in the control group as indicated by improved behavior. It is entirely possible that I was treating the control group in subtle ways of which I was not aware. Purkey (1970) listed 19 responsibilities of the teacher in building self concept. (See pp. 176-178)

With the exceptions of numbers 1, 10, and 12, which I considered to be direct attempts on self concept, I considered the remainder of the list to be simply 'good teaching' techniques and treated both groups the same way in these respects. There were 2 instances of objective evidence that these techniques may have been positively effecting self concept in the experimental group.

My O remarked that she noticed that the behavior of both groups had improved drastically since she first observed them. She said that she could hardly believe they were the same groups.

The second bit of evidence came from my department head, who had occasion on May 21, 1974, to observe the control group as part of the teacher evaluation program at North Middlesex Regional High School. The following is the written report she turned in to the administration and gave to me on that observation:

"This was a very well organized laboratory session using paper chromatography. You have done an admirable job with this class which presented a control problem at the beginning of the year. Today they appeared to be cooperative and tolerant of the rights of others. Good work! Learning in both behavior and academics is obvious here."\*

If the self concepts of the control group were raised through the use of 'good teaching procedures', the problem remains of explaining why the improved self concept would be manifested through improved pupil/pupil relationships and not through improved teacher/pupil relationships as well. Perhaps this was because the negative teacher/pupil interactions were so low before the experimental period that there was little room to show significant improvement.

Looking at the data from the experimental group, it can be noted that all behavioral categories improved, but that it was pupil/pupil interaction and degree of task orientation that improved significantly. This means that the greatest difference in improvement between the treated and untreated groups was degree of task orientation. FERDC (1971) found the same thing to be true in their study. (See p. 162) They reported that as a result of their self concept building methods, on-task-behavior improved from 65% to 95%. In this study, the experimental group went from 22 non-task behaviors before treatment to 4 non-task-behaviors after

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\*Italics mine

treatment. The untreated control group, on the other hand, went from 23 non-task-behaviors before the experimental period to 19 non-task-behaviors after the experimental period.

If it was the treatment which the experimental group received that improved that aspect of self concept related to increased task orientation, this still does not explain why the treatment would have this effect.

It is quite possible that although both groups had been taught to treat each other with more respect through the improved self concept brought about by 'good teaching' during the year, the experimental group had, due to the self concept building activities, been shown that they were capable of learning and improving themselves and, therefore, found the attempt more worthwhile--more worth their effort. Perhaps the control group had improved their self concepts only to the extent that they could have pleasant interaction with others, but still did not feel capable of learning and, therefore, did not feel like putting in the effort at what they considered a futile attempt.

Null Hypothesis 7: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the direct self report measure, the Self Appraisal Inventory.

Table 29 (p. 219) shows the scores for the control and experimental groups on the final administration of the Self Appraisal Inventory.



Table 29  
SCORES ON THE FINAL  
SELF APPRASIAL  
INVENTORY

B Block (Control) Scores		C Block (Experimental) Scores	
1.	148	1.	159
2.	151	2.	170
3.	165	3.	166
4.	145	4.	163
5.	165	5.	154
6.	182	6.	140
7.	164	7.	176
8.	141	8.	157
9.	157	9.	165
10.	167	10.	177
11.	162	11.	135
12.	176	12.	164
13.	153	13.	155
14.	166	14.	148
15.	159	15.	173
16.	139	16.	143
17.	154	17.	170
18.	159		
TOTAL: 2694		TOTAL: 2715	
AVE.: 158.47		AVE.: 159.71	

By referring to a table of random numbers, number 18 was eliminated in order to make Ns even.

Table 30 (p. 220) shows the computation of variance for the control group on the final administration of the Self Appraisal Inventory.

Table 30  
 VARIANCE OF THE CONTROL GROUP  
 ON THE FINAL SELF APPARISAL  
 INVENTORY

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	148	-10.47	109.62
2.	151	- 7.47	55.80
3.	165	6.53	42.64
4.	145	-13.47	181.44
5.	165	6.53	42.64
6.	182	23.53	553.66
7.	164	5.53	30.58
8.	141	-17.47	305.20
9.	157	- 1.47	2.16
10.	167	8.53	72.76
11.	162	3.53	12.46
12.	176	17.53	307.30
13.	153	- 5.47	29.92
14.	166	7.53	56.70
15.	159	.53	.28
16.	139	-19.47	379.08
17.	154	- 4.47	19.98

Sum of (Score minus Mean)<sup>2</sup> = 2202.22

Variance =  $\frac{2202.22}{16} = 137.64$

Table 31 (p. 221) shows the computation of variance for the experimental group on the final administration of the Self Appraisal Inventory.

Table 31  
 VARIANCE FOR THE EXPERIMENTAL  
 GROUP ON THE FINAL SELF  
 APPRAISAL INVENTORY

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	159	- .71	.50
2.	170	10.29	105.88
3.	166	6.29	39.56
4.	163	3.29	10.82
5.	154	- 5.71	32.60
6.	140	-19.71	388.48
7.	176	16.29	265.36
8.	157	- 2.71	7.34
9.	165	5.29	27.98
10.	177	-17.29	298.94
11.	135	24.71	610.58
12.	164	4.29	18.40
13.	155	- 4.71	22.18
14.	148	-11.71	137.12
15.	173	13.29	176.62
16.	143	-16.71	279.22
17.	170	10.29	105.88

Sum of (Score minus Mean)<sup>2</sup> = 2527.46

Variance =  $\frac{2527.46}{16} = 157.97$

∴

$$t = \frac{159.71 - 158.47}{\sqrt{\frac{(17-1)(157.97) + (17-1)(137.64)}{17+17-2} \left(\frac{1}{17} + \frac{1}{17}\right)}}$$

t = .297

df = 16

I > .50

Null Hypothesis 7 is not rejected. After approximately 5 months of instruction in general biology, the experimental group, whose curriculum

was supplemented with self concept building activities, showed no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the direct self report measure, the Self Appraisal Inventory.

Null Hypothesis 8: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the inferential self report measure, Word Choice.

Table 32 shows the scores of the control and experimental groups on the final administration of Word Choice.

Table 32  
SCORES ON THE FINAL WORD CHOICE

B Block (Control) Scores		C Block (Experimental) Scores	
1.	104	1.	78
2.	85	2.	91
3.	50	3.	101
4.	59	4.	119
5.	103	5.	114
6.	102	6.	109
7.	98	7.	98
8.	106	8.	113
9.	108	9.	105
10.	<del>120</del>	10.	95
11.	116	11.	108
12.	89	12.	107
13.	104	13.	114
14.	103	14.	102
15.	82	15.	87
16.	87	16.	107
17.	106	17.	113
18.	107		
TOTAL:	1609	TOTAL:	1761
AVE.:	94.65	AVE.:	103.59



By the methods described previously, number 10 was randomly eliminated in order to make Ns even.

Table 33 shows the computation of variance on the final Word Choice for the control group.

Table 33  
VARIANCE OF THE CONTROL GROUP  
ON THE FINAL WORD  
CHOICE

I.D.	Score	Score minus Mean	(Score minus Mean) <sup>2</sup>
1.	104	9.35	87.42
2.	85	- 9.65	93.12
3.	50	-44.65	1993.62
4.	59	-35.65	1270.92
5.	103	8.35	69.72
6.	102	7.35	54.02
7.	98	3.35	11.22
8.	106	11.35	128.82
9.	108	13.35	178.22
10.	116	21.35	455.82
11.	89	- 5.65	31.92
12.	104	9.35	87.42
13.	103	8.35	69.72
14.	82	12.65	160.02
15.	87	7.65	58.52
16.	106	-11.35	128.82
17.	107	-12.35	152.52

Sum of (Score minus Mean)<sup>2</sup> = 5031.84

Variance =  $\frac{5031.84}{16}$  = 314.49

Table 24 (p. 208) shows the computation of variance on the final Word Choice for the experimental group.

$$t = \frac{103.59 - 94.65}{\sqrt{\frac{(17 - 1)(119.26) + (17 - 1)(314.49)}{17 + 17 - 2} \left(\frac{1}{17} + \frac{1}{17}\right)}}$$

$$t = 1.77$$

$$df = 16$$

$$p < .10$$

Null Hypothesis 8 is not rejected. After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, showed no significant gain in self concept over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the inferential measure, Word Choice, but there was a strong trend in the direction of improved self concept in the experimental group.

Null Hypothesis 9: After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, will show no significant reduction in negative classroom behavior over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Table 34 (p. 225) shows the results of the final administration of the Classroom Interaction Analysis Instrument.

Table 34

SCORES FOR EXPERIMENTAL AND CONTROL  
GROUPS ON THE FINAL CLASSROOM  
INTERACTION ANALYSIS  
INSTRUMENT

Group	Category	Number of Negative Behaviors	Total
Control	Pupil/Pupil	1	28
	Teacher/Pupil	1	
	Task Orientation	19	
	Treatment of Materials	7	
Experimental	Pupil/Pupil	0	8
	Teacher/Pupil	2	
	Task Orientation	4	
	Treatment of Materials	2	

Note that although pupil/pupil interaction and teacher/pupil interaction had improved in each group, after treatment the experimental group was much more task oriented and somewhat less destructive than was the control group.

$$z = \frac{(28/100) - (8/100)}{\sqrt{\left(\frac{28 + 8}{100 + 100}\right) \left(1 - \frac{28 + 8}{100 + 100}\right) \left(\frac{1}{100} + \frac{1}{100}\right)}}$$

$z = 3.68$  exceeds the critical values of  $\pm 3.291$  at the .0005 level of confidence

Null Hypothesis 9 is rejected at the .0005 level of confidence.

After approximately 5 months of instruction in general biology, the experimental group, whose curriculum was supplemented with self concept building activities, showed a significant reduction in negative classroom behavior over the control group, whose curriculum was not supplemented with self concept building activities, when assessed with the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Summary of results from post-test experimental versus control group comparisons. It is clear that the pattern of results from post-test group comparisons is similar to the results from gain score data. After being treated with self concept building activities, the experimental group did not have significantly higher self concepts than did the control group as measured by the direct self report measure, the Self Appraisal Inventory. After being treated with self concept building activities, the experimental group did not have significantly higher self concepts than did the control group as measured by the inferential self report measure, Word Choice, but there was a strong trend in the direction of improved self concept in the experimental group after treatment. After being treated with self concept building activities, the experimental group had significantly higher self concepts than did the control group as measured by the behavioral indicator of self concept, the Classroom Interaction Analysis Instrument.

Discussion of results from post-test experimental versus control group comparisons. As was indicated earlier, as the assessment instruments move from more direct to less direct, the instrument seems to become more sensitive to changes in self concept. The reasons which might explain these results have been already discussed. The major finding of the post-test results over the gain score results is this: even though the self concepts of the control group were improved by 'good teaching', the self concepts of the experimental group, when compared to the control group, were significantly higher when measured by the behavioral indicator.

Since it was the behavioral measure that seemed to be most sensitive to self concept changes and, since the behavioral indicator measured



behavior in 4 categories, it might be well to compare experimental and control group post-test scores in order to pin-point the behavioral category or categories that are most affected by an improved self concept.

Table 35 compares the control and experimental groups' initial behaviors as assessed by the Classroom Interaction Analysis Instrument.

Table 35

ANALYSIS OF INITIAL DIFFERENCES IN  
BEHAVIORAL CATEGORIES BETWEEN  
THE CONTROL AND EXPERIMENTAL  
GROUPS

Number of negative behaviors		Critical Values	z	Level of Confidence	
Category	Control	Exp.			
Pupil/pupil	11	10	+1.645	.71	Non-sig. at .05
Teacher/pupil	4	7	+1.645	-.94	Non-sig. at .05
Task Orient.	23	22	+1.645	.111	Non-sig. at .05
Treat. of Mat'ls.	5	5	No significant differences		

Summary. The control and experimental groups did not differ significantly on any aspect of classroom interaction before the treatment period began.

Table 36

ANALYSIS OF THE FINAL DIFFERENCES  
IN BEHAVIORAL CATEGORIES  
BETWEEN THE CONTROL  
AND EXPERIMENTAL  
GROUPS

Number of negative behaviors			Critical Values	z	Level of Significance
Category			Control	Exp.	
Pupil/pupil	1	0	+1.645	1.00	Non-sig. at .05
Teacher/pupil	1	2	+1.645	-.50	Non-sig. at .05
Task Orient.	19	4	+3.719	10.7	Sig. at .0001
Treat. of Mat'ls,	7	2	+1.555	1.56	Non-sig. at .05 but exceeds .06 Strong trend

Summary. At the end of the treatment period the experimental group was significantly superior to the control group in degree of task orientation. There were no significant differences between the 2 groups in pupil/pupil interaction or treatment of materials and equipment, but a trend in the direction of improved treatment of materials and equipment by the experimental group was shown. There were no significant differences between the 2 groups in teacher/pupil interaction. It is clear, then, that the significant differences between the control and experimental groups on the post-test was due primarily to the more task-oriented behavior of the experimental group after treatment.

CHAPTER V  
SUMMARY AND CONCLUSIONS

A. Summary

At the beginning of this study the assumption was that the major behavioral, attitudinal, and academic differences between the 'academically turned-off' and the 'academically turned-on' students were due to differences in self concept. The purpose of this study, then, was to determine if the self concepts of these 'academically turned-off' 10th grade biology students could be improved through the use of activities designed with the claim that they contribute to the improvement of self concept. If self concept could be improved, then the experimental group's behavior should be more congruent with the behavior of 'academically turned-on' students, assuming that the original premise was true.

Although the general procedure, in terms of the self concept building activities used, was not distinctive to science classes, the specific procedure shows adaptation to general biology concepts through the post-activity cognitive processing mechanisms, i.e., concept questionnaires, developed specifically for this study and for the biology concepts under study by these specific classes.

This study differs from other studies attempting to improve self concept in that this study (1) used a series of self concept building activities, (2) adapted these activities to a specific subject matter content vehicle (biology), and (3) used, in addition to paper and pencil tests, a behavioral

indicator developed for and directly related to testing the behaviors cited in the original premise.

The target population consisted of 2 classes of high school sophomores enrolled in general biology using IIS materials. One class served as the experimental and one as the control group. Both classes had been performing equally during the pre-experimental period both academically and behaviorally. The two groups consisted of approximately half boys and half girls and both were of average academic ability, but were showing the behavioral manifestations described as 'academically turned-off'. (See Chapter III, pp. 96-99.)

The procedure consisted of administering to both the experimental and control groups a direct self report measure, an inferential self report measure, and a behavioral indicator of self concept. After the initial administration of these instruments, the control group was taught general biology as it had been taught during the pre-experimental period, and the experimental group was taught general biology as it had been taught during the pre-experimental period except that it was supplemented approximately once a week with self concept building activities.

At the end of the experimental period of approximately 5 months, both groups were again assessed with the same self concept measuring instruments.

### B. Results and Conclusions

The initial administration of the self concept assessing instruments revealed no significant differences between the self concepts of the control



and experimental groups on any of the instruments, i.e., direct self report, inferential self report, or behavioral indicator.

After final assessment, neither the control, nor the experimental group showed any gain in self concept as measured either by the direct self report or by the inferential self report, but the experimental group showed a strong trend in the direction of improved self concept as assessed by the inferential self report measure.

However, final assessment with the behavioral indicator of self concept revealed a significant gain in self concept for both the control and experimental groups as indicated by significant reductions in negative classroom behavior. Nevertheless, in the control group, the only category of behavior that improved significantly was pupil/pupil interaction. On the other hand, in the experimental group, behavior was significantly improved in both pupil/pupil interaction and degree of task orientation with a strong trend toward improved teacher/pupil interaction and a slight trend toward improved treatment of materials and equipment.

Comparing the experimental with the control group it was found that the experimental group did not have significantly higher self concepts than the control group after treatment as measured by either the direct self report or the inferential self report, although the experimental group did show a strong trend in the direction of superior self concept as measured by inferential self report.

Final assessment with the behavioral indicator of self concept revealed significantly higher self concepts for the experimental over the control group as indicated by a significantly greater reduction in negative classroom behavior.

Analysis of behavioral categories revealed that the significant difference between the control and experimental groups after treatment was due primarily to the significantly more task oriented behavior of the experimental group.

It can be concluded then: that, as measured by behavioral manifestations, adding self concept building activities to 'good teaching strategies' improves degree of task orientation significantly and tends toward improving teacher/pupil interaction and treatment of materials and equipment; adding self concept building materials to the curriculum tends toward improving self concept as measured by an inferential self report measure; and adding these activities does not improve self concept as measured by a direct self report measure.

### C. Recommendations and Implications

If one is aspiring to 'motivate' a class toward greater task orientation, it seems that self concept building activities can help to accomplish this.

It is important for educators to note that while these self concept building activities are being carried on, they can also contribute to the fulfillment of subject matter objectives by simply adapting the cognitive processing materials as was done in this study for science, i.e., general biology concepts.

At the beginning of Chapter I the differences between 'academically turned-off' and 'academically turned-on' students were described; the source of the differences was assumed to be a difference in self concept. This study seems to bear this out if we can say that students who are more task-oriented are more 'academically turned-on' than students who are less

task-oriented, since the only significant difference between the experimental class and the control class was that the experimental class was significantly more task-oriented after treatment. The control class, not treated with self concept building activities, was not very much more task-oriented at the end of the experimental period than they were at the beginning of the experimental period.

This finding, coupled with a similar finding by FERDC (1971), that has already been mentioned, seems to imply that the reason that students are not interested in school work is not because of the nature of the work, prevailing social conditions, etc. but it is more likely attributable to a basic feeling that they are not capable of doing it. Crippled by poor self concept, they set about to fulfill this prophecy by not making the attempt. This claim was made more dramatically in Chapter I and II by Coopersmith (1967); Branden and Glasser (1969); Purkey (1970); and Yamamoto (1972).

Not only is not attempting a task a sure way of fulfilling a poor self concept prophecy by insuring failure, but it may serve as a defense against poor self concept. After all, as has been pointed out earlier, if one does not attempt a task, it is easy to excuse feared failure by rationalizing that one failed merely because one didn't try. The self, then, assumes only the responsibility for not trying, not the responsibility for failing. It is safer for the self not to try than to try and fail.

Once the self concept is improved, failure, if it comes, is more realistically handled, not by rationalizing, but by accepting that one has limitations and that this is normal and expected. The student can excuse himself for failure by accepting himself rather than by making up

extrinsic excuses and placing the blame on external causes. He is more accepting of himself because he feels better about himself and realizes that, 'to err is human', not devastating. He will try and try again. He makes the attempt and finds more successes than he expected were possible when his self concept was poor. This spurs him on to greater efforts and more successes than he has had in the past. He now can begin to fulfill a more realistic and happier prophecy. He has a good self concept.

The results of this study lend support to the ideas of the self concept theorists on the strong relationship between academic orientation and a positive self concept.

The lack of significant differences between the control and experimental groups as assessed by the direct self report may indicate that direct self report measures are not sensitive enough to detect changes in self concept and the self concept researcher may find a more fertile field in the inferential self report measures and behavioral indicator instruments.

In this study no attempt was made to isolate those activities which contributed most to the improvement of self concept in general or to self concept as related to the 4 behavioral categories studied, i.e., pupil/pupil interaction, teacher/pupil interaction, degree of task orientation, and treatment of materials and equipment. This kind of study may need to be done if we are to gain understanding of self concept and its relationship to behavioral manifestations. For example, we need to know the effect of self awareness, value clarification, acceptance of emotions, personal identity, etc. on self concept as manifested through behavior in or out of the classroom.



It would be helpful, for example, to separate the self concept building activities into categories and test them as sets to see which category seems to contribute most to the improvement of self concept generally or to the improvement of the behavioral categories separately. For example, will values clarification activities contribute more to improved pupil/pupil interaction or will acceptance of emotions contribute more to this goal?

This type of study would be helpful to those practitioners who have specific behavioral or academic problems which need to be solved. It would permit them to more clearly isolate those problem areas of interest to them and then to select those particular activities which were shown to promote improvement in those areas.

Inferential self concept measures, which seem to be sensitive enough to show trends toward differences, need to be improved in terms of sensitivity. Work in this area would be a boon to further self concept research.

Behavioral indicators of self concept, which seem to be the most sensitive to changes, need to be improved and refined as well as expanded to include more behavioral categories. Behavioral categories, which seem to indicate an implicit statement about self concept, need to be identified and isolated. Specific behavioral manifestations within each identified category need to be determined and tested for validity to the self concept paradigm. This study seems to point to the fact that behavioral assessment promises the most in terms of sensitivity to self concept changes. The study done by FERDC (previously mentioned) also seems to bear this out.

A study of 'good teaching strategies' needs to be done to answer the question concerning why pupils are more positive to each other after their

use, but not more positive in terms of academic motivation, i.e., why these strategies seem to improve pupil/pupil interaction but not degree of task orientation.

These 'good teaching strategies', which were credited with self-concept-improving powers by Turkey (1970), need further study. For example, can they improve self concept in and of themselves in any behavioral category other than pupil/pupil interaction? In other words, are they really related to self concept? If so, which ones and in what way? How frequently are they used in classrooms generally? Is there a relationship between their use and the personality, training, and orientation of the teacher?

In team teaching situations, do all of the teachers in a team use these 'good teaching strategies' and if so, to what extent? Perhaps this study could be repeated having one team of teachers use 'good teaching strategies' and another team supplement these with self concept building activities per se. In an institutional setting even more variables could be controlled.

Once it can be generally accepted that self concept can be improved by the use of certain programs, techniques, activities, etc., a study can be done on the effect that self concept has on academic learning per se. This study seems to indicate the relationship between improved self concept and degree of task orientation, but does not answer the question as to whether a greater degree of task orientation will improve comprehension or retention of material, i.e., result in better learning.

Answers to questions such as these will help to piece together the puzzle of human behavior and its relation to self concept and will enable the educator to better adapt her subject matter to the needs of her students

in a very personal and meaningful way as well as to help her solve some of the very real problems, in terms of classroom behavioral management, academic goals, and the meaning of her students' non-verbal (behavioral) communication--problems she is confronted with daily.

Answers to these questions would also benefit potential self concept researchers and the myriads of people who have to work daily with persons both in and out of the educational system--counselors, administrators, social workers, psychologists, etc.--all who deal with people, their behaviors, and their apparent motivation or lack thereof.

Meanwhile, it would seem to be prudent for the educator to state in very specific terms, the types of behaviors which she feels would lead to the most productive academic environment for her students and to proceed from that vantage point selecting or developing learning activities--both cognitive and affective--which she has found, through research or experience, to be productive of these goals.

Self concept building activities, wedded to general biology concepts, improved significantly, the amount of time the students in this study spent working at tasks related to biology.

If greater task-orientation is one of the goals, it seems that adding self concept building activities to the curriculum can help to accomplish it.

## A P P E N D I X I

### SELF CONCEPT ACTIVITIES: OBJECTIVES, PROCEDURES & VERBATIM

#### SERIES ONE: PERCEIVING UNIQUENESS

##### 1. The Name Game (Objectives)

###### Science Objectives (Cognitive)

- a. To develop careful observation via the sense of hearing.

###### Self Concept Objectives (Affective)

- a. To perceive uniqueness of self.
- b. To perceive one personal success or strength.
- c. To give the student a positive feeling towards self.
- d. To give the experience of positive reinforcement through recognition.
- e. To establish rapport among peers.

###### Source

This activity was learned at workshops led by various workers in the human potential movement. One such workshop was held at Amherst College, Amherst, Massachusetts, and was led by Jack Canfield and Dr. Judy Ohlbaum-Canfield. This activity is also suggested in Canfield, 1973, #6.

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Preceding each and every activity, the students were oriented by a brief explanation of the activity and what was expected of them. They were told that the activities were purely voluntary and that they were to take full responsibility for themselves should they participate.

In order to fulfill the requirement for authenticity, I did every activity with the students and participated fully in the oral discussions,



usually being the first one to disclose responses in an open and honest manner, sharing concerns and feelings with the students.

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### THE NAME GAME (Procedure)

We have learned that the first thing a scientist has to do is to recognize a problem or question that needs to be solved. We saw tea change color when lemon juice or baking soda were added and we asked, "Why?". We also learned something else. If we had not observed carefully, we would never have noticed the color of the tea changing. In other words, we would have never recognized the problem. Thus, we learned that in order to recognize a problem, a scientist must observe carefully, using all his senses.

One of our senses is the sense of hearing. In this exercise, we will see if our sense of hearing is as good as our sense of sight was when we recognized the problem concerning the tea. Ordinarily this game is played in a group that does not know each other and only names are used, but since we all know each other, we are going to have to add something that we do not know about each other.

To get ready for this game, write, on the space below, one thing that you do well. For example, you might write: sewing, car-fixing, snowmobile racing, babysitting, or whatever you do well. \_\_\_\_\_

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The teacher begins this exercise by introducing herself with something she does well and then her name. For example, "I am sewing Ms. Jones." The first student then introduces herself in the same way and then introduces the teacher. For example, "I am babysitting Charleen, and that is sewing Ms. Jones." The next student follows suit. For example, "I am

car-fixing Roy; this is babysitting Charleen and that is sewing Ms. Jones." This continues until everyone in the class has introduced himself.

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### THE NAME GAME (Verbatim)

This exercise went very well. The students caught on quickly and seemed to enjoy the activity. However, they insisted that I be last so that I would have to remember every student and what they did well. At the end of the activity, when I introduced every student without a mistake, they applauded me. Their attitude toward me, up to this time, was very negative indeed.

The girls chose activities which were sex role expectations with 2 exceptions. Most of them chose cooking, baking and sewing, but one girl chose a sport (swimming) and one girl chose yoga.

The boys, for the most part, chose either sports or male sex role expectations. The choices were house-insulating, auto body repairing, hockey playing, motorcycle racing, skiing, and basketball playing. There were 2 exceptions. One boy wrote "Nothings". He said he didn't do anything well. Another boy wrote "Goof around", but this was in good humor and meant in a spirit of fun.

Days later, one of the students remarked that she could still remember almost everyone of the students by this system.

### SERIES ONE: PERCEIVING UNIQUENESS

#### 2. What's in a Name? (Objectives)

##### Science Objectives (Cognitive)

- a. To illustrate the use of symbols in science.
- b. To enrich the study of Linnaeus' binomial nomenclature.
- c. To enrich the lessons on data organization via data tables.
- d. To provide practice in referring to data sources.
- e. To foster creativity through imaginative self expression.

Self Concept Objectives (Affective)

- a. To perceive uniqueness of self.
- b. Self awareness through self definition.
- c. To provide the experience of positive reinforcement through recognition.
- d. To establish a sense of personal identity through self definition.

Source

This activity is adapted from two sources. The first part is suggested in Canfield, 1973, #43 and the second part is suggested in Lewis, 1972, p. 180.

WHAT'S IN A NAME? (Procedure)

We have learned that living things can be classified into related groups according to their characteristics and that a man named Linnaeus showed us how to name them. We have learned that scientists organize data into tables and graphs and that these are easier to interpret than the thousands of words they might represent. In your study of science you have seen how scientists also use symbols to replace words--weather symbols for example.

Look at the title of this exercise. We all have names and, like the names Linnaeus used, these names have meanings. Our names are also like symbols, data tables, and graphs, because they stand for words--meanings.

Today we shall see if we can find the words--the meanings, that our names represent and we shall practice giving meanings to new names--something like Linnaeus did.

Write your name here. \_\_\_\_\_

Who gave you that name? \_\_\_\_\_

Why do you think you were named this? \_\_\_\_\_

Names have been passed down through history from one generation to another. These names have meanings. For example, Philip means 'lover of horses',

Peter means 'rock' or 'stone', Edward means 'prosperous guardian', Margaret means 'a pearl', Judith means 'admired' or 'praised', and Ann is derived from Hannah and means 'from a white meadow'. Last names have meanings also, A Cooper is a man who makes barrels, a Smith is a blacksmith, a Miller is a man who grinds grain, and a Potter is a man who makes clay pottery. You can see then, that a man named Philip Cooper has a name that means a man who makes barrels and loves horses; Judith Smith's name would indicate that she is a blacksmith's daughter that is admired or praised.

What would these names mean?

Edward Miller \_\_\_\_\_  
 \_\_\_\_\_

Ann Potter \_\_\_\_\_  
 \_\_\_\_\_

Obtain a name sheet from your teacher and look up the meaning of your name.

What does it mean? \_\_\_\_\_  
 \_\_\_\_\_

Now, think up a reason why you might have been named this. For example, a girl named Carol, whose name means 'song of joy', might say she was named this because her parents were so happy when she was born that they sang for joy, or a boy named Walter, whose name means 'mighty warrior', might say he was named this because he was so big and strong when he was born. OR, make up a reason why your name fits you. For example, a girl named Dawn, which means 'the break of day', might say her name fits her because she likes to get up early and get an early start, or a boy named Thomas, which means 'the twin', might say his name fits him because he always



likes to have a best friend to hang around with.

Make up a reason why you have your name or why it fits you.

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Write your first name backwards. \_\_\_\_\_

Pretend it is a word in the Martian language and define it. \_\_\_\_\_

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How does this name fit you? \_\_\_\_\_

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Oral discussion and processing followed this exercise in each of its parts.

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#### WHAT'S IN A NAME (Verbatim)

This activity went extremely well. The students showed a lot of interest and enthusiasm.

In response to the questions: "Make up a reason why your name fits you or why you have your name.", there were 4 responses which seemed to show that this question was capable of eliciting awareness of personal attributes. These were:

1. because I'm always watching over people and guiding and guarding them\*
2. fits me because I all way's leap at chances, and to fight
3. I am a stumburn Person
4. Help of manKind ("I am a helper of mankind.", was the intent of the response.)

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\*Since verbatim means precisely that, I shall report in the students' words, spelling, grammar, and sentence construction.

Awareness of Personal attributes on more superficial levels was evidenced by such responses as, "Because I like to climb trees", "because I like flowers", etc.

Responses which demonstrated no awareness of personal attributes were also elicited. For example, "Just because it fits me." In these responses, the meaning of the name was not attributed to the self. In some cases, as in the previous one, it was attributed to nothing. In other cases it was attributed to something other than the self such as a match with the last name, the family, or a time of day.

One such response was interesting, "My family were slaves." This was a white boy whose name meant 'king'.

Only 2 responses, both from boys, were self positive, but they seemed to be only reiterations of name meanings--"I was born king", for example.

One response, from a boy, was self-negative and seemed to reflect a low self concept especially in light of the fact that in the previous exercise, this same boy said that he was good at nothing. His name meant 'beloved one' and his response was, "I have it because it's the opposite of what I am."

However, in response to the question, "Write your first name backwards. Pretend it is a word in the Martian language and define it. How does this name fit you?", this same boy responded, "intelligent - ITS what I am".

Other responses to this question were rather superficial. For example, "It sounds like some kind of place mad - Because I like to eat." There were 5 responses, however, which seemed to reflect a deeper personal awareness.

These were:

1. It might be sounded the word soar - cause I am always soar at someone.
2. more - because I'm worth more. (This boy had previously said that his family were slaves.)

3. together - because I like to be with people
4. nerve racking person - I get on peoples nerves
5. arsnik - cuz I want's to poison people I hate

With only 1 exception, personal attributes--albeit superficial ones--were recognized for either one or both questions. In 9 cases, personal attributes were recognized in response to both questions. In 6 cases personal attributes were recognized in response to the last item, but not for the first. In no case was a personal attribute recognized in response to the first item and not for the last.

Of the personal attributes recognized in response to both items, 3 seemed to be conflicting, i.e., self positive statements in 1 case and self negative statements in the other. Note:

Positive	Negative
I am a helper of mankind.	I like to poison people I hate.
I watch over, guide, and guard people.	I infect them with my mentalness.
I am intelligent.	I am the opposite of beloved.

In one case, both statements were negative: "I am a stubborn person." and "I am always soar at someone."

In no case were both responses positive, and in most cases they were neither positive nor negative, but rather neutral observations such as, "I like flowers." or "I am a quiet person."

The enthusiasm for this exercise exceeded my expectations. When I requested that the sheets with the name meanings on them be returned so that I could use them again, the students objected, saying they wanted to keep them. This was not a typical response from these students. They are usually not interested in anything passed out in relation to a lesson, except in cases where it is an object useful to them outside of the classroom. For example, they might try to pilfer a small flashlight. This was a

pleasant surprise, and I complied with their request. Incidentally, not one was subsequently found in the waste basket or on the floor. They must have really kept them. Most other materials of this type are found all over the halls or wherever else they can be abandoned or 'lost'.

### SERIES ONE: PERCEIVING UNIQUENESS

#### 3. Fingerprints and Silhouettes (Objectives)

##### Science Objectives (Cognitive)

- a. To develop an awareness of the uniqueness of the human fingerprint.
- b. To develop an appreciation of the ways in which this knowledge is used in identification and criminal investigation.

##### Self Concept Objectives (Affective)

- a. To perceive uniqueness of self.
- b. To develop a sense of identity.
- c. To develop a sense of connectedness with other human beings. (Weinstein, 1970)
- d. To provide the experience of positive reinforcement through recognition.

##### Source

This activity is a combination of two activities. Both are suggested in Canfield, 1973, #s 24 & 67.

#### FINGERPRINTS & SILHOUETTES (Procedure)

If you look at the title of this exercise, you will probably know what you have that nobody else in the world has. That's right. Your fingerprint! No one else in the world has a fingerprint exactly like yours. Every human being in the world has a fingerprint that is not like any other. That is a scientific discovery that has been put to many uses. All of you probably already know how fingerprints are used in criminal investigation, but there are other uses for this scientific discovery also. In hospitals, as soon



as a baby is born, the baby's footprint is placed on a piece of paper beside the mother's thumbprint. When there is no other identification on a body, the fingerprints may be used. Today, we are going to make a set of our fingerprints and use them to identify the silhouettes that we will make.

You will work with your lab groups for this exercise. You will need: a large piece of black construction paper, chalk, a flashlight, scissors, an ink pad, and a piece of white paper.

Stand the black construction paper against the wall and have your partner sit in front of it so that when you shine the flashlight on the paper, you will get a profile shadow of your partner's head. Trace this with the chalk. Cut this out and then, after practicing for a while on scrap paper, make a clear set of fingerprints on a piece of white paper. Staple this to the silhouette. Save the clearest practice fingerprint paper. Now, put a code symbol on the clearest practice fingerprint papers and exchange them with another team. Using a magnifying glass, see if you can match the fingerprint to fingerprint-and-silhouette to "detect" whose fingerprints are on the practice papers.

At the end of the period, pass in all silhouette-fingerprint papers\* and tidy up the lab stations.

#### FINGERPRINTS AND SILHOUETTES (Verbatim)

This exercise did not go as well as was expected. Several things went wrong previous to the class meeting which almost guaranteed total failure. The day was hectic: a student teacher needed counseling and encouragement; an exchange student from a Brazilian University had to be

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\*These were displayed on the bulletin board.

entertained, and it was a strain communicating across the language barrier; lunch was missed; and this was followed by a rather hectic lab. By the time the experimental group came in, I recognized that the day was not the right one for the exercise. It was decided to substitute the exercise for a filmstrip and try another day, but the fates were not to allow this. Students crowded around the desk with various problems such as: grading a report card which was missed due to an absence, writing a pass to the nurse or to the bathroom, counseling another student on course selections for the following year--all immediate problems to the students who were clamoring for instant gratification and release and not realizing what the internal world of their teacher was like. By the time the bell rang and class was to begin, I was in no shape to improve anyone's self concept, since my own was a bit shattered, and I felt a bit overwhelmed. However, there was no other choice. Due to the hectic nature of the day, the directions for the exercise had not been run off, so they were given orally.

During the oral discussion, the scientific points of the exercise were well covered, and the students seem interested and enthused. The directions were explained, and the students started on the exercise. They did not do a very good job on the silhouettes for two reasons: (1) the small flashlights were not providing a dark enough shadow (they did during the tryout) and (2) the students were being too hasty and a bit careless, but they were thoroughly enjoying themselves.

The fingerprints were too smudged because of the hasty efforts of the students.

All was not lost, however, Never were the students so thoroughly task-oriented! Only a few instances of non-task, disruptive, negative behavior

was observed, and this consisted of smudging each other's faces with ink from the stamp pads.

At the end of the period, the lab was covered with scraps of paper and one student tried to make off with a flashlight, but there was a silhouette and set of fingerprints for each and every student on the bulletin board! However, none of them bore the slightest resemblance to the owner. I did not consider this to be serious, however, since uniqueness can be realized by self portraits which never bear the slightest resemblance to the student artist.

There was no time to do the detection part of the exercise, but this was not the point of the exercise anyway. The students requested that they be able to do that on another day and were assured that they could.

As far as the students were concerned, it was a most successful and enjoyable class.

As far as the objectives were concerned, they were certainly fulfilled. Some students went on to decorate their silhouettes with eyes, lips, and hair, and I am sure that to them, these looked like them and were like them, right down to the fingerprints --and -- everyday thereafter they saw their silhouette and fingerprints in plain view on the bulletin board in front of the room.

#### SERIES ONE: PERCEIVING UNIQUENESS

#### 4. Personal Coat of Arms (Objectives)

##### Science Objectives (Cognitive)

- a. To illustrate the use of symbols in science.
- b. To enrich the lessons on data organization via graphing.

- c. To enrich the lessons on data organization via data tables.
- d. To foster creativity through imaginative self expression.

### Self Concept Objectives (Affective)

- a. To perceive uniqueness of self.
- b. Self awareness through self expression.
- c. To perceive personal success and happiness.
- d. To perceive a personal goal.
- e. To provide the experience of positive reinforcement through recognition.

### Source

This activity was suggested in Canfield, 1973, #17.

### PERSONAL COAT OF ARMS (Procedure)

We have learned about many ways in which scientists organize data. We practiced making data tables and reading them, and we learned that they replace thousands of words. We learned another way of data organization, too. We practiced putting data on graphs, and we saw that it was much easier to interpret these data than to plow through the thousands of words that would need to be written to express the information on a single histogram, line, or bar graph. We learned that we could say volumes about a population by a simple bell shaped graph. In your study of science, you have also come across other ways of organizing data and replacing words. This is through the use of symbols. You are probably familiar with weather symbols, for example.

In this exercise we shall practice using symbols in the form of pictures, which will represent enough words to fill several stories!

First, think about and jot down a few words about the following:

1. The most important event in your life \_\_\_\_\_
-



2. Your greatest success or achievement \_\_\_\_\_

3. Your happiest moment \_\_\_\_\_

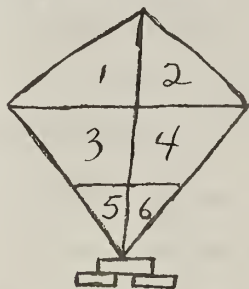
4. What you would do if you only had a year to live and could do anything you wanted to do \_\_\_\_\_

5. Something you are good at \_\_\_\_\_

6. Something you are striving to become \_\_\_\_\_

For this activity, you will need: a piece of construction paper, scissors, magic markers or old magazines, and paste.

Start by drawing a shield like this one on your construction paper.



Do not put in the numbers as I have done. In each of the numbered spaces, draw a picture, or find one in a magazine, to represent each of the six areas above.

Then cut out the shield.

Now arrange 3 pieces of paper under the shield as pictured above, and on these, write 3 words that might be said of you if you died today.

When you have finished, you will have a personal coat of arms. Tidy up the room and pass your coat of arms\* in to the teacher.

\*These were displayed on the bulletin board.

PERSONAL COAT OF ARMS (Verbatim)

This activity was started by a discussion of the scientific use of symbols to replace words. I gave the directions and showed the class the personal coat of arms I had made and told the stories that each picture symbolized.

The students grasped the idea quickly and were enthusiastic about the activity. The activity ran the whole period, but the students had not finished. They asked if they could continue the activity the following day. Their request was granted.

Responses to the item relating to the most important event in their lives included ongoing present events, past events, and one anticipated future event.

Responses relating to a success or achievement included one that was interesting in that it was questionable as to why the student considered it a success--"cutting my thumb half off".

One response to the item relating to the happiest moment was indicative of inconsistency. This boy said that his happiest moment was "leaving the auto body business", but had listed becoming an auto body man as something he was striving toward.

By this, the fourth activity, the students were no longer shy about stating something they were good at. Most of them listed vocational/hobby responses, but there were personal attribute responses as well. Two of these were a little more introspective than others: "getting my own way" and "making people happy".

Responses to something you are striving to become were oriented toward both vocations and personal growth. One girl responded with, "a

sailor". This was interesting since this girl had been consistent throughout all of the previous activities, in choosing responses which were either not sex role oriented--such as being good at swimming--or male sex role oriented, such as this response. Personal aspiration responses to this item included becoming, "a leader" and "important to someone".

Interesting picture symbols chosen were the following:

To represent:

The pictures:

being born	2 pictures - 1 of an operating room scene and 1 of ducklings hatching
getting my own way	a little native boy in a grass skirt sucking his thumb with a sad expression on his face
learning in school	an ape in a cage
becoming a leader	a Nazi officer
good at cooking	Polynesians roasting a whole pig
being what you are	an ape sitting in a forest and seemingly gesturing for someone to come

The 3 words that might be said of you if you died today item elicited responses indicating:

Perceived success

I did it.  
She really lived.  
What a man!

Detached observation

She loved him.  
It was done.

A message for those still living

Love thy neighbor.

An unfulfilled goal

Someday he'll learn.

Another interesting one was, "Doin' her thing."

Time ran out before discussion could be held so it was decided to extend this into another subactivity on the importance of scientific communication in which the students' voices were taped while they discussed their coats of arms.

The students' coats of arms were displayed on the bulletin board.

#### SERIES ONE: PERCEIVING UNIQUENESS

##### 4. a. Hear Me/See Me!!\* (Objectives)

###### Science Objectives: (Cognitive)

- a. To appreciate the importance of communication in science.
- b. To foster creativity through imaginative self expression.
- c. To enrich the lessons on the efficiency of symbols in replacing words.
- d. To practice the scientific activity of keen observation through the sense of hearing.

###### Self Concept Objectives: (Affective)

- a. To perceive uniqueness of self.
- b. Self awareness through self expression.
- c. To reinforce positive behavior.
- d. To provide the experience of positive reinforcement through recognition.

###### Source

These techniques are not new. Therefore, I can credit no one for this idea, but, paradoxically, must credit almost everyone.

##### HEAR ME/SEE ME!! (Procedure)

What do you suppose would happen if, everytime a scientist made a discovery, he kept it to himself and told no one? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\*This was an additional exercise because of apparent student interest.



In order for scientific progress to be made, knowledge must somehow be communicated. What are some of the ways through which knowledge may be communicated?

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The most common method of communication used by scientists is to write their findings in a scientific journal so that many other scientists can read it and build on their information. Today we shall practice our communication skills by seeing how clearly we can communicate to our fellow science students by speaking.

Today we shall also see that the symbols we used, just like the symbols used in science, have replaced many words!

Another scientific activity we shall practice today is keen observation through the sense of hearing. If anyone says anything that makes you wonder, ask him about it. Practice in the skill of asking the right questions at the right time is another activity of science.

You will each have the opportunity of seeing how your voice sounds as you try to communicate with your fellow science students.

Take your Coat of Arms and tell what each of the pictures is and what it represents to you. If there is a picture you do not wish to explain, just say that you do not wish to explain it, but remember: the more you talk, the more your voice will be recorded and the more practice you will have in the essential scientific skills of communication, listening, and questioning.

HEAR ME/SEE ME! (Verbatim)

This activity did not go as well as it was hoped. The students were much more reluctant to share on an oral basis than they had been on a

written basis. They apparently did not mind my getting to know them, but did not yet trust the rest of the class. This was not without good cause; the students had not yet lost their negative behavior toward each other. Although it had seemed to decrease toward me and although they put their names on the papers so that they did not seem to fear rejection of their ideas, thoughts, or feelings from me, they still distrusted their classmates. They were quite correct in their assessment of this situation since a few of them who did share were laughed at by the rest of the class. This reflects an unawareness of others' feelings, because as each student performed, he was quite serious about his own expression but seemed either not to listen, or to care, about his classmates' expressions. When they did listen, they tended to reject each others' expressions by making fun of them.

They behaved the same way when it came to listening to the tape. They were all eager to hear their own voices but were indifferent to the voices of others; some even wanted to put their heads down and sleep. No one questioned anyone else about their expressions.

Because of their reluctance to speak, it was necessary for me to question them in the style of an interview which resulted in more of my voice being recorded than was desirable.

I decided that this activity of oral sharing was included a little too soon. The students were not ready to expose themselves, and the class was not ready, yet, to receive. More activities were needed to prepare the way.

SERIES ONE: PERCEIVING UNIQUENESS5. Who Are You? (Objectives)Science Objectives (Cognitive)

- a. To enrich the lessons on precise measurement in science.
- b. To enrich the lessons on variation in living things.
- c. To enrich the lessons on adaptation to environmental demands.
- d. To enrich the lessons on the importance of the use of scientific tools to extend the senses.
- e. To enrich the lessons on the similarities of living things.
- f. To enrich the lessons on classification of living things on the basis of their characteristics.
- g. To enrich the lessons on the evolution of living things over time.
- h. To enrich the lessons on the evidence that fossils give on the changes that have taken place in living things over time.
- i. To enrich the lessons on the value of variation for the survival of living things.
- j. To enrich the lessons on the inheritance of traits.
- k. To enrich the lessons on the dominance and recessive character of different traits.
- l. To enrich the lessons on the patterns that can be noted in inheritance.
- m. To enrich the lessons on predictability due to probability in inheritance.
- n. To enrich the lessons on the effects of heredity and environment on characteristics.

Self Concept Objectives (Affective)

- a. Perception of uniqueness.
- b. Self awareness through self disclosure.
- c. Awareness of duplicity.
- d. Awareness of preference.
- e. Perception of connectedness.
- f. Perception of identity.
- g. Perception of personal adaptation methods.
- h. Perception of the accessibility of self knowledge.
- i. Perception of the changing nature of the internal as well as the external self.
- j. Perception of the value of being different.
- k. Perception of the availability of alternatives.
- l. Perception of control.

Source

This activity was learned in a workshop at the University of Massachusetts led by Jack Canfield.

WHO ARE YOU? (Procedure)

The students were asked to number their papers from 1 to 10, then to skip a line and number their papers from 1 to 10 again.

For the first ten questions, they were asked to respond 10 different ways to the question, "Who are you?". To help them, sample responses were read.

For the second 10 questions, they were asked to respond 10 different ways to the question, "Who do you pretend to be?". Sample responses were read to help them.

After this, they were asked to process their data by responding to the following questions:

1. You have learned that it is important for scientists to be precise in their measurements. How precise (honest) were you? \_\_\_\_\_
2. You have learned that there is a great variety of living things and that individuals vary, even within the species. We called this variation. How many different people are you? \_\_\_\_\_
3. You have learned that living things, in order to survive, have to adapt to their environments, and that even though a feature may be inherited, the environment may keep it from developing. How many of the people you are do you have to be because of your particular situation?  
\_\_\_\_\_
4. How many of these people might be better developed if your environment permitted it? \_\_\_\_\_
5. You have learned that, although living things differ, they still have many similarities. How many of the people in you were the same as people in other members of the class? \_\_\_\_\_



6. You have learned that living things can be classified according to their characteristics. On the basis of the people you are and pretend to be, what are some of the ways in which you might be classified? \_\_\_\_\_

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7. You have learned that living things have changed through time. We called this evolution. From what you have learned about yourself in this exercise, in what ways do you think you might be changing? \_\_\_\_\_

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8. You have learned that fossils provide evidence that living things have been changing. What is the evidence that you might be changing? \_\_\_\_\_

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10. You have learned that characteristics can be passed from one generation to another. We called this heredity. Which of the people you are, do you notice that one or both of your parents are also? \_\_\_\_\_

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11. You have learned that some traits are dominant and others are recessive. Which of the people you are do you think are dominant and which recessive? \_\_\_\_\_

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12. You have learned that patterns of heredity can be noticed over generations. Of the people you are and pretend to be, what pattern do you see emerging? \_\_\_\_\_

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13. You have learned that by watching the patterns of heredity, we can predict what future generations will be like. On the basis of the pattern you see in yourself, what people do you predict you will become? \_\_\_\_\_

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14. How could the environment change so that you could become the people that you would like to be? \_\_\_\_\_

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15. What could you do to change the environment in the direction in which you would like it to change? \_\_\_\_\_

16. You have learned that scientists use tools like the microscope to extend their senses. What tool have you learned today which will enable you to extend your knowledge of yourself? \_\_\_\_\_

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Oral discussion and sharing followed.

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### WHO ARE YOU? (Verbatim)

Self image responses to the question, "Who are you?", fell into the following categories:

1. Identification with a name or nickname.
2. Identification with a sex.
3. Awareness of life.  
"I am living."  
"I am alive."
4. Awareness of present feeling state.  
"bored, happy, starving," etc.
5. More or less objective feedback evidence.  
"intelligent, red-head, short-tempered, stupid", etc.
6. Identification with national origin.
7. Awareness of self.  
"I am me."  
"I am myself."
8. Identification with personhood or species.  
"I am a person."  
"I am a human being."
9. More or less subjective self impressions.  
"orazy, wise kid, alert, mean, alright, cute, a brain, a learner", etc.
10. Identification with an occupation.
11. Identification with a sport.  
"pool shooter, javelin thrower", etc.
12. Identification with U.S. citizenship.
13. Identification with race.  
(All students were Caucasian.)
14. Interesting, miscellaneous responses.  
"I am: finished, yours, and Dick Nixon."

Patterns Noted:

Mark H., in every activity to this point, has responded with positive self images. His responses here were typical of his responses on other exercises, i.e., I am: "cute, great, nice, smart, loveable," etc.

Pamela O., in every activity to this point, had indicated that she felt that she was stupid. In this exercise, 2 of her responses were: "I am dum." and "I am stupid."

Nancy D., in every activity to this point, had indicated that she had a low self concept and a desire to be something she had not yet attained. Here, she responded, I am: "tired, lazy, slow, and sad."

David D., the boy who had previously said that he was good at nothing and was the opposite of beloved, in this exercise reported that he was a brain and a genius, but that he was tired and a crank.

Self image responses to the question, "Who do you pretend to be?" fell into the following categories:

1. Pretended I.Q. level in both positive and negative directions.
2. Pretense at being a 'good worker'.
3. Pretense at being good at a sport.
4. Pretenses related to occupations.
5. Pretenses of negative characteristics for the purpose of peer status.  
I pretend to be: "a dink, a snake, a rip off, a pure dog, a crook, a bullshitter, dishonest, to skip school", etc.
6. Pretenses of positive characteristics for the purpose of peer status.  
I pretend to be: "big or act big, a loner, cool or cool and calm, in the group or with the group, boss, someone's friend, older, a star, perfect, and on the go or active", etc.
7. Pretenses at being oneself.
8. Pretenses at being someone else.
9. Pretenses related to sex role.  
"a man, a woman, a little girl", etc.
10. Pretenses at feeling.  
"concerned, mad, not hungry, not to care, to be not sick", etc.
11. Pretended general characteristics.  
"loner, lazy, nothing, weak, patient, careful, quiet, ugly, normal", etc.

12. Pretense at social characteristics desirable in boy/girl relationships.  
"a gentleman, pretty, popular, beautiful, sexy, loveable", etc.
13. Pretenses of friendship.  
Oscar H. pretended to be Mark H.'s friend and so did Dennis A. On the other hand, Mark H. pretended to be a friend to both Oscar and Dennis.

Patterns Noted:

Nancy D., who said she was "tired, hungry, lazy, slow, and sad", pretended to be "cute, smart, popular, with the group, happy, sweet, nice, someone great, and someone else".

William W. pretended to be "strong, smart, a loner, a dink, and big".

David D. who said he was "a brain, a genius, a junior, and 17", pretended to be "stupid, dumb, a sophomore, 14, dishonest, and a slow thinker".

In response to the question, "On the basis of the people you are and pretend to be, what are some of the ways in which you might be classified?", response categories were:

1. Self classification on the basis of some objective characteristics: age, height, place, shape, etc.
2. Self classification on the basis of sex.
3. Self classification on the basis of feelings: "happy, hungry", etc.
4. Self classification on the basis of personality type: "true, complaining, honest, cheerful", etc.
5. Self classification on the basis of occupation.
6. Self classification on the basis of ancestry.
7. Self classification on the basis of intelligence.

In response to the question, "From what you have learned about yourself in this exercise, in what ways do you think you might be changing?", response categories were:

1. Changes in a positive direction.
2. Changes in a negative direction.
3. Changes related to physical characteristics: size, shape, etc.
4. Changes maturational in nature: "boy to man, getting older", etc.
5. Changes in interpersonal relationships: (most in a positive direction)



In response to the question, "What is the evidence that you might be changing?", response categories were:

1. More or less subjective evidence.  
"I understand more."  
"I'm not as immature."
2. More or less objective evidence.  
"better grades", etc.

In response to the questions, "In what ways do you think your differences might enable you to be a happier person?", there was one quite introspective response: "I'm sad. It gets me alot of attention and alot of smiles."

In response to the question, "Which of the people you are do you notice that one or both of your parents are also?", response categories were:

1. References made to parental sex.
2. References made to parental name.
3. References made to parental personality type: "nice, an OK guy", etc.
4. References made to parental feelings: "happy, hungry", etc.
5. References made to parental personality characteristics: "smart, alert", etc.
6. References made to parental national origin.

In response to the question, "Of the people you are and pretend to be, what pattern do you see emerging?", response categories were:

1. Positive pattern perception: (Most responses were positive.)  
"hopeful, getting better", etc.
2. Negative pattern perception: "weaker, I see myself getting worse", etc.

In response to the question, "On the basis of the pattern you see in yourself, what people do you predict you will become?", most of the students responded with positive self image projections: "free, thin, not hungry, boss, smart, a gentleman, loveable", etc.

In response to the question, "How could the environment change so that you could become the people that you would like to be?", response categories were:

1. Responses indicating an assumption of control over the environment: "by working at it, by applying myself", etc.
2. Responses indicating environmental change over which Ss had no control: "money, a person", etc.

Two very negative responses to this item were noted: "turn into a jungle" (meaning turn it, the environment, into a jungle) and "kill off everyone".

In response to the question, "What could you do to change the environment in the direction in which you would like it to change?", response categories were:

1. Responses indicating assumption of responsibility: "try and keep practicing, work hard at it, save money, keep on trying", etc.
2. Responses indicating an unwillingness to assume responsibility: "keep on waiting, be patient", etc.

One very negative response to this item was: "Kill off everyone."

In response to the question, "What tool have you learned today which will enable you to extend your knowledge of yourself?", only 2 showed the insight hoped for and responded: "letting it out" and "feelings".

#### Patterns Noted:

David D.'s responses seemed to be more optimistic in this exercise. He said he was getting smarter and getting better grades, as well as doing things he liked to do.

Dennis A. seemed to be showing a negativism which was atypical of his previous responses and his classroom behavior. He said he was getting lazy and wanted to change the environment into a jungle by planting trees.

Kenneth S. seemed to show an interest in changing his relationships with the opposite sex. In class he was always bragging about how bad he

treated the girls and used them sexually. In this exercise he said that he had noticed that he was not treating the girls bad and predicted that he would become a gentleman.

Karen W. seemed to be having a problem not noted previously. She said she was going from happier to sad and getting to be a "wise crack". She saw herself getting worse and predicted she would become sad and sick. She said things would be better if some certain person would become nicer to her.

Ross W. left more blank items than anyone else and seem disinterested in everything except sitting at my desk and talking with me 'one-on-one'.

Jim W. twice answered that the environmental change he desired was to kill everyone off.

Generally speaking, this activity went well. This was the last activity in the series designed to help the students perceive uniqueness of self and it was the first activity requiring any degree of insight. Taking this into consideration, I feel the students got a lot out of this exercise.

#### SERIES TWO: PERCEIVING STRENGTHS

##### 6. Success Fantasy (Objectives)

###### Science Objectives (Cognitive)

- a. To continue practice in accurate observation.
- b. To enrich the concept of variation.
- c. To extend the appreciation of the use of tools in gathering data.
- d. To enrich the concept of similarity of living things.
- e. To enrich the concept of classification according to characteristics.
- f. To enrich the concept of basing judgments on data.
- g. To enrich the concept of natural selection.
- h. To enrich the concept of the inheritance of traits.
- i. To enrich the concept of evolution.
- j. To enrich the concept of the responsiveness of living things.

Self Concept Objectives (Affective)

- a. Perception of uniqueness.
- b. Self awareness through self disclosure.
- c. Perception of success.
- d. Perception of connectedness.
- e. Perception of control.
- f. Acceptance of feelings.

Source:

Idea original, but also suggested by Canfield, 1973, #10.

SUCCESS FANTASY (Procedure)

The students discussed the following question: "What is a fantasy?"

The students were taken on the following guided success fantasy:

Close your eyes. (Pause) Try to relax. (Pause) Let every muscle in your body relax. (Pause) Do not change your rate of breathing, but pay attention to it. (Pause) Go back in your memory to a really happy day. (Pause) This is the very beginning of the day and you are just waking up in your bedroom. (Pause) Look at the bed you just got out of. (Pause) Look at the rest of the room. (Pause) Look at the place in your room where you keep your special things. (Pause) Go over and look out the window. (Pause) Now you are leaving your bedroom. (Pause) This is a day when you were very happy and successful. (Pause) Was there school that day? (Pause) Was there anyone with you that day? (Pause) Where did this happy and successful event take place? (Pause) Who was with you? (Pause) Was it something you planned or did it just happen? (Pause) How do you feel? (Pause) Really get into that memory and those feelings. (Long pause)\* Did you tell anyone about this success? (Pause) If so, who was it? (Pause) Look at their faces as you tell them. (Pause)

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\*All pauses were 30 seconds; long pause, 1 minute.



How are they reacting? (Pause) Now, keeping your eyes closed, come back to the present. (Pause) How are you feeling? (Pause) When you feel that you are ready, open your eyes.

Answer the following questions:

1. How accurate were you in observing yourself? \_\_\_\_\_
2. How was your success different from the successes of other members of the class? \_\_\_\_\_
3. What tool did we use to gather this data about ourselves? \_\_\_\_\_
4. How was your success similar to the successes of other members of the class? \_\_\_\_\_
5. How would you classify this success: School work? Sports? Work? With other people? How else? \_\_\_\_\_
6. What evidence do you have to support this classification? \_\_\_\_\_
7. How do your personal characteristics make you better adapted for this kind of success than others? \_\_\_\_\_
8. What other members of your family would have this kind of a success? \_\_\_\_\_
9. In what ways might you have to change to have more successes of the kind you want to have? \_\_\_\_\_
10. You have learned that in order to survive, living things have to respond. In what ways did you respond to the memory of your success experience? \_\_\_\_\_

In order to answer questions 2 and 4 it was necessary for students to share success experiences. In this way, they got to know each other

better, gained recognition, and developed some group trust and warmth. Other responses were shared orally on a voluntary basis.

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#### SUCCESS FANTASY (Verbatim)

This exercise went very well, which was surprising in light of the fact that groups such as these are usually very reluctant to participate in anything like this. There was very little initial resistance; the students seemed to get into the fantasy very quickly. There were only 1 or 2 who seemed to have a difficult time and only 1 or 2 more who failed to participate, but they were quiet and cooperative while the others participated. At the end of the exercise, most of the students were very reluctant to come back from the fantasy--more reluctant than any other group with whom I have run this exercise. One or 2 of them pretended that they were asleep, but, when it came to processing, they demonstrated that they had indeed been in fantasy.

Selected pertinent responses to the processing questions were as follows:

Item 5: How would you classify this success: school work, sports, work, with other people, how else?

It is worthy to note that most of the success fantasies were of an interpersonal nature. Other categories included sports, work, and a "by myself success".

Item 6: What evidence do you have to support this classification?

The best way to categorize these responses is according to richness of fantasy. Sample responses in order of decreasing richness of fantasy were:

- Category 1: "In my daydream I saw Super me on the bike.", etc.  
 Category 2: "I was with and talk to the other person."  
 "I seen the place where it took place."  
 Category 3: "being with the other person"  
 "I made the hockey team."  
 Category 4: "I was there.", etc.  
 Category 5: "I thinking about going to work after school.", etc.

Item 7: How do your personal characteristics make you better adapted for this kind of success than others?

Sample responses which demonstrated a higher degree of self awareness than others include:

- "I am better at sports because I can't really be with other people."  
 "because people are more important to me"  
 "because I can relate with other people"

Item 9: In what ways might you have to change to have more successes of the kind you want to have?

Most responses indicated a perception of alternatives and an acceptance of responsibility as evidenced by such responses as:

- "must become more aggressive"  
 "be friendly"  
 "I'd have and skate better" (meaning he would have to skate better)

Item 10: You have learned that, in order to survive, living things have to respond. In what ways did you respond to the memory of your success experience?

Responses demonstrated an awareness of and an acceptance of feeling.

There was a preponderance of happy feelings:

- "felt happy, felt close to the other person"  
 "feelings (scared, happy)"  
 "felt a shock, tinkeling feeling go threw my body but it was a happy and fun shock"  
 "A felt good It seemed real"  
 "I felt happy, successful"  
 "I felt happy and I had a couple of tears in my eyes because I wish I was there again"  
 "I was happy and I was sad"

This was the first exercise in which names were either left off or scratched off the papers.

Patterns Noted:

Amela O. answered all of the questions but said she fell asleep during the fantasy. Her responses on the past few exercises had been full of dichotomies: "similar/different, man/woman, alone or with another person, etc." She said her success was with another person and later described it as "an alone success".

Three students answered all of the questions, but had their eyes open during the whole exercise.

Of the students who put their names on the papers, all of the girls and some of the boys fantasized success with another person. Four papers without names also fantasized an interpersonal success.

SERIES TWO: PERCEIVING STRENGTHS7. Strength Bombardment (Objectives)Science Objectives (Cognitive)

- a. To enrich the concept of the importance of accurate observation.
- b. To enrich the concept of the importance of basing conclusions on the evidence collected.
- c. To make the concept of variation relevant.
- d. To enrich the concept of the use of scientific tools.
- e. To make the concept of similarity relevant.
- f. To enrich the concept of classification according to characteristics.
- g. To enrich the concept of natural selection.
- h. To enrich the concept of the effects of environment on inherited traits.
- i. To enrich the concept of prediction based on observed patterns.
- j. To enrich the concept of the dominance of some traits over others.
- k. To enrich the concept that different stimuli can cause different responses.

Self Concept Objectives (Affective)

- a. Perception of strengths.
- b. Positive reinforcement via perception of appreciation by others.



- c. Perception of uniqueness.
- d. Perception of connectedness.
- e. Self acceptance via connectedness.
- f. To provide the experience of positive reinforcement via recognition.
- g. Perception of positive feelings towards self.
- h. Perception of positive feelings towards others.
- i. Positive reinforcement via perception of positive feeling from others.
- j. Feeling of group warmth and trust.

Source:

This activity was suggested in Canfield, 1973, #38.

STRENGTH BOMBARDMENT (Procedure)

The students were presented with the list of sample strengths on the following pages and were asked to add to them. Different kinds of strengths that people have were discussed. The students were then asked to write one strength which they have seen for every other member of the class. These were read to one student at a time, and the student was asked not to reply, but to listen quietly as his classmates related to him the strengths they had perceived in him. The students were then asked to fill out a questionnaire on the experience, and some of these questions were discussed.

SAMPLE STRENGTHS:

You:

1. are always quiet and never bother anyone.
2. always seem friendly.
3. seem to be very smart.
4. are always calm and cool.
5. are very witty (or clever).
6. are pretty (or handsome/good looking).
7. are always willing to help.
8. are always smiling and seem happy.
9. never try to hurt anyone.
10. always seem interested in people.
11. don't pry into other people's business.
12. are cooperative.
13. seem concerned about other people.

14. listen to reason.
15. are a nice person to be around.
16. have nice hair (or eyes or a nice smile).
17. always seem to know the right thing to do (or say).
18. are not afraid of hard work.
19. would make a good leader.
20. have a good sense of humor.
21. are a good friend.
22. never betray a confidence.
23. are always willing to listen.
24. always seem to understand.
25. always seem to be able to figure things out.
26. are always willing to share.
27. never seem to be afraid of anything.
28. seem to care about people.
29. are not afraid to try something new.
30. seem able to take charge of things.
31. always seem to be able to cheer people up.
32. never put anyone down.
33. always pay back what you borrow.
34. are not a phoney.
35. never gossip about anyone.
36. are very trusting.
37. seem to like people.
38. don't hold grudges.
39. can always take a joke.
40. never seem to get uptight.
41. are very patient.

The students were presented with the following data collecting sheet:

FOR NANCY D.  
Nancy you \_\_\_\_\_

FOR CHARLEEN M.  
Charleen you \_\_\_\_\_

FOR SUSAN K.  
Susan you \_\_\_\_\_

FOR WILLIAM W.  
Bill you \_\_\_\_\_

FOR ROSS W.  
Ross you \_\_\_\_\_

FOR ROY E.  
Roy you \_\_\_\_\_

FOR OSCAR H.  
Oscar you \_\_\_\_\_

FOR KENNETH S.  
Kenneth you \_\_\_\_\_

FOR JAMES W.  
Jim you \_\_\_\_\_

FOR SUSAN H.  
Susan you \_\_\_\_\_

FOR DENNIS A.  
Dennis you \_\_\_\_\_

FOR DAVID D.  
David you \_\_\_\_\_

FOR DIANE A.  
Diane you \_\_\_\_\_

FOR TAMMY B.  
Tammy you \_\_\_\_\_

FOR PAMELA O.  
Pam you \_\_\_\_\_

FOR MARK H.  
Mark you \_\_\_\_\_

FOR KAREN W.  
Karen you \_\_\_\_\_

FOR SANDRA S.  
Sandy you \_\_\_\_\_

This questionnaire was presented to the students after the exercises:

1. If you have developed the keen observation necessary for science study, you should have been able to see at least one strength in every classmate. How keen an observer are you? \_\_\_\_\_
2. Scientists base their conclusions on evidence. Give one example of evidence you have seen for a strength you named for one of your classmates. \_\_\_\_\_
3. Just like animals and plants, people are different. How were your strengths similar to those of your classmates? \_\_\_\_\_
4. The use of scientific tools, such as the microscope, allows us to observe things we might not otherwise see. What tool did you learn today to see strengths in your classmates, you might not have otherwise seen? \_\_\_\_\_
5. All living things have certain similarities. How were your strengths similar to those of your classmates? \_\_\_\_\_
6. Living things are classified according to their characteristics. Classify yourself according to your strengths. \_\_\_\_\_
7. Living things that are able to adapt, survive. In what ways might your strengths enable you to be a happier person? \_\_\_\_\_
8. Traits that are inherited can be stunted or enhanced by the environment. Which of your strengths do you think have been nourished by your environment? \_\_\_\_\_
9. By observing patterns, scientists can make predictions about future events. On the basis of your strengths, what kind of person do you think you will become? \_\_\_\_\_
10. Some traits are recessive and are hidden by the dominant ones. Which of your strengths seem to be dominant? \_\_\_\_\_  
Recessive? \_\_\_\_\_
11. How did you feel when your classmates told you about your strengths? Be specific. Don't just say "weird" or "strange". \_\_\_\_\_

12. How did you feel about yourself, personally? \_\_\_\_\_

13. How did you feel about your classmates? \_\_\_\_\_

14. How did you feel when you were telling your classmates about their strengths? \_\_\_\_\_

15. The circulation in the goldfish's tail responded differently to different chemicals. How was your response to this exercise different from your response to the success fantasy? \_\_\_\_\_

16. How did your feelings about the group change during the exercise? \_\_\_\_\_

STRENGTH BOMBARDMENT (Verbatim)

The students did not contribute any new strengths to the list, saying that they thought the list had "covered just about everything". Not even gentle coaxing, even on an individual basis, could elicit any more strengths from them.

They said that they thought it was hard to list strengths for everyone. One boy said it would be easier to have a 'cut-down' session.

Even though the students were warned that 'put-down' statements were not allowed, a few tried it and had to be reprimanded. Strangely enough though, the 'put-downs' that were verbally expressed were not found on the written statements.

Some students expressed a concern about reading these aloud, and, in some cases, they verbally expressed a strength that was less emotionally charged than the one they had written down. For this reason, the strengths that were written down were listed and given to each student later. Care was taken to respect their privacy, so they did not know from whom the strength came, only that someone in the class had seen this strength in them.

For example, Ross W. was presented with the following: Ross W \_\_\_\_\_, your classmates have said that you:



are always willing to help  
 are not afraid to try something new  
 are always very friendly  
 are always willing to share  
 are smart  
 don't hold grudges  
 never betray a confidence  
 never seem to be afraid of anything  
 don't pry into other peoples' business  
 are cooperative

This boy later volunteered the following information to me. "Gee, Mrs. Quesada, I don't know what's happening to this class since I first came here. There used to be a lotta lip. There isn't any more lip around here."

The students were told, when presented with strength lists, that repeat strengths were not listed, and that no 'put-downs' were found on the written papers. They were also told that some of the strengths listed in written form were 'heavier' than the strengths listed verbally in class.

Although objectives in both the cognitive and affective domains have been listed for each activity, it might be well at this point to show how these objectives are congruent on an item-by-item basis. To keep the study from becoming unwieldy in size, this will be done for this exercise only and for the simple purpose of showing process, for, although the exercises themselves were adapted from the sources listed, the processing questions were designed by me.

Item 1: If you have developed the keen observation necessary for science study, you should have been able to see at least one strength in every classmate. How keen an observer are you?

The purpose of this question was to show the student that keen observation can apply beyond the laboratory and have relevance in his own

perceptual world. It was hoped further that practice in this kind of observation would help him to see a glass as 'half full' instead of 'half empty'. This is practice in creating and controlling a perceptual world that is positive.

Item 2: Scientists base their conclusions on evidence. Give one example of evidence you have seen for a strength named for one of your classmates.

The purposes of this question were to reinforce a science concept and make it relevant in the perceptual world of the student, to provide him with practice in examining his judgements in the cold light of logic or evidence, to eliminate unthinking prejudice--positive or negative--and to give him a sense of control over his own emotions and thinking processes.

The students were successful in doing this in varying degrees, but most of them grasped the concept quite well. Sample responses were:

Strength

Evidence

"Ken has a good sense of humor."

"He is always joking."

"Sue always seems happy."

"She is always smiling."

Item 3: Just like plants and animals, people are different. How were your strengths different from those of your classmates?

The purposes of this question were perception of uniqueness, self awareness through feedback, application of the scientific principle of variation to their own lives, and to make the concept relevant to them, personally.

For the most part, the students followed the pattern of the preceding question, seeking evidence for their responses and listed strengths that were "the most common for my name."

Item 4: The use of scientific tools, such as the microscope, allows us to observe things we might not otherwise see. What tool did you learn today to see strengths in your classmates you might not otherwise have seen?

The purposes of this question were to show students that there is more than one kind of perception, that subjective data may be just as available as objective data if proper techniques are observed, and to make relevant in their lives the usefulness of scientific tools to extend the senses.

The students failed to recognize the activity as a tool, but showed through their responses that they recognized the value of the cognitive process as tool in this regard. Sample responses were: "your brain, your mind, by making a list of strengths", etc.

Item 5: All living things have certain similarities. How are your strengths similar to those of your classmates?

The purposes of this question were to bring about a perception of connectedness or belonging, self acceptance via connectedness, group warmth and trust, and to make relevant the concept of similarity among living things.

Sample responses were: "we all like to joke and laugh, a lot of us were the same in many ways", etc.

Item 6: Living things are classified according to their characteristics. Classify yourself according to your strengths.

The purposes of this item were perception of strengths, self awareness through classification, perception of uniqueness, and giving relevance to the concept of classification.

Most of the responses were positive self classifications: "happy, quiet, never gossip, friendly, happy-go-lucky", etc.

Item 7: Living things that are able to adapt, survive. In what ways might your strengths enable you to be a happier person?

The purposes of this item were perception of the value of uniqueness and relevance for the concept of natural selection.

Most of the students responded to this question in a manner indicating that they interpreted the question as asking them to assume responsibility for their own happiness. They responded, "show people they were correct in their observations, by trying to improve them more", etc.

Item 8: Traits that are inherited, can be stunted or enhanced by the environment. Which of your strengths do you think have been nourished by your environment?

The purposes of this item were to get the students to think positively about their environments, perception of uniqueness, and relevance for the concept of the nurture issue in heredity.

Students responded by listing the strengths which they felt had been nourished by their environments, but failed to give explanations. This was the fault in the wording of the item. These students never explain anything unless they are specifically requested to do so.

Item 9: By observing patterns scientists can make predictions about future events. On the basis of your strengths, what kind of a person do you predict you will become?

The purposes of this item were self awareness, perception of uniqueness, and relevance for the concept of prediction via pattern perception.



Student predictions for the most part were quite positive: "successful, ok person, a pleasant person okay to get along with, a happy and friendly person, a super good person", etc.

Item 10: Some traits are recessive and are hidden by the dominant ones. Which of your strengths seem to be dominant? Recessive?

The purposes of this item were perception of uniqueness, self awareness through self disclosure, and relevance for the dominant/recessive concepts in heredity.

The students found this item difficult; 7 students left it blank. The students responding listed the dominant strengths first/followed by the recessive: "trusting/never gossip, laughter and challenge/fear and hiding", etc.

Item 11: The circulation in the goldfish's tail responded differently to different chemicals. How was your response to this exercise different from your response to the success fantasy?

The purposes of this item were to make the students aware of their feelings and accepting of them and to make relevant the concept of stimulus and response.

Some students responded more positively to the success fantasy and some to this one, but no real depth of feeling was expressed here.

Item 12: How did you feel when your classmates told you about your strengths? Be specific. Don't just say 'weird' or 'strange'.

The purposes of this question were self awareness and acceptance and recognition of feelings.

Students' emotional responses were much more specific on this item:

"I was very embarrassed, proud and happy and friendly, like someone actually knew me", etc.

Item 13: How did you feel about yourself, personally?

The purpose of this question was awareness of self concept.

Most of the responses reflected a recognition of self concept: "OK, not too good, I feel happy with myself, friendly", etc.

Item 14: How did you feel about your classmates?

The purpose of this item was recognition of positive feelings toward others.

Most responses demonstrated a positive feeling. No one expressed negativism. Responses were: "great people, They're all good people, They are good friends and nice people", etc.

Item 15: How did you feel when you were telling your classmates about their strengths?

The purpose of this item was an awareness of feelings associated with giving others positive reinforcement.

Responses indicated that nourishing others was for some students uncomfortable; for some, comfortable; and for still others, the experience of nourishing others was found to be nourishing to the self as well: "kind of foolish until I realized it was all the truth, I meant it, I felt it fit them, I like to tell them how they are, happy and meaningful", etc.

Item 16: How did your feelings about the group change during the exercise?

The purpose of this item was assessment of impact.

The responses indicated little impact for most of the students. Four students left the item blank, and only 4 others indicated that the exercise had changed their feelings for the group to a more positive position than it was before.

Most of the students, in assessing the strengths of their classmates, picked strengths from the list supplied them. Very few made up strengths of their own.

The students were rated on their observations for the following reasons: if they had not been rated, it would have been too easy for the lazy ones not to bother looking for strengths in their classmates; this motivated the search; and this technique served as a motivational device for the activity to follow.

The reason that it was important for these students to search for strengths was that they have had very little practice in looking for the positive sides of other people or of themselves. At first this is work; it requires practice. Later this habit might come as naturally as 'put-downs' came to them before. If this attitude or perspective on life could be changed, these students could become more positively reinforcing of each other since the habit of exchanging insults might be replaced by the habit of exchanging compliments.

#### Patterns Noted:

Jim W., several times up to this point, had expressed a concern about becoming a man.

David D. continued to project a negative self image. He predicted he will become a ditchdigger; he left most of the other items blank.

#### SERIES TWO: PERCEIVING STRENGTHS

#### 8. Feedback Compliments (Objectives)

##### Science Objectives (Cognitive)

- a. To continue practice in keen observation.
- b. To extend the concept of variation within a species.

- c. To stress the importance of the use of scientific tools to extend the senses.
- d. To extend the concept of similarities among living things.
- e. To extend the concept of classification according to characteristics.
- f. To extend the concept of evolution.
- g. To extend the concept of natural selection.
- h. To reinforce the concept that environment modifies inherited features.
- i. To extend the concept of the dominance of some traits over others.
- j. To extend the concept that different stimuli cause different responses.

#### Self Concept Objectives (Affective)

- a. Perception of strengths.
- b. Perception of uniqueness.
- c. Perception of connectedness.
- d. Positive feelings toward self.
- e. Positive feelings towards others.
- f. Self awareness through feedback (psychological mirroring).
- g. Positive reinforcement via perception of acceptance by others.
- h. Acceptance of feelings.
- i. Establishment of group trust and warmth.
- j. Positive reinforcement via recognition.

#### Source

Learned in a workshop at the University of Massachusetts led by Emily Cole.

#### FEEDBACK COMPLIMENTS (Procedure)

The students were instructed to give one honest compliment to every member of the class. They were cautioned to 'keep their eyes on the doughnut and not on the hole' and to think of their glass as 'half full' instead of 'half empty'. They were told that no put-down statements were to be allowed and that if they were very good scientific observers, they would be able to see something they liked about everyone in the class. They were told that they would grade themselves on how observant they were at the



end of the exercise. They were then presented with the following sheet. They went straight to work and did not seem to find it difficult. These statements were then read aloud to each person as each of his classmates told him what they liked about him. The sheet provided was as follows:

FOR SUSAN F.

Susan I like \_\_\_\_\_

and so on for every member of the class.

At the end of the exercise the students completed the following questionnaire:

1. By now your study of science should have given you some training in the skills of keen observation. Give yourself an A if you could see something to like about every member of the class; B, if you could see something to like about 15 members of the class; C, if you could see something to like about 10 members of the class; D, if you could see something to like about 5 members of the class; and E, if you could only see something to like about 4 or less classmates. How did you do? \_\_\_\_\_

2. Every plant, animal, and human is in some way different from every other. That's what makes us unique. What was different about the compliments given to you as compared to the compliments given to your classmates? \_\_\_\_\_

3. What tool did you use today to help you to see what you might not otherwise have seen? \_\_\_\_\_

4. Even though every living thing is different in some ways, they are also alike in some ways. In what ways were the compliments given to you like those given to other members of the class? \_\_\_\_\_

5. According to the compliments your classmates gave you, what kind of a person do you think you are? \_\_\_\_\_

6. Scientists call change over time, evolution. In what ways have your attitudes changed, since the Strength Bombardment and this exercise? \_\_\_\_\_

7. Your classmates have just told you that you have many good qualities. How will these good qualities help you to adapt to certain situations and let you be happier? \_\_\_\_\_

8. Which of your good qualities has your environment helped to develop? \_\_\_\_\_

9. Which good qualities seem to be dominant in you? \_\_\_\_\_

10. Last time, you responded to the stimulus, Strength Bombardment. Today you responded to the stimulus of compliments given to you by your classmates. How are your responses this time different from your responses last time? \_\_\_\_\_

11. How did you feel when everyone was complimenting you? \_\_\_\_\_

12. How did you feel when you were complimenting other people? \_\_\_\_\_

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 Oral discussion of responses was on a voluntary basis.  
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FEEDBACK COMPLIMENTS (Verbatim)

This exercise went smoothly. The students did not seem to have any trouble seeing something they liked in everyone.

Every student was provided with a sheet of summary compliments at the beginning of the next exercise. For example:

Susan K., your classmates have said that they like:

your smile  
 the way you are quiet  
 the way you listen  
 your ways  
 how you get along with everybody  
 the way you act; not afraid of anything  
 the way you keep to yourself  
 the way you get along with everyone  
 your personality and smile  
 the way you are friendly  
 you because you're a nice kid  
 you because you are quiet  
 the way you drive your car  
 you because you are quiet and nice  
 you because of your smile  
 the way you're fair to everybody  
 you because you can take a joke  
 your kind sense of understanding

This time, the students were not provided with sample compliments but made up their own. They seemed anxious to get their compliment summaries back and inquired about them several times.

Patterns Noted:

Mark H., the one student to show a very high self concept, was the one the most prone to insult others, so I began to wonder at the sincerity of his self complimentary statements.

This time David D. filled in a compliment for everyone, so perhaps my grading strategy worked to get him to think positively.

For this activity breakdown responses which were typical of response breakdown in other activities will be given (1) to show the degree of diversity of response without (2) making the size of the text unwieldy.

Number of students present: 18

Item 1: By now your study of science should have given you some training in the skills of keen observation. Give yourself an A if you could see something you liked about every other member of the class; a B if you could see something to like about 15 members of the class; a C if you could see something to like about 10 members of the class; a D if you could see something to like about 5 members of the class; and an F if you could not see anything to like except for 4 or less classmates. How did you do?

A - 16 students

B - 2 students

Item 2: Every plant, animal, and human is in some ways different than every other. That's what makes us unique. What was different about the compliments given you as compared to the compliments given to your classmates?

Specific, personal statements of difference reflecting a perception of uniqueness, i.e., "well I'm quiet and the other kids in here are rowdy", etc. - 8 statements

General, personal statements of difference reflecting a more generalized perception of uniqueness, i.e., "They were all different", etc. - 2 statements

One statement indicating no difference, but still noting uniqueness perception, i.e., "not much difference, but I'm a different person."

One statement acknowledging variation, but not personalized, i.e., "everyone is different, some people have good sense."

Statements noting no difference, i.e., "none", etc. - 3 statements

Blanks - 3

Item 3: What did the tool you used today help you to see that you might not otherwise have seen?

Statements including evaluation and indication of usefulness of the tool, i.e., "saw good things in other people and things about myself I didn't realize", etc. - 3 statements

Nonspecific statements showing usefulness of the tool, i.e., "what others think of you and others", etc. - 6 statements

Statements about the effect of the tool, i.e., "you had to stop and think about each person here", etc. - 4 statements

One statement describing the tool, i.e., "pencil write it down so I wouldn't forget."

Blanks - 4

Item 4: Even though every living thing is different in some ways, they are also alike in some ways. In what ways were the compliments given you like those given to other members of the class?

Personal perception of connectedness, i.e., "I'm quiet and a couple of the kids are quiet also", etc. - 7 statements

General perception of connectedness, i.e., "everyone seemed to be happy", etc. - 5 statements

One response, "I don't know."

Blanks - 5

Item 5: According to the compliments your classmates gave you, what kind of a person do you think you are?

Self concept responses also showing reinforcement of the principle of classification according to characteristics, i.e., "friendly and proud", etc. - 14 statements



One non-self concept response, i.e., "I think that my classmates are my friends"

Blanks - 3

Item 6: Scientists call change over time, evolution. In what ways have your attitudes changed since we did Strength Bombardment?

Statements of change in attitude, i.e., "I have confidence in myself", etc. - 7 statements

Statements of learning, i.e., "we saw our fellow classmates a little clearer or better", etc. - 2 statements

Statements showing no change in attitude, i.e., "they haven't really changed", etc. - 4 statements

Blanks - 5

Item 7: Your classmates have just told you that you have many good qualities. How will these good qualities help you to adapt to certain situations and let you be happier?

Personal adaptation statements based on feedback, i.e., "you now probably know more about yourself and it gives you confidence", etc. - 3 statements

Remedial statements of adaptation based on feedback, i.e., "by knowing I need to be not so quiet", etc. - 3 statements

Adaptation via positive feedback, i.e., "because everyone would like me", etc. - 2 statements

General statements of adaptation, i.e., "that will help me in many ways", etc. - 2 statements

Blanks - 6

Item 8: Which good qualities has your environment helped to develop?

Statements crediting qualities to a positive environment, i.e., "The way I'm polite to other people", etc. - 11 statements

One misinterpretation of the question, i.e., "well I now can take a joke and try not to bother people the way they bother me."

One response, "I don't know."

Blanks - 5

Item 9: Which good qualities seem to be dominant in you? Recessive?

Statements of self awareness, i.e., "cleverness/happiness", etc. - 8 statements

One statement of preference, i.e., "work/school".

Statements of less awareness, i.e., "good natured/I don't know", etc. - 4 statements

Blanks - 5

Item 10: Today you responded to the stimulus of compliments given to you by your classmates. How were your responses this time different from your responses to the last exercise?

Statements indicating no difference in response, i.e., "not to different", etc. - 9 statements

Cognitive responses, i.e., "I found out more about myself and my classmates", etc. - 2 statements

Affective responses, i.e., "I felt good because they really had to think what they thought", etc. - 2 statements

One general statement, i.e., "a little."

One reiteration of the compliments, i.e., "I am quiet, shy, and willing to help other people."

Three students indicated that they were absent last time.

Item 11: How did you feel when everyone was complimenting you?

Statements indicating that the experience was comfortable, i.e., "I felt pretty good about it", etc. - 3 statements

Statements indicating that the experience was uncomfortable, i.e., "embarrassed", etc. - 7 statements

Statements indicating that the experience was not uncomfortable, i.e., "okay I guess", etc. - 2 statements

One cognitive statement, i.e., "listen try to hear."

Item 12: How did you feel when you were complimenting other people?

Statements indicating that the experience was comfortable, i.e., "good and happy inside", etc. - 7 statements

Statements indicating that the experience was not uncomfortable, i.e., "I felt honest", etc. - 9 statements

Statements indicating that the experience was uncomfortable, i.e., "stupid", etc. - 2 statements

### Patterns Noted:

David D. did not answer many of the questions. He was the only one who felt "stupid" not only receiving compliments, but also giving them.

William W. answered many questions, "I don't know."

Susan M's responses were not as positive this time as they have been in the past.

### SERIES TWO: PERCEIVING STRENGTHS

#### 9. Pride Line (Objectives)

##### Science Objectives (Cognitive)

- a. To provide practice in keen observation.
- b. To provide practice in basing conclusions on the evidence collected.
- c. To make relevant the concept of variation.
- d. Appreciation of the use of tools for data gathering.
- e. To make relevant the concept of similarity.
- f. To make relevant the concept of classification based on characteristics.
- g. To enrich the concept of dominance and recessiveness in heredity.
- h. To enrich the concept that different stimuli can cause different responses.

##### Self Concept Objectives (Affective)

- a. Perception of uniqueness.
- b. Perception of connectedness.
- c. Self awareness.
- d. Perception of success.
- e. Perception of pride.
- f. Owning feelings (emotions)
- g. Positive feeling towards self
- h. Positive reinforcement via recognition.

Source

This activity was suggested in Canfield, 1973, #14.

PRIDE LINE (Procedure)

We have all done things we are proud of, but many times we do not think enough about these. Today we shall try to remember all of the things we have been proud of in our lives. Be a keen observer of yourselves today. Complete the following statements:

1. I am proud that (something you did for your parents) \_\_\_\_\_
2. I am proud that (something you did for a friend) \_\_\_\_\_
3. I am proud that (something to do with school work) \_\_\_\_\_
4. I am proud that (something that happened when you were very small) \_\_\_\_\_
5. I am proud that (something you really believe in) \_\_\_\_\_
6. I am proud that (something you did in your free time) \_\_\_\_\_
7. I am proud that (something to do with money) \_\_\_\_\_
8. I am proud that (something you own) \_\_\_\_\_
9. I am proud that (a personal quality you have) \_\_\_\_\_
10. I am proud that (something you are proud of quite often) \_\_\_\_\_
11. I am proud that (the greatest pride of your life) \_\_\_\_\_
12. I am proud that (something you gave away) \_\_\_\_\_
13. I am proud that (something you tried hard for) \_\_\_\_\_
14. I am proud that (something that you least expected) \_\_\_\_\_
15. I am proud that (something that happened recently) \_\_\_\_\_
16. I am proud that (something to do with people) \_\_\_\_\_
17. I am proud that (something you have done to improve the world) \_\_\_\_\_
18. I am proud that (something you have done to improve your life) \_\_\_\_\_
19. I am proud that (your choice) \_\_\_\_\_
20. I am proud that (your choice) \_\_\_\_\_

After the activity and sharing, students were asked to fill out the following questionnaire:

1. If you could see 20 things to be proud of, you have developed the skills of keen observer in science and are an A observer; 15 or more and you are a P observer; 10 or more and you are a C observer; 5 or more and you are a D observer; less than 5 and you are an F observer. How keen an observer are you? \_\_\_\_\_



2. Scientists base their conclusions on evidence they have collected. Based on the evidence you have just collected, what kinds of things do you seem to take the most pride in? \_\_\_\_\_

3. Based on your answer to number 2, in what ways does this make you different from other members of the class? (Variation) \_\_\_\_\_

4. Scientific tools extend the senses so that men can observe things that might otherwise go unnoticed. Today you used a tool. What did you observe that might otherwise have gone unnoticed? \_\_\_\_\_

5. Although all living things are unique, they all have certain things in common. What things do you seem to have in common with your classmates that you noticed from this exercise? \_\_\_\_\_

6. Living things are classified according to their characteristics. Based on your answer to number 2, what kind of a person do you think you are? \_\_\_\_\_

7. Some traits are dominant and some recessive. What kinds of things are you the most proud of? \_\_\_\_\_  
the least proud of? \_\_\_\_\_

8. Different stimuli cause different responses. In what ways did you respond differently to this exercise than you did to the compliments? In other words, what were some of the differences in your feelings? \_\_\_\_\_

Oral discussion of responses was on a voluntary basis.

#### PRIDE LINE (Verbatim)

This activity went very well considering that it was done the day we returned from spring recess, and the students had lost some of the warmth that had been building in class interaction.

On the item pertaining to something to do with their parents, students reported that they were proud of things they had done to help their parents, things they had done to make their parents proud of them, and things they had done to be 'nice' to their parents.

All responses to something done for a friend were responses indicating help they had given to friends.

Responses on the item relating to something to do with school work were prides concerning grades or effort.

Prides relating to something that happened when very small included accomplishments, something they had owned, and even survival, i.e., "I still have a finger left", etc.

To something really believed in students responded with both beliefs and accomplishments, i.e., "I believe that I taught Dennis A. to play hockey", etc.

Regarding something done in their free time, students were proud of accomplishments, activities, and helping others.

Students reported prides having to do with money in the areas of saving it, how it was used, how it was obtained, and the independence gained from having it.

The item pertaining to pride in something owned elicited from the students a list of items which they owned including, "I own a girl that is all mine."

Prides in personal qualities included:

Interpersonal relationships - "to help people who need help", etc.  
Skills - "I am good at working with my hands", etc.  
Perception of acceptance - "people like the way I am", etc.  
Industry - "work hard for what I want", etc.  
Character - "I'm not a crab and snotty", etc.  
Virtue - "I did something good", etc.

Responses to something proud of quite often included: sports, industry, ownership, personality, aspiration, creativity, self improvement, and survival.

The greatest prides in their lives had to do with accomplishments, aspirations and people, i.e., "my parents", etc.

Most students were proud that they had given away possessions, but one student included giving away friendship.

Students stated that they were proud that they had tried hard for: academic status, material things, employment, interpersonal relationships, skill attainment, and even connectedness, i.e., "helped build a patio on the side of our house", etc.

Prides in something least expected included: accomplishments, academic success, and miscellaneous responses such as, "I came out of my coma."

From this point on, responses started to fall strikingly into the categories outlined by Furkey (1970): power, virtue, competence, and significance.

For example, in response to the item relating to pride in something that happened recently, students responded with competence and significance, i.e., "helped put out a fire" and "I have David", etc.

Pride in something to do with people fell into the areas of competence, significance, and virtue, i.e., "I'm always willing to help anyone who needs it", etc.

Pride in something done to improve the world included the areas of virtue and power, i.e., "I am getting an education and may someday help the world", etc.

Something done to improve their own lives included pride in the areas of virtue, competence, and power.

The 2 free choice prides included all 4 of the categories Furkey (1970) outlined.

#### Patterns Noted:

Kenneth S. continued to be preoccupied with becoming a man. He said he was proud that he became a man. He did not answer too many questions

this time, but was more interested in talking with and looking at Sue M., his girlfriend. He has shown her a lot of tenderness and affection that is unlike him most of the time. He usually likes to come off tough and uncaring.

Mark H. continued to give responses that reflected an inflated self concept. He said that he was proud that he was just him, that he was himself, that he was him and no one else, that he didn't have a major problem in the world, and that he was him and just him.

Pamela O. showed a better self concept than before. Her statements were much more self positive. She said she was proud of the way she listens, that she gave her friend a ride, that she got an A in science, that she won a spelling test when she was younger, that she enjoys herself once in a while, that she saves her money, that she owns a car, that she did something good, that she has a good personality, that she listened to a teacher (the greatest pride in her life), that she improved the world by listening to someone, that she got her license, that she was the first one to go swimming, and that she had someone to go with.

Dennis A. did not answer as many questions as he usually does.

David D. again failed to answer the questions. When I asked him about it, he said he didn't have time to think. (Actually, he sat all period doing nothing.) I offered to let him take the questions home and do them there. He accepted, but later said he had forgotten them at home. Still later, he said he didn't want to do them at all.

All of the responses to the questionnaire that followed this exercise fall into Purkey's (1970) categories also. Sometimes these categories



were alone and sometimes in combination with each other. Some of the more interesting responses follow.

Item 3: Based on your answer to number 2 (things you take the most pride in), in what ways does this make you different from other members of the class? (Variation) Responses were as follows:

Perception of uniqueness via competence: "other people might not want to race cars", etc.

Perception of uniqueness via competence and significance: "I have a job and am well liked in Groton to be on the Fire Dept.", etc.

Perception of uniqueness via virtue: "some of them wouldn't help some on when they are sick but I would", etc.

Some failed to perceive uniqueness except in a very general way, and a few failed to perceive it at all.

Item 4: Scientific tools extend the senses so that men can observe things that might otherwise go unnoticed. Today you used a tool. What did you observe that might otherwise go unnoticed?

This item elicited pride awareness as well as an awareness of aspiration in the following areas:

Competence and virtue: "to be a good driver and to be helpful", etc.

Competence: "the way I want to finish school", etc.

Virtue: "that I would help other people if they need it", etc.

Item 5: Although all living things are unique, they all have certain things in common. What things do you seem to have in common with your classmates that you noticed from this exercise?

This item elicited responses demonstrating perception of connectedness generally and:

Connectedness via competence: "we are a happy intelligent class", etc.

Connectedness via virtue: "we trid the help people", etc.

Item 6: Living things are classified according to their characteristics. Based on your answer to number 2, what kind of a person do you think you are?

This item elicited classification awareness in general and:

Classification by competence: "one that likes to earn what he gets", etc.

Classification by virtue: "helpful", etc.

Item 7: Some traits are dominant and some recessive. What kind of things are you the most proud of? the least proud of?

This item elicited a varied combination of the foregoing areas:

Competence/Competence: "what I worked fore/what was given to me", etc.

Significance/Power: "friends/drugs, people who are bad", etc.

Significance/Virtue: "the people I'm with/the bad things I do", etc.

Competence/Power: "motorcycle and flying/the way people tell others what to do", etc.

Virtue/Virtue: "good things I did/bad things I did", etc.

#### Patterns Noted:

Ross W., for the first time, said he was "smart and intelligence".

#### SERIES THREE: PERCEIVING VALUES

##### 10. Value Line (Objectives)

###### Science Objectives (Cognitive)

- a. To practice keen observation.
- b. To make predictions based on keen observation.

- c. To make relevant the concept of variation.
- d. To appreciate the value of data gathering tools to extend the powers of observation.
- e. To make relevant the concept of similarity.
- f. To make relevant the concept of classification according to characteristics.
- g. To make relevant the concept of evolution.
- h. To make relevant the concept of natural selection.
- i. To make relevant the concept of dominance and recessiveness of traits.
- j. To make relevant the concept of the effects of environment on a trait.
- k. To make relevant the concept of stimulus and response.

#### Self Concept Objectives (Affective)

- a. Self awareness.
- b. Perception of values.
- c. Perception of uniqueness.
- d. Perception of connectedness.
- e. Perception of growth.
- f. Perception of personal adaptation methods.
- g. Perception of feeling (emotions).
- h. Acceptance of feeling (emotions).
- i. Clarification of values.
- j. Perception of choice (alternative).
- k. Perception of control.
- l. Perception of possible double standards.

#### Source

This activity was adapted from Schrank, 1972, pp. 43-45 and from Howard, 1973, p. 139.

#### VALUE LINE (Procedure)

Today we shall continue to practice keen observation. Who knows what an Oreo cookie is?\* Who knows what a Hydrox cookie is? They are both round chocolate cookies with creme filling. Which do you prefer? This question was once asked of a group of people by Sidney Simon, a professor at the University of Massachusetts. He has written books on values.

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\*Discussion time was allowed for all questions.

Who knows what values are? He says that in order to know who you are--really are--you have to be able to know what you prefer--even down to little differences like the difference between Hydrox and Oreo cookies. Today you will be given a chance to keenly observe the values you hold. You will be given choices and asked which you prefer. Sometimes you will think they are alike, but you must choose one over the other and you must know why you are choosing one over the other. Concentrate on your values today and remember to observe yourself carefully.

CIRCLE A NUMBER ON THE SCALE THAT INDICATES THE DEGREE TO WHICH YOU AGREE OR DISAGREE WITH THE FOLLOWING ITEMS.

1. A. A high school student drives home from school without using his seat belts.

Disagree 1 2 3 4 5 6 7 Agree

- B. A man with a wife and four children drives home from work without using his seat belts.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move when you compare the first statement with the second statement, toward agree or toward disagree? \_\_\_\_\_

b. Explain why. \_\_\_\_\_

2. A. A high school boy tells a girl he will marry her when he has no intention of doing so.

Disagree 1 2 3 4 5 6 7 Agree

- B. A high school girl tells a boy she will marry him when she has no intention of doing so.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move, toward agree or toward disagree? \_\_\_\_\_

b. Explain why. \_\_\_\_\_



3. A. A girl steals because she thinks it is a very easy way of getting money.

Disagree 1 2 3 4 5 6 7 Agree

B. A girl steals because she has to support her ill mother (no father) and five kids, and this is the only talent she has.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move? \_\_\_\_\_

b. Why? \_\_\_\_\_

4. A. A teacher strikes a student who has called that teacher an obscene name.

Disagree 1 2 3 4 5 6 7 Agree

B. A student strikes a teacher who has called him an obscene name.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move? \_\_\_\_\_

b. Why? \_\_\_\_\_

5. A. A school librarian cuts dirty pictures from the books and magazines the school buys.

Disagree 1 2 3 4 5 6 7 Agree

B. A school librarian refuses to buy books and magazines with dirty pictures in them.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move? \_\_\_\_\_

b. Why? \_\_\_\_\_

6. A. A business man drinks two martinis everyday after lunch.

Disagree 1 2 3 4 5 6 7 Agree

B. A business man smokes two joints of marijuana everyday after lunch.

Disagree 1 2 3 4 5 6 7 Agree

a. In which direction did you move? \_\_\_\_\_

b. Why? \_\_\_\_\_

7. A. A student grows his hair long just because everyone else is doing it.

Disagree 1 2 3 4 5 6 7 Agree

- B. A student shaves his head bald just to be different.

Disagree 1 2 3 4 5 6 7 Agree

- a. In which direction did you move? \_\_\_\_\_  
 b. Why? \_\_\_\_\_

8. A. A student who does not like sports, plays just to impress the coach.

Disagree 1 2 3 4 5 6 7 Agree

- B. A student who likes sports refuses to play because he does not like the coach.

Disagree 1 2 3 4 5 6 7 Agree

- a. In which direction did you move? \_\_\_\_\_  
 b. Why? \_\_\_\_\_

9. A. A student buys an inexpensive car and has some cash left over.

Disagree 1 2 3 4 5 6 7 Agree

- B. A student buys an expensive car but has three years of payments before he owns it.

Disagree 1 2 3 4 5 6 7 Agree

- a. In which direction did you move? \_\_\_\_\_  
 b. Why? \_\_\_\_\_

10. A. A student looks for someone to love him.

Disagree 1 2 3 4 5 6 7 Agree

- B. A student looks for someone to love.

Disagree 1 2 3 4 5 6 7 Agree

- a. In which direction did you move? \_\_\_\_\_  
 b. Why? \_\_\_\_\_

After discussion and sharing, the students filled out the following questionnaire:

1. Observation: Grade yourself on how keen an observer you were. If you could choose and knew why at least 9 items - A; 8 items - B; 7 items - C; 6 items - D; and 5 or less items - F. How keen an observer were you? \_\_\_\_\_
2. Hypothesis Generation: Use your scientific skills at making predictions based on observations. On the basis of the values you hold, what kind of a person do you think you will become? I will become the kind of person who \_\_\_\_\_
3. Variation: In what ways were the values you hold different from the values your classmates hold? My different values were \_\_\_\_\_
4. Scientific Tools: Today you used a tool to help you observe values you may not otherwise know you held. What values did you see that you might not otherwise have seen? Today I saw that I held the following values \_\_\_\_\_
5. Similarity: In what ways are the values you hold the same as the values held by your classmates? I have the following values in common with my classmates \_\_\_\_\_
6. Classification: On the basis of the values you hold, what kind of a person do you think you are now? I am the kind of person who \_\_\_\_\_
7. Evolution: In what ways will knowing your values help you change? Knowing my values will help me to become \_\_\_\_\_
8. Natural Selection: In what ways will knowing your values help you to be a happier person? Knowing my values will help me because \_\_\_\_\_
9. Effects of Environment: Take one specific value you hold and tell where you got it from and how it developed. \_\_\_\_\_
10. Dominant or Recessive: The following values are stronger in me: \_\_\_\_\_  
The following are weaker in me: \_\_\_\_\_
11. Stimulus/Response: Tell how you responded differently to Value Line and to Pride Line. I feel this way about my values. \_\_\_\_\_ and this way about the things I am proud of \_\_\_\_\_
12. A double standard is when you think something is OK for one person to do but not OK for another person to do. Look over your values and list the double standards you have: \_\_\_\_\_

13. How do you feel about having double standards? \_\_\_\_\_

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Oral discussion of responses was on a voluntary basis.

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VALUE LINE (Verbatim)

Orally, this activity did not go as well as expected. The students seemed to be 'playing the role' (being phoney) and being tongue-in-check-compliant with what they thought I expected. This was not surprising, since this activity is much more threatening in that it promises a confrontation and commitment to values which might be a bit uncomfortable explaining or trying to justify.

Also, the task of clarifying values held is a very difficult one even for sophisticated adults. Therefore, the fact that many students failed to clarify the values they held was not as disappointing as the fact that some of them were able to do so was gratifying. Also, on paper the students seemed more open and less threatened.

The timing was off on this exercise. The discussion went too long, and the students did not get to finish the questionnaires. This resulted in the last few questions having a lot of blanks so the data are incomplete. The students seemed so 'turned-off' that I decided not to have them finish these during the following class session as I had done before.

Responses on the value line exercise sheet revealed an interesting assortment of value clarifying reasoning.

Item 1: Driving without a seat belt. Was it better for (A) a high school student or (B) a man with a wife and 4 children?

Thirteen students disagreed with (B) for reasons relating to the father's responsibility and to the number of people involved. Three



students agreed with (B), but only one was able to clarify, stating the statistic that more teenagers get into accidents. The 2 other responses were incongruent with the fact of agreement, but rather presenting arguments for the opposite choice.

Item 2: Telling someone you will marry him when you have no intention of doing so. Was it better for (A) a high school boy or (B) a high school girl?

One girl and 5 boys disagreed with (B), indicating that a boy might more easily be made to live up to the commitment, that girls are often taken more seriously than boys, and one very emotional response, "the girl has no right doing that". Three boys and 2 girls agreed with (B), indicating a belief that the girl would be more likely to live up to the commitment and would be more easily hurt by a broken commitment. The remaining responses were either emotional, incongruent, or otherwise not clarified.

Item 3: A girl stealing. Was it better if (A) she thought it was an easy way of getting money or (B) she had no other talent with which to support her ill mother (no father) and 5 kids?

Two students disagreed with (B) citing the fact that they believed it was just an excuse to steal. Thirteen students agreed with (B) feeling that her reasons were justifiable. Some statements were incongruent with the choice made.

Item 4: Striking someone for calling you an obscene name. Was it better for (A) a teacher to strike a student or (B) a student to strike a teacher.

Six students disagreed with (B). Of these only 3 clarified, basing their decision on the consequences of the act, students rights, the relative maturity of the teacher as compared to the student, and a sense of justice.

Item 5: Dirty pictures in school magazines. Was it better for (A) the librarian to cut them out or (B) the librarian to refuse to buy them.

Six students disagreed with (B) citing lack of previous knowledge on the part of the librarian and the futility of the effort. One student assumed that the dirty pictures must have been pertaining to sex. Eleven students agreed with (B) for reasons ranging from moralizing to destruction of property to lack of frugality to wasted effort.

Item 6: A business man after lunch everyday. Was it better for him to (A) drink 2 martinis or (B) smoke 2 joints of marijuana?

Thirteen students disagreed with (B), some on the basis of legality and some failed to clarify, but note the misconceptions:

"Alcohol can't get you high"  
 "numbers make it right"  
 "lunch is not your own time"  
 "high class people do not smoke pot"

Seven students agreed on (B), some failing to clarify and the others justifying for health reasons—all misconceptions:

"cause grass isn't as harmful as grass (alcohol) to your body"  
 "it's been proven that alcohol is worst than marijuana"  
 "because marijuana hasn't been proven bad yet"  
 "alcohol harms the body worse than joints"

Latest medical evidence has proven marijuana destroys brain cells and is excreted by the body at a rate far slower than alcohol--50% per month!

Item 7: Hair length and reason for it. Was it better to (A) have long hair to be the same or (B) shave your head to be different?

Nine students disagreed on (B), demonstrating that they valued appearance and social consequences, recognized parental constraints, and simply specifying preferences. Seven students agreed with (B) but none clarified the value.

Item 8: Reasons for playing or not playing a sport. Was it better to (A) play a sport you didn't like just to impress the coach or (B) fail to play a sport you liked just because you didn't like the coach?

Eight students disagreed with (B), placing value on the consequences of the act and on the sport. Eight students agreed with (B), placing more value on the relationship with the coach than on the sport.

Item 9: Buying a car. Was it better to (A) buy an inexpensive car and have some cash left over or (B) buy an expensive car and have 3 years of payments to make before you own it?

Eleven students disagreed with (B) valuing financial solvency, maturity in situations requiring responsibility, and the avoidance of unhappy consequences. Four students agreed with (B), but only one clarified a valuing of the car more than financial solvency.

Item 10: Love. Was it better to (A) look for someone to love you or (B) look for someone for you to love?

Two students disagreed with (B), but neither clarified. Seven students agreed with (B), but only 2 clarified, valuing independence.

One student failed to choose on this item, stating a value of the love relationship regardless of its quality.

#### Patterns Noted:

David D. answered more questions than he ever had before, and, on the questions answered, he never failed to clarify the choice.

Responses to the value line questionnaire elicited responses which identified student values rather than clarifying them as the foregoing exercise sheet had done.

Item 2: Asking predictions based on values held.

Students' predictions concerning the kind of people they would become showed that they valued avoidance of trouble, foresight, discrimination, justice, connectedness, having 'personality', stoicism ("cares but doesn't show it"), and negativism ("disagrees A lot", etc.)

Item 4: Asking what values they had been able to identify via the exercise.

Student responses demonstrated the identification of the following values: integrity, concern, feedback, insight, uniqueness, and discrimination.

Item 5: Asking the students to perceive connectedness via values. Although students were able to perceive connectedness, the only 2 values clearly identified were discrimination and independence.

Item 6: Asking students to classify themselves on the basis of their values.

Student responses demonstrated the identification of the following values: awareness, interpersonal relationships, virtue, ability to discriminate, and stoicism.

Item 7: Asking students to perceive growth through value identification.

Values identified through their responses were: awareness, self improvement via feedback, independence, and virtue.

Item 8: Asking students to show how values held assist in personal adaptation.

All but 3 statements demonstrated a valuing of self awareness through feedback.



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Item 10: Asking students for a statement of feeling concerning the perception of double standards.

Most of the students, while perceiving that they held double standards, did not feel concerned about it.

Patterns Noted:

Mark H., for the first time, showed a discontentment with himself and a caring for other people. He said that he was caring about other people; that he was caring; that he would become a better person; that he would try to become a happier person.

Sandy S. for the second time mentioned her temper.

Mike A. twice mentioned that he cares but doesn't show it and that he would like to be more independent.

David D. went back to his usual form and answered only one question, leaving all others blank.

Karen W. for the second time showed a lot of negativism. She said that she would point out all the bad things in life and saw every little mistake and that things in life needed to be changed so she would try to change them.

Nancy D. continued to mention her sadness and inability to express her feelings. She said that she is a sad person, may find something to change it, and that she is weak in her ability to tell people how she feels.

SERIES THREE: PERCEIVING VALUES

11. Voting (Objectives)

Science Objectives (Cognitive)

- a. To reinforce the importance of careful observation.
- b. To provide practice in careful observation.

- c. To provide practice in hypothesis generation.
- d. To provide relevance for hypothesis generation.
- e. To provide relevance for the concept that conclusions must be based on the evidence collected.
- f. To provide relevance for the concept of variation.
- g. To reinforce an appreciation of the importance of the use of scientific tools.
- h. To provide relevance for the concept of similarity of living things.
- i. To provide relevance for the concept of classification based on characteristics.
- j. To provide relevance for the concept of evolution.
- k. To provide relevance for the concept of natural selection.
- l. To provide relevance for the concept of heredity.
- m. To provide relevance for the concept of the influence of environment on heredity.
- n. To provide relevance for the concept of the dominance of some traits over others.
- o. To provide relevance for the concept of stimulus and response.
- p. To provide relevance for the concept of homeostasis.

#### Self Concept Objectives (Affective)

- a. Perception of uniqueness.
- b. Perception of connectedness.
- c. Perception of values.
- d. Clarification of values.
- e. Perception of a value continuum.
- f. Perception of feeling (emotions).
- g. Acceptance of feeling (emotions).
- h. Positive reinforcement via recognition.

#### Source

This activity was adapted from techniques learned at a values clarification workshop at Lunenburg High School led by Sidney Simon, University of Massachusetts.

#### VOTING (Procedure)

The students were asked to rank order a series of 3 items by numbering them from 1 to 3 with 1 being the first choice and 3 being the last choice. They were asked to explain their choices and these were exchanged and discussed. Then they were asked to fill out a questionnaire.

The voting sheet given to the students was as follows:

VOTING

NAME \_\_\_\_\_

List, in order, what you think is best and what you think is worst. Number 1 will be best, number 2 next and number 3 worst.

1. \_\_\_\_\_ a prostitute; \_\_\_\_\_ a homosexual; \_\_\_\_\_ a narcotics dealer  
Explain why you chose the way you did. \_\_\_\_\_
2. Who would you rather spend your time with:  
\_\_\_\_\_ boys; \_\_\_\_\_ girls; \_\_\_\_\_ animals  
Explain your choice. \_\_\_\_\_
3. Which do you think is worse:  
\_\_\_\_\_ never to swim again; \_\_\_\_\_ never to eat ice cream again;  
\_\_\_\_\_ never to watch television again  
Explain \_\_\_\_\_
4. In a game, which do you think is worse:  
\_\_\_\_\_ being a poor loser; \_\_\_\_\_ a cheater; \_\_\_\_\_ critical of your  
opponent  
Explain \_\_\_\_\_
5. Which would you rather watch:  
\_\_\_\_\_ a football game; \_\_\_\_\_ a basketball game; \_\_\_\_\_ a baseball game  
Explain \_\_\_\_\_
6. Would you rather:  
\_\_\_\_\_ make a lot of money; \_\_\_\_\_ have an exciting life; \_\_\_\_\_ be in  
love  
Explain \_\_\_\_\_
7. Who would you least like to have dinner with:  
\_\_\_\_\_ an ex-dope addict; \_\_\_\_\_ a teacher; \_\_\_\_\_ your boss  
Explain \_\_\_\_\_
8. Would you rather meet a native of:  
\_\_\_\_\_ Japan; \_\_\_\_\_ Russia; \_\_\_\_\_ India  
Explain \_\_\_\_\_
9. Would you rather have a friend who is:  
\_\_\_\_\_ a loser; \_\_\_\_\_ old; \_\_\_\_\_ straight  
Explain \_\_\_\_\_
10. Would you rather be:  
\_\_\_\_\_ conservative; \_\_\_\_\_ a WASP; \_\_\_\_\_ middle class  
Explain \_\_\_\_\_

11. Which religion would you like to know more about:  
 \_\_\_\_\_ Hindu; \_\_\_\_\_ Buddhist; \_\_\_\_\_ Black Muslims  
 Explain \_\_\_\_\_
12. Which do you think is the most true:  
 \_\_\_\_\_ all the world loves a lover; \_\_\_\_\_ most politicians are crooks;  
 \_\_\_\_\_ most fat people are happy  
 Explain \_\_\_\_\_
13. If you were alone and broke in a strange city, where would you go for help:  
 \_\_\_\_\_ a county welfare office; \_\_\_\_\_ a parish rectory; \_\_\_\_\_ pan-handle for yourself  
 Explain \_\_\_\_\_
14. Who would you rather ask a favor of:  
 \_\_\_\_\_ someone of a different race; \_\_\_\_\_ someone much younger;  
 \_\_\_\_\_ someone of the opposite sex  
 Explain \_\_\_\_\_
15. Did the most important things happen to you when you were:  
 \_\_\_\_\_ birth to age 5; \_\_\_\_\_ 5 to 10; \_\_\_\_\_ 10 to now  
 Explain \_\_\_\_\_
16. Which committee would you rather serve on:  
 \_\_\_\_\_ a church function; \_\_\_\_\_ a school function; \_\_\_\_\_ a charity drive  
 Explain \_\_\_\_\_
17. Would you rather talk to a person who is:  
 \_\_\_\_\_ quiet and good mannered; \_\_\_\_\_ agreeable and polite;  
 \_\_\_\_\_ happy-go-lucky  
 Explain \_\_\_\_\_
18. Would you rather try:  
 \_\_\_\_\_ Mexican food; \_\_\_\_\_ African food; \_\_\_\_\_ Indian food  
 Explain \_\_\_\_\_
19. When did you feel the most loved:  
 \_\_\_\_\_ as a baby; \_\_\_\_\_ as a child; \_\_\_\_\_ as an adolescent

After discussion, the students were asked to fill out the following questionnaire:

VOTING QUESTIONNAIRE

NAME \_\_\_\_\_

1. Observation: Grade yourself: A = 19 choices with reasons; B = 15 or more; C = 10 or more; D = 5 or more; F = less than 5 \_\_\_\_\_
2. Predictions: I am becoming a person who \_\_\_\_\_



3. I base this conclusion on the following evidence \_\_\_\_\_
4. Variation: I am different from my classmates in the following ways  
\_\_\_\_\_
5. Scientific tools: In doing this exercise, I learned this about myself  
\_\_\_\_\_
6. Similarity: I am like my classmates in the following ways: \_\_\_\_\_
7. Classification: I am the type of person who \_\_\_\_\_
8. Evolution: I feel that I am changing in the following ways: \_\_\_\_\_
9. Natural selection: I am able to be happy because: \_\_\_\_\_
10. Heredity: My parents would have voted like me on the following things: \_\_\_\_\_
11. Environment: My environment probably influenced the following votes:  
\_\_\_\_\_
12. Dominance/recessiveness: My strongest values are: \_\_\_\_\_  
My weakest values are: \_\_\_\_\_
13. Stimulus/response: In the Value Line last time I felt \_\_\_\_\_  
but in this one, Voting, I felt \_\_\_\_\_
14. Homeostasis: The following values seem to keep me at a balanced state:  
\_\_\_\_\_
15. Comments: \_\_\_\_\_

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Oral discussion of responses was on a voluntary basis.

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#### VOTING (Verbatim)

This activity went better orally than did Value Line. The students were asked to arrange their desks in a circle, which gave more of a feeling of group cohesiveness. However, there had developed by this time, 2 sets of lovers who were interested only in talking to each other, disrupting

the ongoing discussion as everyone else wanted the same privilege. In the interest of preserving good rapport, I decided not to say anything to these people, but, if it were to continue, I decided, they would have to be reprimanded.

While most of the students had very little difficulty in identifying values via rank ordering, most of them had a great deal of difficulty in clarifying why these values were held. This was to be expected, since this is an extremely difficult thing to do. I was extremely pleased, therefore, that some of these students were able to do so. Some of their reasoning follows.

Voting Sheet Responses: (To rank order on the basis of preference)

Item 1: Prostitutes, homosexuals, and narcotics dealers

Choices justified were done so on the basis of: potential harm to others, money to be made, reputation, and compulsion.

Item 2: Spending time with boys, girls, or animals.

Choices were justified on the basis of the quality of the relationships and the amount of effort needed to maintain it.

Item 3: To give up forever swimming, ice cream, or television.

Choices were justified on the basis of the degree of pleasure inherent in the activity and the amount of time spent doing it.

Item 4: A poor loser, a cheater, or critical of the opponent.

Students' justification statements seemed to be based on a valuing of sincerity, personal accomplishment, winning (over fairness), and avoidance of unpleasant circumstances.

Item 5: Watching a football, basketball, or baseball game.

Students justified choices on the basis of an understanding of the game and the degree of excitement in watching it.

Item 6: Making a lot of money, having an exciting life, and being in love.

All of the students justifying valued the excitement inherent in the choice, whatever it was.

Item 7: As a dinner guest, an ex-dope addict, a teacher, or the boss.

Student choices were based on a valuing of social benefits derived, the avoidance of social discomfort, and satisfying social curiosity.

Item 8: Meeting a native of Japan, Russia, or India.

Students made their choices because of the anticipated excitement, satisfaction of curiosity, preference for familiarity, and the avoidance of what they considered to be "suspicious" people.

Item 9: Having for a friend, a loser, an old person, or someone 'straight'.

In a friendship situation students seemed to value interest, honesty, the utilitarian aspects of the friendship (what the friend could do for them), and seemed to devalue stigma by association.

Item 10: Being conservative, a WASP, or middle class.

Student reasoning seemed to favor the status quo or showed a valuing of social opinion. However, there were some interesting statements of misconception:

"because I wouldn't be happy if rich, I don't understand what it is"  
 "I like being normal"  
 "Then your in the middle of everybody"

Item 11: Learning more about the Hindu, Buddhist, or Black Muslim religions.

In learning about another religion, the students seemed to value interest, obtaining new information, excitement, and the degree of expected liberalism in the religion.

Item 12: Belief that, all the world loves a lover, most politicians are crooks, or most fat people are happy.

Only one student could justify his choice on this item and it was based on the degree of social comfort inherent in the belief.

Item 13: Get help from, a county welfare office, a parish rectory, or panhandle on your own.

Students choices were based on a valuing of the ease in getting help, the spiritual aspects of the help, and independence.

Item 14: Asking a favor of someone younger, someone of the opposite sex, or someone of another race.

In asking favors, students seemed to value social comfort and trust.

Item 15: When the most important things happened, birth to 5 years, 5 to 10, or 10 to the present.

Student responses showed a valuing of increasing independence, increasing self awareness, increasing knowledge, and the possibility of romance.

Item 16: Serving on a committee for a church function, a school function, or a charity function.

In their reasoning, students demonstrated a valuing of giving, and the degree of need.



Item 17: Talking to someone quiet and good mannered, someone agreeable and polite, or someone happy-go-lucky.

In conversations, students valued challenge, congruence with their own personalities, attention given to them, excitement, feedback, and social comfort.

Item 18: Trying Mexican food, African food, or Indian food.

Students valued novelty, familiarity, and flavor.

Item 19: Were you most loved as a baby, child, or adolescent.

Students felt love in attention, freedom of choice in life style, remembrance, awareness of being loved, and indulgence.

Questionnaire responses reflected a great number of perceptions and awarenesses.

Item 2: Student predictions concerning the self demonstrated increased awareness of self, of values, of feeling, and of success.

Item 3: The evidence on which these predictions were based reflected a valuing of both objective and subjective estimates of self and a valuing of feedback from others.

Item 4: Students perceived uniqueness through both objective and subjective evidence.

Item 5: Students reported that they had an increased awareness of uniqueness, connectedness, desire for knowledge, success, and values through the vehicle of this activity.

Item 6: Through responding to the similarity item, students demonstrated a perception of connectedness via interpersonal relationships, life style, and desire for knowledge.

Item 7: Students classified themselves on the basis of their interpersonal relationships, their life styles, and the values they held.

Item 8: Students perceived change in themselves in the areas of interpersonal relationships, personal appearance, maturation, attitudes, ability to discriminate, values held, and successes.

Item 9: Students identified their personal sources of happiness as being derived from other people, increased knowledge, and popularity.

Item 10: Students recognized the impact of parental influence on their senses of right and wrong, their life styles, and their social values.

Item 11: Students recognized environmental influences on their general behavior, their self images, their social behavior, and their values.

Item 12: In response to this item, students recognized that their deepest values were people-oriented and personal, recognized that their thoughts dominate their feelings at times, and showed a concern about confidence in their value choices.

Item 13: Students recognized the differences in response they made from the previous activity to this one by stating a feeling of growth in confidence concerning making value choices, a negative attitude about having to make value choices, and a recognition of positive feelings about making value choices.

Item 14: Student responses indicated a recognition of the stabilizing force of other people on their lives.

Item 15: Students indicated a satisfaction with the self and an increased self awareness.

Patterns Noted:

Charleen M.'s responses all ended with an exclamation point!

Nancy D. continued to reflect lack of self confidence. She said she goes along with everyone else and is concerned about making the right choice.

Mark H. failed to answer all but a few items. This was unusual for him.

Pamela O. failed to answer all but one item on the questionnaire.

Karen W. continued to reflect unhappiness. She said that: she is becoming a loser, she can never make friends and, therefore, is at home much of the time with nothing to do, she prefers a loser for a friend, she is not as happy as she used to be, and that her parents would not vote like her on any item.

William W. failed to answer all but one item. He and Pamela O. developed a romantic relationship and seemed too preoccupied with each other to bother with either self concept activities or classwork. When they did respond, many of their answers were identical, although there were some important differences.

Jim W. failed to respond to all but a few items. This was unusual for Jim.

SERIES FOUR: PERCEIVING INTEGRATION12. Where Emotions Are Felt (Objectives)Science Objectives (Cognitive)

- a. To make relevant the concept of constant energy consumption by living things.

- b. To make relevant the concept of homeostasis.
- c. To make relevant the concepts of stimulus/response reactions.
- d. To make relevant the concept of natural selection.
- e. To make relevant the concept of variation.
- f. To make relevant the concept of classification based on characteristics.
- g. To foster an appreciation of the use of scientific tools to extend the senses.
- h. To make relevant the scientific method of basing conclusions on evidence.
- i. To make relevant the scientific method of precise observation.

#### Self Concept Objectives (Affective)

- a. Perception of emotions.
- b. Acceptance of emotions.
- c. Perception of emotional and somatic integration.
- d. Perception of uniqueness
- e. Perception of connectedness.

#### Source

This activity was adapted from several sources now lost to memory.

#### WHERE EMOTIONS ARE FELT (Procedure)

The students were taken on guided fantasy trips to recall the emotions of anger, happiness, disgust, and love as follows:

Close your eyes and try to relax. (Pause) Without changing your rate of breathing, try to become very aware of it. (Pause) Now try to relax every muscle in your body. (Pause) Now go back to a time when you were very angry (happy, disgusted, felt very loving--each fantasy in turn). (Long pause) Now let the anger (other emotions in turn) go wherever it wants to in your body. (Pause) Notice the part of your body where you feel it the most. (Pause) What does it feel like? (Pause) Now come back to the present. (Pause) When you feel ready, open your eyes. (Pause)

---



Between each fantasy the students were given time to fill in the top part of the questionnaire asking where the emotion was felt and how it was experienced. When they were ready, they were asked to go into the next fantasy. At the end of all 4 fantasies, they were asked to fill in the rest of the questionnaire. Oral discussion of experiences and responses was on a voluntary basis.

---

Questionnaire:

1. Anger:

Where felt \_\_\_\_\_  
 What it felt like \_\_\_\_\_

---

2. Happiness:

Where felt \_\_\_\_\_  
 What it felt like \_\_\_\_\_

---

3. Disgust:

Where felt \_\_\_\_\_  
 What it felt like \_\_\_\_\_

---

4. Love:

Where felt \_\_\_\_\_  
 What it felt like \_\_\_\_\_

---

Concept: All things constantly need energy.

5. Today's exercise had something to do with energy. What was it? \_\_\_\_\_
- 

Concept: If the body's constant state is overstressed, it will be upset.

6. Today's exercise had something to do with this concept. What was it? \_\_\_\_\_
- 

Concept: Different stimuli can cause different responses.

7. What did today's exercise have to do with this concept? \_\_\_\_\_
- 

Concept: Nature selected the fittest to survive.

8. What did today's exercise have to do with this concept? \_\_\_\_\_
- 

Concept: There is a variation within the species.

9. What did today's exercise have to do with this concept? \_\_\_\_\_
- 

Concept: Living things can be classified into related groups based on their characteristics.

10. What did today's exercise have to do with this concept? \_\_\_\_\_
-

Concept: Scientific tools help to extend the senses so that we can see things we might not otherwise see.

11. What did today's exercise have to do with this concept? \_\_\_\_\_

Concept: Conclusions must be based on evidence collected.

12. What did today's exercise have to do with this concept? \_\_\_\_\_

Concept: A scientist must observe carefully.

13. What did today's exercise have to do with this concept? \_\_\_\_\_

14. What did you learn about yourself today? \_\_\_\_\_

15. How did this exercise help you to learn it? \_\_\_\_\_

Oral discussion of responses was on a voluntary basis.

This was the first exercise where it seemed safe to allow less structure in relating concepts of science to the exercise. The students had had practice doing this on the 11 previous exercises.

#### WHERE EMOTIONS ARE FELT (Verbatim)

For this activity the students were asked to sit in a circle. I hoped that this would facilitate better intercommunication and attention since 2 couples had been so preoccupied with their romantic endeavors that they had been a disturbance to the rest of the class not only in the self concept activities, but in classwork as well. This did not bring about the desired effect however, since Pamela O. and William W. persisted in carrying on with each other in a disruptive manner even while the other students were attempting fantasy. As a result, I had to ask William W. to leave the room. After his departure, the activity seemed to go much better, and even Pamela paid attention and attempted to participate.

For this one activity, it would be best to present student responses in their entirety in order to demonstrate the full flavor of student response.

Responses to the anger fantasy:Where felt:

1. Brain
2. in my hart
3. nose
4. In my fist
5. On my back
6. in my arms
7. arms and fists
8. in my face
9. in my head
10. my heart
11. in my throat
12. In my head
13. in my nerves
14. in my fists
15. in my head

How experienced:

Madness  
 it beated faster  
 Felt like I had a stuffed up nose  
 I could hit someone  
 Someone pushing on my back  
 Super tension, like I was going to punch the person  
 a tingling numb clenching and my muscles tighten up.  
 It was burning  
 like there was someone pounding on my head  
 like I had a blocked up stomach  
 like a big lump that is salty tasting  
 It hurt, mean  
 something japing at my nerves  
 like I wanted to punch somebody in the face  
 a pounding

That these students were experiencing common physiological manifestations in response to the emotion of anger is obvious from examining the following common expressions of anger, some of which have even become clichés:

- Statement 1 "That makes me mad!"  
 Statement 5 "Get off my back!"  
 Statement 7 "uptight"  
 Statement 8 "That burns me up!"  
 Statement 10 "That makes me sick!"  
 Statement 11 "so mad I could cry"  
 Statement 13 "got on my nerves"  
 Statement 14 "I'd like to punch you out!"

Responses to the happiness fantasy:Where felt:

1. all over
2. in my head
3. \_\_\_\_\_
4. all over
5. shouldees And neck
6. all over

How experienced:

happy everywhere jump a  
 like laughing  
 \_\_\_\_\_  
 great  
 tingling  
 it felt like I wanted to get up and run and jump all over the place.

- |                             |   |
|-----------------------------|---|
| 7. my heart                 | real warm glowing with the brilliance of 10 suns and friendly |
| 8. in my heart              | like I was happy and tingley                                  |
| 9. in my heart              | my heart was thumping hard                                    |
| 10. In my heart             | like I won the Mass Sweepstake                                |
| 11. in my heart and stomach | my heart beating fast and butterflies in my stomach           |
| 12. my heart and smile      | good  |
| 13. through my whole body   | A tingle going through my body                                |
| 14. in my heart             | my heart beat went faster                                     |
| 15. all inside my body      | cool breeze   |

Here are some common expressions and clichés that demonstrate that what these students experienced in fantasy are widely experienced physiological reactions to happiness:

- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| Statement 1 & 6                      | "Jump for joy"                    |
| Statements 1, 4, 6, 13, & 15         | "Felt good all over"              |
| Statements 7, 8, 9, 10, 11, 12, & 14 | "Happiness is where the heart is" |
| Statement 7                          | "the glow of happiness"           |

Responses to the disgust fantasy:

Where felt:

1. all over
2. in my throat
3. \_\_\_\_\_
4. my leg
5. in my head
6. all over
7. my stomach
8. In my stomach
9. stomach
10. my heart
11. in my hands and all over
12. my head
13. in my hands
14. all over
15. my head

How experienced:

- really bad Brain  
a lump
- 
- it hurt  
throbbing  
it felt like I was about to die because I didn't have any strength  
my whole stomach was upside down and inside out  
I was sick  
a punching bag all hard and tight  
like the butterfly  
like I wanted to punch someone, a cold feeling all over  
bad, it just couldn't happen  
tenses my hands tightens them  
like I just wanted to quit and give up  
it was spinning around and around real fast



Common expressions and clichés congruent with student experiences

are:

Statement 2	"I could cry!"
Statements 7 & 8	"That makes me sick!"
Statements 9 & 13	"Uptight"
Statement 11	"That leaves me cold!"
Statement 12	"I couldn't believe it!"
Statement 14	"I give up!"
Statement 15	"made my head spin"

Responses to the love fantasy:

Where felt:

1. all over
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. in my stomach
7. \_\_\_\_\_
8. in my heart
9. in my heart
10. in my heart
11. in my heart and stomach
12. my heart, inside
13. in your heart
14. in my stomach
15. stomach

How experienced:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

it felt like 10,000 butterflies  
were jumping around

\_\_\_\_\_

my heart wanted to burst  
can't describe

can't describe

my heart beat fast and butterflies  
in stomach

good

Felt like a tingle

felt like butterflies

felt like a tossed salad

Notice the number of blanks on this item and the relative lack of imagery compared to the other items. Most of the students responded to this item with clichés.

Responses to the questionnaire demonstrated good congruence between cognitive concepts and affective objectives.

Item 1: Concept - energy use by living things.

Although it was obvious that there was some commiserating, many students recognized, not only their own feelings, but also that emotions

are a form of energy, producing definite and different physiological effects and that this energy came from within themselves.

Item 2: Concept - Homeostasis

Most of the students identified anger and disgust as upsetting emotions. All recognized the effect of emotions on the body, and one student recognized the influence of emotions on behavior, i.e., "My emotion cause lying here today." Only one student identified love as an upsetting emotion.

Item 3: Concept - Stimulus/response

Most of the students recognized the emotions as stimuli and the physiological reactions as responses. One student recognized potential behavioral differences, i.e., "Anger made me want to hurt something, happiness made me want to shake everyone's hand that I met. Different emotions cause different responses." Some students saw emotion as the response to a stimulus. For example, "different stimuli cause different emotions".

Item 4: Concept - Natural selection.

Some students felt that emotions should be held in--controlled. Others spoke of "handling" them. One student saw emotions as a drain on energy, i.e., "emotions your energy gets burned up". The point was not so much whether or not to hold in, control, or "handle" emotions as it was for each student to make the concept relevant for himself. This, most of them seemed able to do.

Item 5: Concept - Variation.

Student responses demonstrated that the concept was not only well grasped, but that each student was able to make it relevant through this exercise.

Item 6: Concept - Classification.

Although the students varied in ability to articulate, it was quite obvious from their responses that most of them were able to find relevance for the concept in their own personal lives.

Item 7: Concept - Usefulness of scientific tools.

Most of the students recognized an increased awareness of self and in 2 cases an increased awareness of others, i.e., "other people react differently" and "I didn't realize about other people". All but 3 students demonstrated the ability to make the concept relevant to themselves.

Item 8: Concept - Conclusions must be based on evidence.

Relevance for the concept was well demonstrated. It was obvious that these students saw the guided fantasy as a method for gathering subjective data.

Item 9: Concept - Careful observation.

Relevance for this concept was well demonstrated.

Item 10: "I learned . . ." statements.

The learnings specified seemed to be in terms of increased awareness of emotion, the recognition of the physiological effects of emotions, and, in some cases, a new emotional experience.

Item 11: How did this exercise help you to learn it?

Most of the students recognized the value of introspective exercises in gaining new self knowledge.

#### Patterns Noted:

Pamela C. seemed to rely on Mark H. for her responses. Similarity of response was striking in this exercise.

David D. responded to more items than he usually did.

Jim W., for the second time, displayed richness of imagery in his responses. He was the one who described the "warmth and brilliance of 10 suns".

Ross W. seemed to be an independent thinker. None of his responses were modified from group opinion.

Sandra S. showed more richness of imagery than most of her classmates.

#### SERIES FOUR: PERCEIVING INTEGRATION

#### 13. Twenty-one Questions (Objectives)

##### Science Objectives (Cognitive)

- a. To provide practice in relating an affective lesson to cognitive purposes.

##### Self Concept Objectives (Affective)

- a. Awareness of personal desires and goals.
- b. Awareness of personal problem potential.
- c. Awareness of areas of potential control or lack of control.
- d. Awareness of alternatives.
- e. Awareness of preferences.
- f. Perception of uniqueness.
- g. Perception of connectedness.
- h. Perception of personal identity.
- i. Perception of an integrated self.

##### Source

This activity was adapted from one suggested by Canfield, 1973,

#74.

#### TWENTY-ONE QUESTIONS (Procedure)

The students were asked to fill in the following questionnaire:

1. What would you like to do, to have, or to accomplish? \_\_\_\_\_
2. What do you wish would happen? \_\_\_\_\_
3. What would you like to do better? \_\_\_\_\_



4. What do you wish you had more time or money for? \_\_\_\_\_
5. What more would you like to get out of life? \_\_\_\_\_
6. What are your unfulfilled ambitions? \_\_\_\_\_
7. What angered you recently? \_\_\_\_\_
8. What made you tense or anxious? \_\_\_\_\_
9. What have you complained about? \_\_\_\_\_
10. What misunderstandings do you have? \_\_\_\_\_
11. With whom would you like to get along better? \_\_\_\_\_
12. What changes for the worse do you sense in the attitudes of others? \_\_\_\_\_
13. What would you like to get others to do? \_\_\_\_\_
14. What changes will you have to make? \_\_\_\_\_
15. What takes too long? \_\_\_\_\_
16. What is wasted? \_\_\_\_\_
17. What is too complicated? \_\_\_\_\_
18. What seems to be blocking you? \_\_\_\_\_
19. In what ways are you inefficient? \_\_\_\_\_
20. What wears you out? \_\_\_\_\_
21. What would you like to organize better? \_\_\_\_\_

These questions were discussed orally on a voluntary basis, and then the students were asked to choose any 5 science concepts that they had learned this year and relate them to the exercise just completed. For example, they might have related the exercise to the science concepts concerned with problem recognition, stimulus/response, classification, scientific tools, evolution, etc.

After the students had finished with this part of the exercise, they were asked to make 5 'I learned' statements on the affective part of the exercise. Oral discussion of responses was on a voluntary basis.

#### TWENTY-ONE QUESTIONS (Verbatim)

Because of the nature of this exercise, I decided to keep the students in their regular seats instead of arranging them in a circle as I had done in the previous 2 exercises. The activity went well, and the students seemed to enjoy answering the questions.

Responses to the exercise:

Item 1: What would you like to do, have, or accomplish?

Most of the students responded with a desired accomplishment.

Item 2: What do you wish would happen?

Students expressed wishes to do something, to change the past, to change the present, expressed some very negative wishes concerning school, expressed wishes concerning aspirations for the future, expressed wishes concerning having other people change their behavior, and 2 students made some very practical wishes.

Item 3: What would you like to do better?

Students wished to do better in sports, in academics, at a vocation, and wished to have better interpersonal relationships. Three students misinterpreted the question.

Item 4: What do you wish you had more time or money for?

Most of the responses involved things requiring more money. Six responses involved things requiring both time and money. There were only 2 responses which indicated things requiring time more than money.

Item 5: What more would you like to get out of life?

Student responses indicated an awareness of needs for personal growth, increased happiness, generalized needs, interpersonal needs, needs for more freedom relating to time, and needs for play.

Item 6: What are your unfulfilled ambitions?

Unfulfilled ambitions were related to vocations, accomplishments, and successes.

Item 7: What angered you recently?

Students were angered in relation to their occupations, sports, other people, and feelings.

Item 8: What made you tense or anxious?

Students related that they were anxious about other people, the self, school, and specific events, as well as suspense of any kind.

Item 9: What have you complained about?

Students related that they had complained about physical ailments, school, the elements, people, and events. Two students said they complained about everything.

Item 10: What misunderstandings do you have?

Students felt that they misunderstood people and events. Some complained of a feeling of generalized confusion, and some felt that they had many misunderstandings.

Item 11: With whom would you like to get along better?

Students expressed a desire to get along better with girl and boy-friends, siblings, parents, teachers, and people in general.

Item 12: What changes for the worse do you sense in the attitudes of others?

Students objected to the uncaring attitudes of other people, made objections on moral grounds, and objected to the rejecting attitudes of others.

Item 13: What would you like to get others to do?

Students expressed a desire to get others to be more active, to improve interpersonal relations between other people, to get others to enjoy life more, to get others to participate in activities enjoyed by the respondent, and to get others to improve the environment.

Item 14: What changes will you have to make?

Most of the students perceived control over the situation.

Item 15: What takes too long?

Students expressed impatience with the time it takes for schooling, to get people together, and to grow up.

Item 16: What is wasted?

Students felt that some aspects of school were a waste as were things not used. Most responses were varied indicating that time and other things like energy, money, life and childhood were wasted.

Item 17: What is too complicated?

Students indicated that some aspects of school were too complicated as were people, life, and love.

Item 18: What seems to be blocking you?

Students reported feeling blocked by work, by responsibility, by parents, by themselves, by other people, by school, by the past and by the present. Two students reported feeling blocked in the acquisition of something.

Item 19: In what ways are you inefficient?

Students perceived inefficiency relating to school, punctuality, work or duties and in the ability to explain "problems".

Item 20: What wears you out?

Students reported that they felt worn out from school, partying, work, running around, business, riding bicycles, and running.

Item 21: What would you like to organize better?

Students felt the need to better organize their work habits, some aspects relating to school, their money, the world, their parents, sports, life, and the problem of pollution.



Patterns Noted:

David D. responded to only 2 items. He spent the rest of his time drawing a grotesque picture of a man hanging from a tree limb on the back of his paper. (See p. 333)

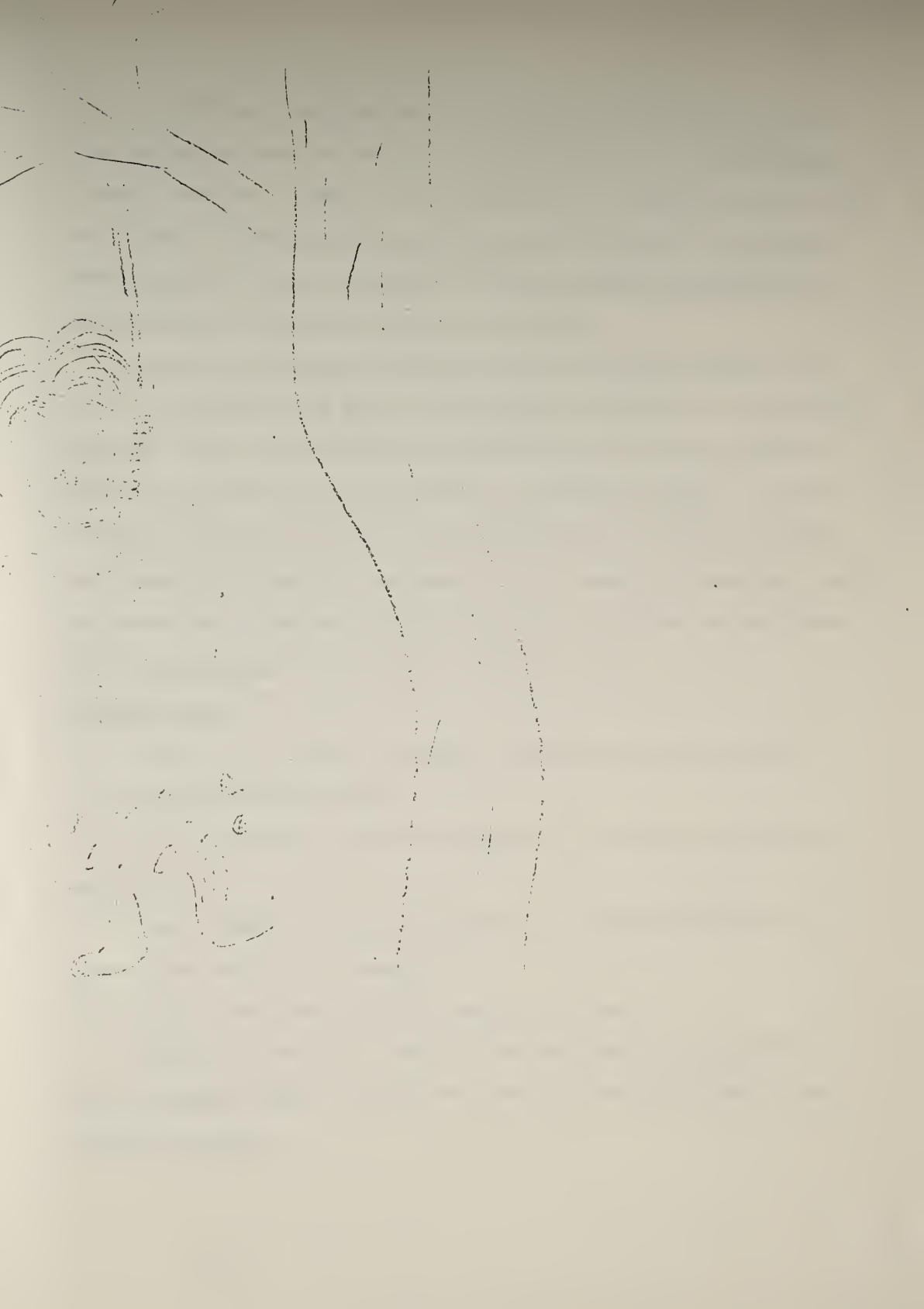
William W.'s responses were primarily related to his boredom with school and work.

Micheal A.'s responses were somewhat contradictory. On the one hand, he wanted to get along better with everyone and misunderstood the world, but, on the other hand, he wished everyone could enjoy life as he did and said he had noticed only changes for the better in the attitudes of others.

Karen W. continued to reflect problems. She wished she could change her life, wanted to go on a long vacation, would like to get a lot more out of life, wanted to get a job as a secretary and go out on her own, was recently angered by jealousy, her sister had been "snobbier" to her lately, she wished people would do what she wanted for a change, wanted Patty to stop liking her brother, would like her mother to give her more freedom, and she would like to organize this world better.

Charleen M. seemed to be having trouble with people. Most of her responses indicated a dissatisfaction with interpersonal relationships. She mentioned problems with friends, people, little kids, everybody, a certain person, and her parents.

This was the first exercise without a cognitive/affective congruence questionnaire. Instead, the students were asked to choose at random any 5 concepts they had learned in biology and relate them to the exercise just done. Since they had been doing this for every exercise up to this point



under the structure I had provided, I was surprised that they seemed confused and did not seem to know what I was talking about. For this reason I chose 5 concepts at random and wrote them on the blackboard and then asked them to make the connection between these and the exercise. The concepts chosen related to problem recognition, stimulus/response, classification, the usefulness of scientific tools, and evolution.

Because of the apparent confusion when I asked them to select concepts, I had doubts about their ability to find relevance, but I was happily surprised. Once I had selected the concepts for them, they had almost no difficulty in finding personal relevance for every one of them. The only one which showed any deviation in interpretation was the concept relating to the use of the cognitive processes as a tool toward self knowledge. Only one student recognized the activity as the tool. Two other students identified introspection into the memory banks as a tool.

Patterns Noted:

Pamela O. and William W. showed a striking similarity of response so I suspected collusion there.

Jim W. and David D. failed to answer any of the cognitive relevance questions.

Ross W. seemed to have a greater grasp of cognitive/affective congruence than most of his classmates.

Nancy D. saw things as getting worse over time.

Sandra S. seemed to be troubled. She said that talking problems over with people seems to lighten your load, but you can't expect things to change overnight.

Most of the students had no difficulty in making the 5 "I learned . . ." statements requested. Some made even more. Only 1 student made less than 5.

Twenty-eight of these statements were things learned about their classmates indicating a great deal of progress in the art of listening to each other since we did Hear Me/See Me!

There were 8 statements of self awareness and 8 very negative statements toward school, most of them indicating that school was a "drag" or a "waist of tin". This attitude had been obvious not only in their behavior, but in their responses as well. However, 2 students were observant enough to pick up the fact that, in spite of this, most of them expressed a desire to "graduate".

There were 7 negative observations about people and life in general; 4 neutral ones, and 3 positive ones.

Four statements reflected perceived connectedness and 2 statements, perceived uniqueness.

Two statements reflected perceived change in people, and 1 was an observation about people in general.

One statement reflected cognitive/affective congruence or what some have recently called 'confluent' learning. It was, "people are just like scientists".

#### Patterns Noted:

Three of Nancy D.'s statements were negative. She said that she learned that: the world was messed up, that everybody else has problems, and that Mike thinks the world is messed up too.



Tammy B. seemed to reflect on the problems of others.

Jim W. and David D. did not make any "I learned . . ." statements.

Karen W.'s responses continued to reflect problems. She said that she learned that her friend always bosses her around; and that you should fight for what you want, but you can't always get it.

William W. made only 2 "I learned . . ." statements.

#### SERIES FOUR: PERCEIVING INTEGRATION

#### 14. If I Could Be . . . (Objectives)

##### Science Objectives (Cognitive)

- a. To make relevant the concept of stimulus and response.
- b. To make relevant the concept of the dominance and recessiveness of certain inherited traits.
- c. To make relevant the concept that the environment can affect the expression of inherited traits.
- d. To make relevant the concept of variation.
- e. To make relevant the concept of evolution.
- f. To make relevant the concept of classification based on characteristics.
- g. To make relevant the concept of similarity among living things.
- h. To make relevant the concept that scientific tools help to extend the senses.
- i. To make relevant the concept that scientists must observe carefully.
- j. To make relevant the concept that scientists must learn to recognize problems.

##### Self Concept Objectives (Affective)

- a. Awareness of emotional response.
- b. Perception of uniqueness.
- c. Perception of connectedness.
- d. Perception of personal identity.
- e. Perception of growth.
- f. Perception of a many-faceted, but integrated self.

##### Source

This activity was learned in various workshops and is also suggested in Canfield, 1973, #54.

IF I COULD BE . . . (Procedure)

The students were asked to fill in the following questionnaire:

1. If I could be any animal, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
2. If I could be a bird, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
3. If I could be an insect, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
4. If I could be a flower, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
5. If I could be a tree, I'd be \_\_\_\_\_  
because \_\_\_\_\_
6. If I could be a piece of furniture, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
7. If I could be a musical instrument, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
8. If I could be a building, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
9. If I could be a car, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
10. If I could be a street, I'd be a \_\_\_\_\_  
because \_\_\_\_\_
11. If I could be a state, I'd be \_\_\_\_\_  
because \_\_\_\_\_
12. If I could be a foreign country, I'd be \_\_\_\_\_  
because \_\_\_\_\_
13. If I could be a game, I'd be \_\_\_\_\_  
because \_\_\_\_\_
14. If I could be a record, I'd be \_\_\_\_\_  
because \_\_\_\_\_
15. If I could be a TV show, I'd be \_\_\_\_\_  
because \_\_\_\_\_
16. If I could be a movie, I'd be \_\_\_\_\_  
because \_\_\_\_\_
17. If I could be food, I'd be \_\_\_\_\_  
because \_\_\_\_\_
18. If I could be a part of speech, I'd be \_\_\_\_\_  
because \_\_\_\_\_
19. If I could be any color, I'd be \_\_\_\_\_  
because \_\_\_\_\_

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Oral discussion of responses was on a voluntary basis. After discussion the students were asked to fill in the following questionnaire:

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IF I COULD BE QUESTIONNAIRE:

THE FOLLOWING IS A LIST OF CONCEPTS YOU HAVE LEARNED IN BIOLOGY. TELL HOW THIS EXERCISE APPLIES TO EACH CONCEPT. IN OTHER WORDS, TELL WHAT THIS EXERCISE HAS TO DO WITH EACH CONCEPT.

1. Different stimuli can cause different responses. \_\_\_\_\_
2. One 'bit of information' can dominate or hide another 'bit of information'. \_\_\_\_\_
3. The environment can affect the appearance of an inherited feature. \_\_\_\_\_
4. There is a variation within each species. \_\_\_\_\_
5. Living things change through time. \_\_\_\_\_
6. Organisms can be classified according to their characteristics. \_\_\_\_\_
7. All living things have certain similarities. \_\_\_\_\_
8. Scientific tools help us to see things we might not otherwise see. \_\_\_\_\_
9. Scientists must be able to observe carefully. \_\_\_\_\_
10. Scientists must be able to recognize problems. \_\_\_\_\_

Now make 5 'I learned' statements on the If I Could Be Questionnaire.

1. I learned \_\_\_\_\_
2. I learned \_\_\_\_\_
3. I learned \_\_\_\_\_
4. I learned \_\_\_\_\_
5. I learned \_\_\_\_\_

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Oral discussion was on a voluntary basis.

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IF I COULD BE . . . (Verbatim)

This activity went well, and the students seemed to enjoy doing it.

Students based their choices on the fact that the thing chosen had desired or admired abilities, characteristics, popularity, usefulness, or location. Many of these desired or admired qualities bespoke power, virtue, significance, and competence. For example:

Power: "If I could be any game, I would be spin the bottle because I could make everyone kiss."

virtue: "If I could be any record, I would be an album because I would give people much enjoyment."

competence: "If I could be any food, I'd be a prime cut New York Sirloin because it's the best."

significance: "If I could be any musical instrument, I'd be a trumpet, because people like trumpets."

Although students identified with their selected role to a great extent, the identification broke down in places, and students began to make choices based on preference. This could have been avoided with a simple wording of the exercise sheet. For example, instead of its reading: "If I could be any animal, I'd be a \_\_\_\_\_, because \_\_\_\_\_.", it could read, "If I could be any animal, I'd be a \_\_\_\_\_, because if I were a \_\_\_\_\_ . . .". This would be more apt to force student identification with the chosen role.

#### Patterns Noted:

Karen W. continued to reflect problems. She said that she would like to be a hummingbird, because they are small, and she likes being small; a lady slipper because they are so rare, and she would hardly be seen; the Empire State Building so she could see above everybody; a Fiat because they are small like she is; Hawaii so she could be off by herself; a sad movie so she could make everybody cry; and a steak so she could slop grease all over everyone.

Dennis A. said that he wanted to be a badger because they are the "scariest critters in the forest"; a bee because people are afraid of them; a Redwood tree because they are the tallest; a drum because they are loud; Russia because it is the biggest; and an album because they are big.



Michael A. said that he would like to be a bear because he would like to have seniority; a sunflower because they stand out; a maple because they are a big and strong tree; a tuba because they stand out; a Datsun 260Z because he likes to be the best; a super highway; and a prime cut New York sirloin because it's the best.

David D. responded more this time. He said he would like to be transparent because he could hide more easily.

Jim W. said that he would like to be an oak tree because they're strong; a light because he could shine all over everyone; a bomb shelter because everyone would hide in him; a drag strip because he would be well known; and a world's record because he would be famous.

Mark H. said he wanted to be a bear because they are big and respected; an eagle because they fly with a type of show-off nature; a bee because everyone is scared of them; a rose because everyone likes roses; a scratched record because nobody takes care of records; and the news because it is "taking serarus".

Ross W. made several of his choices because of the popularity of the thing chosen.

Oscar H. said that he would like to be an eagle because they are leaders; a spider because he could scare people; an (illegible) car because then everyone would talk about him; solitaire because then he would have a lot of people watching; and steak because he could choke people when they were eating.

Pamela O. had several times indicated a love of nature, i.e., the sun, the water, etc.

William W. responded to only about half of the items.

Responses on the If I Could Be . . . questionnaire demonstrated that most students were able to make cognitive concepts affectively relevant to a degree that surpassed my most optimistic expectations. Following is a sampling of data from this questionnaire.

The following concepts were listed and the students were asked to tell how the exercise applied to each concept.

Concept 1: Different stimuli can cause different responses.

Sample responses:

"Each question is a different stimulus. Each answer is a different response."

"I came up with different answers to the different stimuli."

Concept 2: Another 'bit of information' can hide or dominate.

Sample responses:

"In my answers I wanted to be big objects."

"some things were stronger than others"

Concept 3: The environment can affect the appearance of an inherited feature.

Sample responses:

"Your environment plays a great part of what you wanted to be."

"The way I was brought up has to do with what I said."

Concept 4: There is a variation within each species.

Sample responses:

"everyone with the acceptance of the rule has different things they'd like to be"

"each persons thoughts are different"

Concept 5: Living things change through time.

Sample responses:

"as you grow your ideas change"

"My thoughts and answers have changed from when I was younger."

Concept 6: Organisms can be classified according to their characteristics.

Sample responses:

"I can be classified according to my choices."

"I'd classified myself as wanting to be rich and be in the sun."

Concept 7: All living things have certain similarities.

Sample responses:

"a lot of us like the sun, etc."

"I had certain similarities with other people"

Concept 8: Scientific tools help us to see things we might not otherwise see.

Sample responses:

"like this exercise helped us to be aware"

"my imagination made me see that I like action, wildlife, etc."

Concept 9: Scientists must be able to observe carefully.

Sample responses:

"We had to observe ourselves closely to see what we really wanted to be."

"Had to observe carefully what I picked to be"

Concept 10: Scientists must be able to recognize problems.

Sample responses:

"like the problems we must over come"

"I recognized all the problems I would have being the things I want to be."

#### Patterns Noted:

Dennis A. had some good insights. He said that his answers showed him that he wanted to be big objects. He saw that in his environment he was the smallest boy so he wanted to be big. He noticed also that as he got older his responses changed.

William W. answered very few questions. Instead of answering questions, he spent his time on the last 2 exercises drawing a spiral design on his paper.

Recently Nancy D. has seemed to be preoccupied with thoughts about her family, and these thoughts were quite frequently reflected in her responses.

David D. responded to only 2 items of this questionnaire.

Most of the students demonstrated good insights as well as ability to find cognitive/affective congruence.

Most of the "I learned . . ." statements were statements of self awareness, but there were also statements reflecting perception of uniqueness, personal growth, significance, connectedness, self satisfaction, role playing, and problem awareness.

Patterns Noted:

Mark H. seemed to be reflecting a more realistic self image, recognizing that he desired respect and noticing that he had problems with money management.

Jim W. did not make any "I learned . . ." statements, nor did David D. or William W.

Jamela C. started to make a statement but never finished it.

Mike A. made statements reflecting self awareness gleaned via this exercise that were typical of most responses. He said that he learned that he liked action, liked to be free in the wilderness, liked to soar like an eagle, liked things that are the best, and liked to have seniority.

The responses of Diane A. to this activity have been replete with references to a quiet place, desire for freedom, preference for soft, pleasant things, and a preoccupation with mirrors. Several of her responses have also indicated a desire to be of service or "useful".

SERIES FOUR: PERCEIVING INTEGRATION15. Geography of Self (Objectives)Science Objectives (Cognitive)

- a. To make relevant the concept of energy consumption by living things.
- b. To make relevant the concept of homeostasis.
- c. To make relevant the functions of the human nervous system.
- d. To make relevant the concepts of stimulus and response.
- e. To make relevant the concepts of dominance and recessiveness.
- f. To make relevant the concept of environmental influence on inherited traits.
- g. To make relevant the concept of variation.
- h. To make relevant the concept of evolution.
- i. To make relevant the concept of classification based on characteristics.
- j. To make relevant the concept that all living things have certain similarities.



- k. To make relevant the concept that scientific tools help to extend the senses.
- l. To make relevant the concept that scientists base conclusions on evidence collected.
- m. To make relevant the concept that scientists must observe carefully.
- n. To make relevant the concept that scientists must learn to recognize problems.

#### Self Concept Objectives (Affective)

- a. Self awareness through self definition.
- b. Perception of uniqueness.
- c. Perception of connectedness.
- d. Sense of personal identity.
- e. Perception of areas of strength.
- f. Perception of potential.
- g. Perception of areas of potential trouble.
- h. Perception of many-facets.
- i. Perception of boundaries.
- j. Perception of integration.

#### Source

This activity was adapted from one suggested in Canfield, 1973,

#71.

#### GEOGRAPHY OF SELF (Procedure)

The students were asked to fill out the following questionnaire:

For this exercise, think of yourself as a country rather than as a person and answer the following questions. For example, if you were asked, "Where are your agricultural areas?", you might say, "On my head because I grow a good crop of hair there." Try these questions:

1. Where are your deserts? \_\_\_\_\_
2. Where are your unexplored frontiers? \_\_\_\_\_
3. What would an explorer find if he explored your unexplored areas?  
\_\_\_\_\_
4. What are your natural resources? \_\_\_\_\_
5. Where are your power plants? \_\_\_\_\_
6. Where are your recreation areas? \_\_\_\_\_
7. What do you most like to show tourists? \_\_\_\_\_
8. Where are your wars and conflicts being fought? \_\_\_\_\_
9. How does someone get inside you? \_\_\_\_\_
10. Who do you prohibit from entering or leaving? \_\_\_\_\_
11. Where are your polluted areas? \_\_\_\_\_

12. What are the forms of pollution? \_\_\_\_\_
13. Where are your playgrounds? \_\_\_\_\_
14. What kind of weather does your body have? \_\_\_\_\_
15. Where is your happiest place? \_\_\_\_\_
16. Where are your beautiful spots? \_\_\_\_\_
17. Where are your boundaries? \_\_\_\_\_
18. Where are your rivers? \_\_\_\_\_
19. What are the chief products of your body? \_\_\_\_\_
20. Where are your trouble spots? \_\_\_\_\_
21. Is a passport needed to enter and leave you? \_\_\_\_\_
22. What are the requirements to get a passport? \_\_\_\_\_
23. Where are your different climatic regions? \_\_\_\_\_
24. Where are your tropical lakes? \_\_\_\_\_
25. Where are your mountain ranges? \_\_\_\_\_
26. Where are your jungles? \_\_\_\_\_
27. Where are your cliffs? \_\_\_\_\_
28. Where are your caves? \_\_\_\_\_

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Oral discussion of responses was on a voluntary basis. After discussion, students were asked to fill in the following questionnaire:

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Tell how each concept relates to this exercise.

1. All living things constantly need energy. \_\_\_\_\_
  2. Life is a continuous struggle to keep all the processes at a constant state. \_\_\_\_\_
  3. The nervous system coordinates the life functions necessary to maintain a constant state. \_\_\_\_\_
  4. Different stimuli cause different responses. \_\_\_\_\_
  5. One characteristic can dominate another characteristic. \_\_\_\_\_
  6. The environment can affect the appearance of a feature. \_\_\_\_\_
  7. There is a variation within each species. \_\_\_\_\_
  8. Living things change through time. \_\_\_\_\_
  9. Classification is based on characteristics. \_\_\_\_\_
  10. All living things have certain similarities. \_\_\_\_\_
  11. Scientific tools help to extend the senses. \_\_\_\_\_
  12. Conclusions must be based on the evidence collected. \_\_\_\_\_
  13. Scientists must be able to observe carefully. \_\_\_\_\_
  14. Scientists must be able to recognize problems. \_\_\_\_\_
- 

Oral discussion of responses was followed by requesting students to make 5 'I learned' statements. Responses to these were discussed on a voluntary basis.

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GEOGRAPHY OF SELF (Verbatim)

Although the students enjoyed doing this activity, they lacked the sophistication to glean from it any insights, perceptions, or awarenesses.

Most of the responses were mechanical and unimaginative. The most meaningful responses were the following:

Item: Where are your unexplored frontiers?

Most students responded with brain and head answers.

Item: What would an explorer find if he explored your unexplored frontiers?

Student responses ranged from love, warmth, happiness, and ideas, to dirt and burned-out areas.

Item: Where are your power plants?

Most responses pointed to brain, muscles, and special sense organs.

Item: Where are your wars and conflicts being fought?

Most of the students responded with brain, head, and mind, but some responses included stomach and arms.

Item: How do people get inside you?

Responses were mostly heart, brain or mind, and special sense organs.

Item: Who do you prohibit from entering or leaving?

All students responded with entering prohibitions; none with leaving prohibitions.

Item: What are the requirements for getting a passport?

Most students indicated a prerequisite of decency, warmth, trust, and love.

Most of the other items seemed to lack value in terms of the purpose of the activity.

Patterns Noted:

Pamela O. answered a lot of questions with "I don't know".

Nancy D. said that her unexplored frontier was her heart because no one had ever explored it; that if they were to explore it, they would find a lot of love and warmth there; and that her recreation area was her head because it was all "messed up then OK".

David D. responded to only one item.

Karen W. seemed to be in better spirits. She seemed preoccupied with her legs, arms, and her allergies.

Jim W.'s responses painted a rather realistic picture of him, but not one that would be gleaned from a first impression. He said that his unexplored frontier was inside of his head because no one had been there but him, that an explorer would find that area all burned out, that his natural resource was the ability "to do it right", that his power plants were his muscles and were distributed all over his body, that he would most like to show tourists his power plants and how they produce power, that his wars and conflicts were being fought inside his brain where they fought to keep "straight", that his weather was always fair and people love fair weather, that his happiest place was in his heart where he welcomed everyone, that his beautiful spot was his whole body, that the chief products of his body were happiness and understanding, that no passport was needed to enter or leave him because everyone was welcome, and that the requirements to get a passport were love or trust.

Ross W.'s responses showed a preoccupation with girls in this activity. For the second time he mentioned his intelligence. He said that he would most like to show tourists his "brightness".



Sue M. was the only girl to mention muscles as a power source.

On the cognitive/affective congruence questionnaire the students rebelled and stated that while they enjoyed the activities, they did not enjoy doing the questionnaire questions and had no intention of doing so any more. Since they had proven that they could find relevance on many previous exercises, I did not press them, but rather tried to encourage them to do so. Very few of them responded, and those who did were more apt to give an example of the concept than to seek its relevance. Some simply reiterated the concept.

Furthermore, only 5 students could be encouraged to make "I learned" statements. Most of those responding made superficial statements not reflecting any deep insights or perceptions. These responses indicative of learning demonstrated self awareness, perception of connectedness, perception of the scientific tool, and perception of virtue.

#### SERIES FOUR: PERCEIVING INTEGRATION

#### 15. Top Dog/Under Dog and I Can't/I Won't (Objectives)

##### Science Objectives (Cognitive)

- a. To provide the students with a final opportunity to apply cognitive concepts to affective areas of their lives.

##### Self Concept Objectives (Affective)

- a. Awareness of internal duality.
- b. To provide techniques for continued growth.
- c. Awareness of personal identity.
- d. Appreciation of the accessibility of internal knowledge.
- e. Perception of uniqueness.
- f. Perception of connectedness.
- g. Awareness of ultimate self responsibility.
- h. To provide techniques for continued awareness.
- i. To provide techniques to insure against some forms of self deception.
- j. Perception of integration of a many-faceted self.

### Source

This activity is a combination of 2 activities adapted from reading Fritz Kerls' In and Out of the Garbage Pail and also suggested in Wells, 1971, p. 48.

### TOP DOG/UNDER DOG AND I CAN'T/I WON'T (Procedure)

I Can't/I Won't was done first with the students. They were asked to write down 10 things that they could not do, starting each sentence with 'I can't' and then finishing the sentence. When this was done, there was discussion on a voluntary basis. The students were then asked to copy the same sentences exactly except to substitute the words 'I won't' for 'I can't'. Responses were again processed on a voluntary basis.

Following this, the students were told to process using the top dog/under dog technique. This process consists of holding a conversation with oneself by alternating between an accusing, demanding top dog who keeps telling one what one should be, do, or accomplish and a sniveling under dog who keeps making excuses for one's incompetency. By this process the students tried to achieve a healthy balance between the two and identify which person they usually are. Oral processing was on a voluntary basis.

At the end of this activity the students were asked to relate cognitive concepts learned in biology to these activities.

### I CAN'T/I WON'T AND TOP DOG/UNDER DOG (Verbatim)

Perhaps, by this time, which was the end of the year, the students had lost interest in everything, but this activity, and the one preceding it, did not, in my opinion, contribute much toward the purpose of the study. The students seemed to be tolerating these activities as they usually tolerate traditional lessons. They were compliant, but their responses showed that they were no longer striving toward self knowledge.

Most of the statements were of not being able to "stand" something or someone rather than not being able to do or become something. Most of the statements reflected not being able to stand school or not being able to wait until it was over.

The next biggest category was not being able to "stand" certain people including parents, family, teachers, the principal, the administration, certain peers, and people who did certain things or could not do certain things. Also high on the list was a concern about money, i.e., not being able to make enough, not having enough, or having to spend it. There were numerous statements relating to not being able to "stand" certain weather: hot, cold, rain, winter, etc.

#### Patterns Noted:

Nancy D., who up to then had been making very pro family responses, said that she could not stand her parents or her sisters.

Ross W. made completely different "I won't" statements that had nothing to do with his "I can't" statements.

Several times Roy B. had made responses indicating that moving from New Hampshire was a negative experience for him.

Tammy B., whose responses had up to then been consistently pro family, said that she couldn't stand her parents or her brother and couldn't wait to move out of the house. Up to that point, she had also been pro school. In this exercise she said she couldn't stand math or "steno" and couldn't wait until school "gets out".

Only 3 students perceived the responsibility inherent in an "I won't" statement as opposed to an "I can't" statement. The others reported only

that they felt more "stubborn" or "funny". One student took the opposite stand and said that she felt more ability to change an "I can't" response than an "I won't" response.

The second part of the activity relating to our dual top dogs and under dogs was done orally so there are no data to report. This was the only attempt to do anything completely orally, and it did not go well. While it might be tempting to assume that this was because the students were restless and anxious to start summer recess, it was my experience in the pilot study the previous year, that this type of student makes very little effort unless something has to be written down and passed in. It seems to make very little difference whether or not the papers are graded. The fact that a paper must be returned, seems to elicit response. Otherwise participation is sparse and superficial.



## A P P E N D I X    I I

### SUBJECT MATTER CONCEPTS

The reader may have noted that some biology concepts were referred to more frequently than others. This was for 2 reasons: (1) some concepts seemed to be specific for certain activities while others did not seem to apply, and (2) care was taken not to use a concept until it had been learned in biology class. Therefore, the activities near the beginning of the experimental period were related mostly to methods of inquiry, later, evolution was introduced, etc. (See Chapter 3, pp. 97-98)

In order to make the sequence of biology concepts used clearer, the concepts for all 5 ideas will be presented.

#### IDEA I: INQUIRY (9 concepts)

1. A problem is recognized when a person senses something that does not agree with his mental ideas.
2. The recognition of concepts depends on accurate observations.
3. A scientist makes predictions to guide the solution to a problem.
4. Controlled experiments are run to test predictions.
5. Accuracy is improved when common units and numbers are used.
6. Results of experiments should be organized into data tables.
7. Graphs should be used in the organization and interpretation of data.
8. Conclusions must be based on the evidence collected.
9. Science is an activity, a thinking process, used by man to solve problems about his natural world.

Idea Summary: Science is an activity, a way in which man discovers more about his natural world.

#### IDEA II: EVOLUTION (12 concepts)

1. There are many different kinds of living things (diversity).
2. There are many different kinds of life in soil.
3. Microscopes extend the senses to help us see the great diversity of life.
4. There is a great diversity of life in a drop of water.
5. Despite the diversity of life, all living things are made of cells.
6. Living things can be arranged into related groups (Classification).
7. Order in classification is based on body structure.
8. Fossils furnish evidence for living things in pre-historic days.
9. Fossils furnish evidence that living things have changed through time.

10. There is a variation within each species.
  11. Nature selects the fittest to survive.
  12. Skin coloration is the result of natural selection.
- Idea Summary:** The great diversity of life has come about because living things have been changing through time.

**IDEA III: GENETICS (12 concepts)**

1. Life comes from previous life.
2. A population can multiply very rapidly.
3. Some organisms reproduce by dividing, a method requiring only one parent (asexual).
4. In sexual reproduction, two cells are involved and the offspring do not look like the parents.
- 4a. Venereal disease is a serious problem of epidemic proportions.
5. A pattern of inheritance can be observed over a period of generations.
6. The pattern of inheritance can be predicted.
7. The environment can affect the appearance of an inherited feature.
8. Each offspring receives one "bit of information" for each feature from each parent.
9. One "bit of information" can dominate and hide another "bit of information".
10. You can determine the odds on the features an offspring will inherit.
11. A "bit of information" can direct the activities of a cell.
12. The hereditary "bits of information" are carried on the chromosomes (as a chemical substance called DNA).

**Idea Summary:** All living things have passed on traits from generation to generation with a continuity of pattern.

**IDEA IV: HOMEOSTASIS (10 concepts)**

1. Living things must respond to a stimulus.
2. Different stimuli can cause different responses.
3. Each response is made to keep the organism at a constant state.
4. Different body functions must work together to keep the body at a constant state.
5. Overstress can upset a constant state.
6. Each body function works best at its particular constant state.
7. Membranes help the body to regulate its constant state.
8. Hormones help the body to regulate its constant state.
9. The nervous system coordinates the life functions necessary to maintain a constant state.
10. Life is a continuous struggle to keep various processes at a constant state.

**Idea Summary:** Life is a continuous struggle to keep various processes at a suitable balance.

**IDEA V: ECOLOGY (10 concepts)**

1. All living things constantly need energy.
2. Plants need carbon dioxide and light to make starch.
3. Plants need chlorophyll to maintain life.
4. Plants produce oxygen.

5. Carbon dioxide is released when food is broken down for energy.
  6. Living things need oxygen to release energy if life is to continue.
  7. A community is an organized group of populations living in mutual dependence (and is dependent upon energy for survival).
  8. All living things compete with other living things for the available energy in a food web.
  9. A succession of organisms can be observed in a community until a climax is established.
  10. Destructive influences can upset a climax community.
- Idea Summary: Living things constantly need energy and they interact with their environment.

Neither the experimental nor the control group was able to complete

Idea 5. Both groups concluded the year's work with the 5th concept in

Idea 5. This is why no concepts past this point were used with the activities.

## A P P E N D I X I I I

### APPARENT ASSUMPTIONS UNDERLYING THE ACTIVITIES

Unfortunately, none of the creators of the self concept building activities specifically spelled out the philosophical or psychological bases for assuming that the activities they proposed would build self concept. The information that I was able to collect concerning this issue was gathered via lectures and oral discussions in a piecemeal manner at various workshops. This section, therefore, offers only general impressions concerning the above issues.

The Name Game: This activity focuses on uniqueness and success.

#### Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Perception of success improves self concept.

What's in a Name?: This activity focuses on uniqueness and uses "Gestalt". According to Gestalt theorists, each individual sends messages to himself in code via symbols, etc. If these messages can be decoded, the individual becomes much more self aware.

#### Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Self awareness improves self concept.

Apparently the feeling is that as a person becomes more aware of himself, it becomes more possible for him to improve his condition by fulfilling his potential to a greater degree or by causing him to be more accepting of his limitations. For example, if I become more aware that I desire more interpersonal relationships, perhaps I will stop sitting at home and start reaching out to make friends. On the other hand, while I may be aware of my desire for more interpersonal relationships, I may become more accepting of my shyness and, therefore, become more content with a smaller circle of friends. In either case, I should feel better about myself, i.e., my self concept should improve.



Fingerprints and Silhouettes: This activity focuses primarily on uniqueness.

Apparent Underlying Assumption:

Perception of uniqueness improves self concept.

Personal Coat of Arms: This activity focuses on uniqueness and awareness.

Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Self awareness improves self concept.

Who Am I?: This activity focuses on uniqueness and the recognition of the many facets of the self via a Gestalt technique.

Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Recognition of the many facets of the self improves self concept.

Apparently the feeling is that if, for example, I recognize that I am sometimes tired and sometimes energetic, sometimes generous and sometimes selfish, sometimes a mother and sometimes a woman, etc., I will begin to be more accepting of myself, and this should improve my self concept.

Success: This activity focuses on uniqueness and success.

Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Perception of success improves self concept.

Strength Bombardment: This activity focuses on positive reinforcement from others.

Apparent Underlying Assumption:

Positive reinforcement from others improves self concept.

Feedback (Compliments): This activity focuses on positive reinforcement from others.

Apparent Underlying Assumption:

Positive reinforcement from others improves self concept.

Pride Line: This activity focuses on uniqueness and self appreciation.

Apparent Underlying Assumptions:

1. Perception of uniqueness improves self concept.
2. Self appreciation improves self concept.

Value Line: This activity focuses on commitment.

Apparent Underlying Assumption:

Perception of commitment improves self concept.

Apparently the feeling is that if one makes a commitment, he feels responsible, and a feeling of responsibility leads to the action necessary to perceive control over one's own life, ergo, improved self concept.

Voting: This activity focuses on commitment and connectedness.

Apparent Underlying Assumptions:

1. Perception of commitment improves self concept.
2. Perception of connectedness leads to improved self concept.

Apparently the feeling here is that if one senses that he belongs to the human race, i.e., has similar fears, problems, and concerns that others have, he will be more accepting of himself, and this leads to improved self concept.

Where Emotions Are Felt: This activity focuses on emotional and physical integration.

Apparent Underlying Assumption:

Perception of emotional and physical integration improves self concept.

Apparently the feeling here is that if, for example, I recognize that my 'upset stomach' just before a test is anxiety, rather than a physical disorder, and if I further recognize that I am doing this to myself, I can (1) perhaps control it or (2) at least be more accepting of it. In either case, my self concept should be improved, i.e., either via a sense of control over my emotions and/or body, or via increased self acceptance.

Twenty-one Questions: This activity focuses on awareness.

Apparent Underlying Assumption:

Self awareness improves self concept.

If I Could Be . . . : This activity focuses on hidden messages via Gestalt.

Apparent Underlying Assumption:

The decoding of hidden messages improves self concept.

Apparently the feeling here is that if, for example, I say that if I were a building, I would be the tallest one on earth so that I could stand out, I might recognize my need for competence or significance and thereby be more able to take steps toward that end or, failing this, at least I might be more accepting of this very human desire. In either case, my self concept should improve.

Geography of Self: This activity focuses on hidden messages.

Apparent Underlying Assumption:

The decoding of hidden messages improves self concept.

Top Dog/Under Dog and I Can't/I Won't: This activity focuses on

self responsibility via Gestalt.

Apparent Underlying Assumption:

Increased self responsibility improves self concept.

Apparently the feeling here is that increased responsibility contributes to the feeling of control necessary to improved self concept.

Summary: The apparent assumptions underlying the creation of the self concept activities used in this study are:

1. Perception of uniqueness improves self concept.
2. Self awareness improves self concept.
3. Recognition of the many facets of the self improves self concept.
4. Perception of success improves self concept.
5. Positive reinforcement from others improves self concept.
6. Self appreciation improves self concept.
7. Perception of commitment improves self concept.
8. Perception of connectedness leads to improved self concept.
9. Perception of emotional and physical integration improves self concept.
10. The decoding of hidden messages improves self concept.
11. Increased self responsibility improves self concept.

For partial justification of these apparent underlying assumptions, not by the creators of the activities, but by self concept theorists, see the section entitled Self Concept Building in Chapter 3 pp. 155-175.

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