

1985

The effects of constructivism and behaviorism on the development of autonomy in young children

Deborah I. Burk
University of Northern Iowa

Let us know how access to this document benefits you

Copyright ©1985 Deborah I. Burk

Follow this and additional works at: <https://scholarworks.uni.edu/grp>



Part of the [Education Commons](#)

Recommended Citation

Burk, Deborah I., "The effects of constructivism and behaviorism on the development of autonomy in young children" (1985). *Graduate Research Papers*. 2158.

<https://scholarworks.uni.edu/grp/2158>

This Open Access Graduate Research Paper is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Graduate Research Papers by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Offensive Materials Statement: Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

The effects of constructivism and behaviorism on the development of autonomy in young children

Abstract

Autonomy, the ability to govern one's self, is an admired attribute in adults. The concern for the development of autonomy in young children is not new to the field of education. Piaget acknowledged autonomy as the goal of education over 50 years ago (Piaget, 1932). It is the opinion of the followers of Piaget that in order to develop autonomy to a marked degree, children must be given opportunities to make decisions and gain control of their own lives. Piagetian theory maintains that children construct their own reality based on their interactions with their environment (Kamii & DeVries, 1978). Therefore, a teacher who is in agreement with the constructivist philosophy will create an atmosphere in which the children are encouraged to discover the laws of reality by testing their own hypotheses and making their own judgments.

THE EFFECTS OF CONSTRUCTIVISM AND
BEHAVIORISM ON THE DEVELOPMENT
OF AUTONOMY IN YOUNG CHILDREN

A Research Paper

Submitted to

The Department of Curriculum and Instruction

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

by

Deborah I. Burk

July, 1985

This Research Paper by: Deborah I. Burk
Entitled: THE EFFECTS OF CONSTRUCTIVISM AND BEHAVIORISM
ON THE DEVELOPMENT OF AUTONOMY IN YOUNG CHILDREN
has been approved as meeting the research paper requirement
for the Degree of Master of Arts in Education.

Mary Nan K. Aldridge

Director of Research Paper

July 22, 1985
Date Approved

Marvin Heller

Reader of Research Paper

July 24, 1985
Date Approved

Mary Nan K. Aldridge

Graduate Faculty Advisor

July 22, 1985
Date Approved

Charles R. May

Head, Department of
Curriculum and Instruction

July 26, 1985
Date Approved

Table of Contents

Chapter 1

Introduction	3
Importance of the Study.	4
Definition of Terms.	5

Chapter 2

Procedures	7
----------------------	---

Chapter 3

Review of the Literature	8
Autonomy.	8
Constructivism	15
Behaviorism.	24

Chapter 4

Findings	32
Intrinsic Motivation	32
Self-Concept	35
Locus of Control	39

Chapter 5

Conclusions.	42
----------------------	----

References.	45
---------------------	----

Chapter 1

Introduction

Autonomy, the ability to govern one's self, is an admired attribute in adults. The concern for the development of autonomy in young children is not new to the field of education. Piaget acknowledged autonomy as the goal of education over 50 years ago (Piaget, 1932).

It is the opinion of the followers of Piaget that in order to develop autonomy to a marked degree, children must be given opportunities to make decisions and gain control of their own lives. Piagetian theory maintains that children construct their own reality based on their interactions with their environment (Kamii & DeVries, 1978). Therefore, a teacher who is in agreement with the constructivist philosophy will create an atmosphere in which the children are encouraged to discover the laws of reality by testing their own hypotheses and making their own judgments.

The opposite approach is that of behaviorism. Skinner advocates the use of operant conditioning to control academic achievement and social behavior. The followers of the Skinnerian philosophy believe

that the most efficient way to teach children is through direct instruction (Englemann, 1980). The use of rewards and punishments ensure that the acceptable behavior patterns will be strengthened and the unacceptable behavior patterns will be extinguished. The eventual goal is that the learning of individual behaviors will be chained together until the person has enough information to make necessary decisions.

In this paper, the concept of autonomy and its components will be examined in depth. The teaching models of constructivism and behaviorism will be presented and their effects upon the development of autonomy will be determined.

Importance of the Study

Autonomy is the acknowledged goal of many educators (Kamii, 1982). However, traditional teaching practices include the use of extrinsic rewards and punishments for the purpose of controlling the academic and social behaviors of children (Bates, 1979). The direct effect is the inhibition of the development of autonomy. Based on the assumption that if educators do, indeed, value autonomy as the ultimate goal, the most logical explanation for the continued use of behavioristic techniques is that teachers are not aware of the inhibiting effects these methods have on the development of autonomy.

The purpose of this paper is strictly informational. It is essential that teachers who recognize autonomy as the ultimate goal of education, learn how to most effectively help their students to reach that goal. The problem to be examined is: What are the effects of the constructivist and behaviorist education models on the development of autonomy?

Definition of Terms

Autonomy refers to the ability to govern one's self. This requires the process of considering all factors relevant to the situation. Autonomy is contrasted with heteronomy, or being governed by someone else (Kamii, 1982).

Constructivism is the education model that is based on the Piagetian theory of child development. For the purpose of this paper, the constructivist model presented is that purported by Constance Kamii and Rheta DeVries. This model is the one which most accurately applies Piagetian theory to educational practice (Evans, 1971).

Behaviorism refers to the education model based on the operant conditioning theory developed by B. F. Skinner. For the purpose of this paper, the behaviorist model presented is that of Siegfried Englemann. Englemann is considered by some to be the most current

proponent of operant conditioning methods in the classroom in the form of basic skills training (Travers, 1982).

Chapter 2Procedures

This paper will be based on extensive library research. An examination of sources listed in ERIC and Psychological Abstracts will be used in compiling information on the concept of autonomy and its attributes. Next it is necessary to review current curriculum books in order to develop complete and representative samples of constructivism and behaviorism. It is then appropriate to return to the literature for research on the effects of these models on the development of autonomy.

Chapter 3

Review of the Literature

In this chapter the concept of autonomy will be examined in depth. Representations will be given from the philosophical, psychological, and educational communities. A structured description of the teaching models of constructivism and behaviorism will follow.

Autonomy

The term autonomy, as it appears in the literature, refers to a variety of human behaviors. It was first used by the Greeks with reference to a condition within the political structure of a city (Dearden, 1983).

The city had "autonomia" when it was free to live according to self-imposed laws rather than those mandated by a conquering neighbor. Since that time the term has developed into one that refers to a government, a corporation, or an individual. For the purpose of this paper, reference will be made to autonomy as it applies to an individual, or personal autonomy.

Several terms are directly associated with the concept of personal autonomy. Some of these include: self-directing, self-activity, independence, decision-making, locus of control, reason, freedom, intrinsic motivation, moral development, self-concept, and respect.

None of these alone can be used as a synonym for autonomy but each is used to describe the development of autonomous behaviors.

Personal autonomy is discussed by philosophers, psychologists, and educators. Although there is common agreement on the basic concept of autonomy, there are slightly different attributes in each author's definition. It is important to see how these differ in order to determine the most appropriate methods to foster the development of autonomy in young children.

From the philosophical viewpoint, becoming autonomous is not just a maturation process. There are many adults who never reach the condition. A person is autonomous to the degree that his or her thoughts and actions can be explained only through reference to his or her own mental activities (Dearden, 1972).

According to Dearden (1972), freedom is a necessary but not a solely sufficient condition in which autonomy exists. The individual must be able to logically decide how to utilize this freedom. There are two aspects to personal autonomy (Dearden, 1968). The negative aspect is that of independence of authorities; both those who would prescribe what a person is to believe, and those who would direct that person's actions. The positive aspect is the freedom

to test the truth for one's self and the right to deliberate, form intentions, and determine appropriate behavior for each situation based on one's own personal system of values. Both thought and action are to be independent of authority and based on reason.

Autonomous people do not feel the need to depend on others to dictate their thoughts or actions. They are also independent enough not to need constant encouragement or reassurance of others to overcome fears and anxieties (Dearden, 1972).

This is not to imply that autonomous people are antisocial, uncooperative, or reject all forms of authority. They simply make their own decisions based on the available information. They are self-determinate rather than victims of chance, luck, fate, or any other external force (Dearden, 1972).

Some psychologists consider autonomy to be prerequisite to the development of a healthy personality. Maslow has contrasted neurotic people with mentally healthy people according to their characteristics (Tribe, 1982). The healthy people exhibit the following behaviors: a more accurate perception of reality; an increased acceptance of self, others, and nature; increased spontaneity; an increase in problem-solving skills; increased detachment and desire for privacy;

a greater appreciation for emotions; increased identification with other people; better interpersonal relations; a more democratic character structure; higher creativity; certain changes in the value system; and an increased autonomy and resistance to enculturation (Tribe, 1982).

Maslow (1968) defines a self-actualizing individual as one who is gratified in his or her basic need and is far less dependent, less beholden, far more autonomous and self-directed. The self-actualizing person depends less on other people, is less anxious and also less hostile, is less needful of praise and affection, and less anxious for honors, prestige, and rewards. The sources of actions are internally controlled (Maslow, 1968).

According to Erikson (1968), a sense of autonomy begins as a toddler. A sense of autonomy must develop from a sense of trust. Only then do toddlers dare to assert themselves (Tribe, 1982). Their new mental and motor abilities are increasing their desires for emancipation. Adults who support them in their desire to stand on their own are fostering the growth of autonomy. According to Erikson, a healthy sense of autonomy and pride comes from a sense of self-control without the loss of self-esteem (Tribe, 1982).

Educators are concerned with autonomy and learning. Piaget conducted extensive studies on how knowledge is attained particularly in young children. As early as 1932 Piaget purported that autonomy was the goal of education (Piaget, 1932).

Piaget differs from Maslow and Erikson relative to the concepts of truth and morals. Piaget contends that truth and moral judgments are essential to the development of autonomy (Piaget, 1932). These moral judgments, or rules, are developed within the child based on his or her experiences with adults and peers. When a rule is developed, and applied through cooperation, it assumes a new personal meaning. As autonomy begins to develop, rules are no longer accepted as unchanging edicts set down by superiors (Piaget, 1932). Rules that are developed through cooperation may be changed when there is agreement by all interested parties. This can only be achieved through the exchange of points of view. Thus, rules cease to be externally imposed. Through such cooperation, mutual respect results which contributes to the development of autonomy.

Autonomy, according to Piaget, refers to freedom from the constraints of heteronomy (Duska, 1975). Heteronomy can take two forms: 1) being governed by

other people; or 2) being governed by factors which are, in a sense, within the person but are external to the activities of the mind, for example, psychosis or addictions (Dearden, 1972). Intellectually heteronomous people unquestioningly believe what they are told, including illogical conclusions, slogans, and propaganda (Kamii, 1982).

Piaget states that the unilateral respect that is characteristic of most adult-child relationships reinforces the child's natural heteronomous state (Piaget, 1932). The child must exhibit respect for the adult because the adult is superior, but the reverse need not exist. Heteronomy is also fostered through the use of rewards and punishments (Kamii, 1982). Punishments can lead to three possible outcomes:

- 1) Calculation of risks--the child may repeat the same act for which he or she was punished to try to avoid getting caught the next time. Even if caught, it might be worth the punishment to experience the pleasure of committing the forbidden act.

- 2) Blind conformity--children are assured of security and respectability as long as they obey. They do not have to make any important decisions; just do as they are told.

3) Revolt--they may behave well for years and then finally become tired of always trying to please someone. This may lead to nonconformity, possibly even delinquent behavior (Kamii, 1984).

Nonconformity does not imply autonomy. To rebel against a group indicates the individual's behavior is still being governed by that group.

Adults foster the development of autonomous behaviors when they exchange points of view with children (Kamii, 1982). This shows that respect in the relationship is mutual rather than unilateral.

A persistent theme in goal statements for early education concerns the development of autonomy and self-reliance (Evans, 1971). According to Spodek (1972), this goal encompasses all of the other goals of education. To become autonomous, the child must develop competency, a sense of independence of action, and a set of values upon which to base his or her actions. Competency increases with maturity and as the child grows literacy and the ability to make rational judgments will be needed (Spodek, 1972).

Traditional education typically assigns all initiatives to the teachers. The children sit passively, doing as they are told, and waiting for direction (Dearden, 1972). With the current emphasis on

make sense out of those experiences. This construction is a long process which begins at birth and continues through adulthood (Kamii & DeVries, 1978).

This organismic view exemplifies the belief that individual parts can be understood only in terms of the whole. Individual responses or behaviors derive their meaning from the whole structure that the individual has constructed (Miller, 1983).

II. Orientation or focus of the model (Goals and reasons the author believes the model will achieve the goals.)

The inclusive goal of this model is to develop the children's knowledge in a general sense through their interaction with their physical and social world (Joyce & Weil, 1980). This will occur due to their comprehension of a particular situation or problem and their invention of a solution based on this understanding. The focus is both cognitive and socioemotional development, because they are interdependent in the learning process (Joyce & Weil, 1980).

III. Environment

The environment contains a wide choice of materials which appeal to children's intrinsic motivation. They are encouraged to follow their own discovery techniques in choosing materials and solving problems.

The atmosphere is very unstructured with the children free to hypothesize, test, and evaluate their procedures exclusive of the judgment of the teacher (Joyce & Weil, 1980).

IV. The Role of the Teacher

Believing strongly that the child must construct his or her own knowledge, the teacher can facilitate this process through appropriate questions or comments (Kamii & DeVries, 1978). The teacher should be able to ask questions in free conversation without implying that a particular answer is being sought. The teacher should be able to react to each child's unique ideas in a flexible manner, leaving the conclusions up to the children.

The teacher, as a facilitator, aids the children in controlling their own behavior as well as building their own knowledge. This requires that the teacher follow and guide children's intrinsic motivation, not interrupt it (Parker & Day, 1972). Thus, the teacher does not work from a sequenced set of activities and behavioral objectives. Teaching, according to this model, requires a constant awareness of each child's interests and abilities in order to provide an environment that will challenge him or her to investigate.

V. Objectives

The objectives of the constructivist model are long-term and general:

- 1) To develop intellectual inventiveness.
- 2) To develop critical thinking skills.
- 3) To develop autonomous judgment, both intellectual and moral.

VI. Syntax (Description of the model in action)

Piaget made a distinction between three different types of knowledge (Kamii, 1982). Physical knowledge includes the weight, texture, and other characteristics of the objects in the environment. Physical knowledge is concerned with what happens to these objects when the child acts upon them. Social knowledge includes occupational roles and norms for social conduct that are accepted by society. Logico-mathematical knowledge is concerned with the processes involved in learning how the environment fits into a logical structure. These processes include classification, seriation, number, space, and time concepts (Joyce & Weil, 1980).

Since social knowledge is arbitrarily determined by society, children cannot construct their own structure of knowledge correctly exclusive of feedback from others. Therefore, social knowledge is the only form of knowledge that is to be taught directly.

In presenting an activity dealing with physical or logico-mathematical knowledge the following steps should be followed:

Phase I--Presentation .

The activity should be introduced in a way that is sufficiently inviting to capture the children's attention and challenging enough to maintain that attention. The materials should be those to which children will be naturally attracted. They should be presented by saying, for example, "See what you can do with these things." Later specific problems may be presented for them to solve. In the beginning, this should be conducted in parallel play to avoid social conflicts. Enough materials should be available so that all present can participate and not diminish enthusiasm by having to remain a passive spectator. The activity should follow these stages: 1) prediction, 2) producing the desired effect, 3) becoming aware of how the effect was produced, and 4) explaining causes (Kamii & DeVries, 1978).

Phase II--Continuation

The teacher should determine what the children are thinking and respond in their terms. Then the children should be encouraged to interact with each other. It is important to integrate all aspects of

development into each activity. Capitalize on situations involving moral and language development.

Phase III--After the Activity

It is advantageous for the children to reflect upon the activity. Questions such as "What did you do?" "What did you find out?" and "How did you do it?" are appropriate. It is important that the children analyze according to their own standards and not try to produce the right answer to please the teacher.

VII. Implementation (Sample Lesson)

Maureen Ellis wrote the following account of her teaching with crystals (Kamii & DeVries, 1978, p. 4):

While looking through an early education text, I found the recipe for making crystals. I decided to try it, but not as a science project because I had no idea why crystals formed. It was as much magic to me as to the kids; so we used it like a cooking activity. I told them that we didn't know why it happened, but they got the idea that when some things mix together, sometimes something extraordinary happens. The activity was such a success that for days individual children were showing others how to make crystals, and some made their own to take home.

This experiment inspired other experiments and a whole atmosphere of experimentation. One boy, during clean-up, decided to pour the grease from the popcorn pan into a cup with water and food coloring. He put it on the windowsill until the next day. He was sure something would happen and was surprised when nothing much did. Another child said she knew an experiment with salt, soap, and pepper (which she had seen on television). She demonstrated for those who were interested. A third child was inspired by the soap experiment to fill a cup with water and put a bar of soap in it. She was astonished by the change in water level and then tested other things in the water-- a pair of scissors, chalk, crayon, and her hand to see the change in water level. The next day, one child brought a cup filled with beans, blue water, styrofoam packing materials, and a Q-tip. "This is my experiment. Cook it." So I asked what he thought would happen to each of the things in the cup. He made a few predictions, and I told him we could cook it the next day. (I wanted to experiment first to see if there might be anything dangerous involved.) At group time, he told everyone about his experiment,

and the group made predictions which I wrote on the blackboard. Among these were: "The whole thing will get hot." "The water will change color." "The beans will grow." When I asked, "Will anything melt?" the children predicted that the styrofoam would not melt, but that the Q-tip would. The next day, the child did his cooking experiment, and wrote down the results with my help. Many of his predictions were found to be true, but there were some surprises: it smelled terrible, the Q-tip did not melt, and the whole thing bubbled.

This is an example of a lesson that was motivating enough to stimulate several days activities.

VIII. Behavior Management

The classroom should maintain an environment of mutual respect between the teacher and children. Piaget contends that punishment should only be used when the child's safety is involved. For example, children cannot be allowed to play in the street or with electrical outlets. To allow them to construct their own rules in those instances would be to put them at risk. For effective development of moral autonomy, Piaget advocates the use of sanctions by reciprocity (Kamii, 1985) or natural consequences for his or her behavior.

Examples of sanctions by reciprocity would include:

1) Exclusion from the group--When a child is disrupting the group he or she should be given a choice of remaining in the group without disturbing others, or leaving the group until he or she is ready to sit in the group in the appropriate manner.

2) Appeal to the direct and material consequence of the act--When a child tells a lie, he or she should be told that he cannot be believed.

3) Depriving the child of the thing he has misused--This will create a situation where the children will be able to trust each other to respect their belongings.

4) Restitution--If a child spills paint on the floor, an appropriate reaction would be to say "Would you like me to help you clean it up?" Later in the year, it may be enough to ask "What do you need to do?" (Kamii, 1985).

This approach to behavior management teaches the children to control their own behavior without the use of rewards and punishment. They gain an understanding of why then need to behave in an appropriate manner.

IX. Applicability (Direct and nurturant effects of the model upon students)

This model will have direct effects on the students in the following areas:

- 1) A stimulation of intellectual inventiveness.
- 2) An awareness and exploration of the environment.
- 3) The development of problem-solving abilities.

The nurturant effects will be in the following areas:

- 1) The development of critical thinking abilities.
- 2) The development of intellectual autonomy.
- 3) The development of moral autonomy (Joyce & Weil, 1980).

Behaviorism

I. Philosophy

For the behaviorists, development involves the accumulation of operantly or classically conditioned responses (Miller, 1983). The most notable psychologist representing this mechanistic approach is B. F. Skinner. Skinner's work dealt with how the behavior of rats could be shaped by schedules of reinforcement. In attempting to transfer his findings to human behavior, Skinner proposed that in his Utopian society, children would be raised by behavioral engineers (Skinner, 1948). Desirable behaviors such as self-control and independence would be reinforced and undesirable behaviors would be extinguished through a lack of reinforcement. Skinner's

claim was that "a person does not act upon the world, the world acts upon him!" (Skinner, 1971, p. 211).

Anderson and Bereiter admit that this theory is not based on the manner in which children learn. The approach begins by designing a sequence of thinking tasks that seem reasonably teachable to young children and then teaching according to the designed plan (Parker & Day, 1972).

The behaviorists universally believe that the environment controls behavior and by manipulating the classroom environment, the teacher is able to control what and how the children learn and behave (Miller, 1983).

II. Orientation or focus of the model (Goals and reasons the authors believe the model will achieve the goals.)

The focus of this model is to analyze current behavior and develop a specific training program that will shape the behavior of the students to fit the desired pattern. The use of external reinforcements (rewards and punishments) ensure the reoccurrence of desirable behaviors and the extinction of undesirable behaviors.

III. Environment

The environment is structured in a manner that will maximize the probability of the occurrence of desired

behavior and minimize the likelihood of the occurrence of unacceptable behavior (Evans, 1971). For example, play materials would not be accessible to the children during periods designated for pre-academic or academic activities. The materials are arranged in an orderly sequence and immediate reinforcement is provided.

IV. Role of the Teacher

The role of the teacher is to structure the classroom and the presentation of materials in a sequential manner. The teacher must evaluate each child's ability and shape the child's development by reinforcing appropriate responses. The teacher is the final judge of how to achieve the best match between the child's cognitive abilities and the learning experiences he or she is to encounter in the environment (Parker & Day, 1972).

V. Objectives

Behavioral objectives are determined for each activity. They are based on the training of specific skills in a variety of domains.

VI. Syntax (Description of the model in action)

Phase I--Objectives are developed in terms of the specific concepts the children are to master.

Phase II--The analysis of tasks must be made in terms

of the specific concepts.

Phase III--The teacher's presentation must be planned in terms of the specific concepts.

Phase IV--The performance of the children must be evaluated in terms of mastery of those specific concepts (Englemann, 1969).

VII. Implementation (Sample Lesson)

The following is a sample counting lesson proposed by Englemann:

The child already knows how to recite the number series from one through ten. But for him, counting is just a series of sounds. There is absolutely nothing in the names of the numbers that explains the complicated operation of counting objects. The rules the child has to master before he can count four blocks with any degree of understanding are:

Rule 1: To touch every block--but only once.

Rule 2: To coordinate the counting with the touching, so that he says "One" when he touches the first block, "Two" when he touches the second, and so forth.

Rule 3: To give a block only a certain number, the one that is next in the series.

Rule 4: To number each block according to its position, not according to its characteristics. The position is the only thing that tells him which block is "Three" and which is "Four". If he shuffles the blocks around, the "Three" block may become the "One" block.

Rule 5: To understand that the last number he says tells something about all of the blocks he's counted. If the block is "Four", he must understand that it is the "Fourth" block and that if he were to put aside all of the blocks he's counted so far, he would have four of them.

Plan to work with the child at least twice a week in sessions that last no longer than five minutes. Put three blocks in a row on the floor. Then explain the purpose of counting. "How many blocks are here? Let's count them and find out." Next, explain the rules of the game. "When we count we must touch all the blocks and count them, but we must touch them only once and count them only once. Watch me. I touch the first block and say ONE. Now I touch the next block and say TWO, and now I touch the last block and say THREE." Always count from left to right. After you have finished counting, draw a conclusion

about what counting has told you. "I counted all of the blocks. There are three blocks here. One...Two...Three--three blocks."

Now rearrange the blocks and count them again.

- 1) State that you are going to count, and that counting will tell you how many blocks are here.
- 2) Count from left to right, slowly, touching each block as you count.
- 3) Conclude: "I counted them and there are three blocks here."

The purpose of rearranging the blocks after counting them is to isolate the relationship you're trying to present. You don't want the child to think that the "Two" or the "Three" belongs to a particular block.

Next, let the child count. Take his hand and touch the first block. Say "One". Guide his hand to the second block. "Two". And the third. "Three". Then conclude, "We counted all of the blocks and there are three of them."

After three or four introductory sessions, begin to increase the child's responsibility in counting.

- 1) First let him try counting as you guide his hand. Also begin to ask him questions about why

you count and what the counting has told you.

2) Next, let the child count and point at the same time. He'll find the task easier if you arrange the blocks so that the spaces between them are large. When he counts well-spaced blocks, he stands a better chance of remembering where he has been and where he is going.

3) After the child has been counting for a month, begin increasing the number of blocks, until you reach ten.

Learn the five rules that govern counting. When the child makes a mistake, he's breaking one of these rules. Analyze his mistake and then correct it by strengthening the rule that is weak. If the child tries counting a block twice, spread the blocks out further, on the chance that he forgot where he had been and where he was going.

"After you count this one, you have to count the next one. That's the rule. Here, watch me, and then you do it again..." (Englemann, 1966, p. 162-164).

VIII. Behavior Management

According to Englemann (1969), the classroom should be managed in such a way that the teacher controls the children's behavior with increasingly more subtle cues. There are different types of rewards and punishments

used in behavioristic classrooms. Some implement a token system where children can earn tokens by behaving in an acceptable manner, which can be exchanged later for toys, books, or other materials determined by the teacher. Other classrooms are kept orderly using only verbal rewards and punishments. There are teachers who use food as a reinforcer. Raisins, crackers, and candy are recommended for use to shape children's behavior (Englemann, 1969).

IX. Applicability (Direct and nurturant effects of the model upon students)

The model will have a direct effect on the students in the following areas:

- 1) An increase in desirable behaviors and a decrease in undesirable behaviors.
- 2) An awareness of the environment.
- 3) A development of skills in a variety of domains.

Chapter 4

Findings

An examination of the literature reveals an absence of studies in which the concept of autonomy is considered in its entirety. There are, however, investigations relating to three major constructs that are necessary for the development of autonomy. These constructs are intrinsic motivation, self-concept, and perceived locus of control. Each of these will be addressed in relation to the concept of autonomy. The effects of constructivism and behaviorism upon the development of each of the constructs, and therefore, upon the development of autonomy, will be shown.

Intrinsic Motivation

In order for children to become increasingly more autonomous, they must be encouraged to think independently and engage in activities with intrinsic motivation (Kamii, 1985). Curiosity in human beings remains an unexplained phenomenon. White (1959) considered humans to be like animals in their drive to explore, manipulate and master their environment. He submits that this behavior pattern maintains itself because the processes of exploration, manipulation, and mastery are intrinsically rewarding. It has been cited recurrently in the literature that children first entering school, come with an intrinsic desire to learn (Bruner, 1968; Dewey, 1900; Goodman, 1962; Bates, 1979).

Discovery learning is a major approach utilized in constructivist classrooms which maintains the children's inherent desire to learn. Three significant findings emerge from the research on the process of discovery learning:

1) exploration, manipulation, and mastery are intrinsically motivating,

2) a sense of power and self-confidence comes from autonomous discovery, and

3) a strategy for information gathering and processing has an important effect on the depth of the discovery (Suchman, 1961).

The use of extrinsic rewards for the purpose of controlling disruptive behavior or increasing academic achievement has been found to decrease intrinsic motivation (Bates, 1979). One study done with preschool children attempted to assess the effects of money, symbolic awards, and verbal reinforcement on intrinsic motivation (Anderson, Manoonian, & Reznick, 1976). The task of drawing with felt-tip markers was determined to be intrinsically motivating to the group of children being studied. The eight preschool classrooms were assigned to one of four treatment groups. The first group was rewarded with money, the second group received

good-player awards, the third group was reinforced verbally and the control group received no treatment.

As expected, the experimenters found intrinsic motivation to decrease with the administration of monetary and symbolic awards. The use of verbal reinforcement resulted in an increase of intrinsic motivation. It was concluded that this increase was due to the experimenter's attempt to show "interest in" rather than "approval of" the children's performance (Anderson, Manoogian, & Reznick, 1976).

Another study, dealing with the cognitive evaluation theory, demonstrates a difference between controlling rewards and informational rewards (Ryan, 1982). Rewards administered for the purpose of controlling behavior, either academic or social, were found to decrease intrinsic motivation. Rewards used for informational purposes only resulted in an increase in intrinsic motivation. It was also found that even self-imposed controlling rewards had a detrimental effect on intrinsic motivation. The experimenters concluded that this was due to the anxiety that developed over the evaluation that was to follow. The self-imposed informational rewards produced no such anxiety and increased intrinsic motivation because of the

ability to monitor one's own progress without risking the loss of self-esteem if the goals were not met (Ryan, 1982).

The results of both of these studies concur with the constructivist viewpoint which emphasizes that the teacher should be interested, enthusiastic, and nonjudgmental of the students' performance. These studies give empirical evidence that the behavioristic reward and punishment techniques used to increase the students' achievement are consequently decreasing their inherent desire to learn for the sake of learning. Thus, the development of autonomy is being inhibited.

Self-Concept

Dearden (1972) maintained that it is not possible for people to become autonomous, to a marked degree, without their self-concept being directly affected. The increase in self-knowledge is a necessary condition for the development of autonomy. It is his premise that the better an individual perceives his or her own motives, wishes, purposes, and typical reactions to others, the more possible it is to bring thoughts and actions under conscious control. The exercise of such autonomous behavior becomes an important part of dignity, or sense of personal worth. It serves as

a basis on which mutual respect is built and, at the same time, nurtures a positive self-concept (Dearden, 1972).

An examination of the literature reveals an absence of studies in which the constructs of autonomy and self-concept are measured and correlated. There are a few, however, which elude to the possibility that a relationship exists between self-concept and autonomy.

In one such study a positive relationship was shown to exist between self-concept and moral judgment in young children (Benninga, 1980). Self-concept appraisals and a series of Piagetian moral dilemmas were administered to 40 kindergarten children. When the scores were compared, the moral judgment factors correlated significantly with at least one factor of self-concept. While moral judgment was not found to be synonymous with autonomy, it is indeed an important part of the entire concept of autonomy.

A second study (Purkey, Graves, & Zellner, 1970) revealed a direct correlation between self-concept and school environment. The study compared the self-concept scores of students attending an experimental school with the scores of students attending a comparison school. The comparison school was traditional in design and curriculum, with self-contained classrooms

and conventional grade level organization. The experimental school took the humanistic approach to education. It was completely ungraded. Students could move freely at will. Students were continually regrouped on the basis of individual differences. There were no assigned grades or failures in the school, and students participated in setting their own goals.

It was found that the students from the experimental school did, indeed, score higher on the self-esteem scale than did those from the comparison school. By the sixth grade the mean difference was 3.63 points on a 25 point scale. Again this investigation does not measure autonomy but the school environment which encouraged independence, and self-direction was considered to be the determining variable.

A third study evaluated the self-attitudes of the intellectually and socially advantaged student (Ketcham & Snyder, 1977). The primary objectives of the research were to determine:

- 1) the relationship between high intelligence and socioeconomic level with self-concept;
- 2) the significance of variance in age, sex, and reading achievement; and
- 3) significant within-school variables.

Of the 148 economically advantaged elementary school children, 83% exceeded the mean on the Piers-Harris Children's Self-Concept Scale. Correlations between the self-concept scale and age, sex, IQ, and academic achievement were not found to be significant at the .05 level of confidence. It was concluded that the high self-concept scores were due to the fact that these children saw their teachers as fostering autonomy, initiative, and trust. While this could possibly be the cause for the high self-concept of these children, there is no statistical basis for this conclusion. Because the children were advantaged both intellectually and economically there existed a likelihood of a biased sample.

These studies indicate that environments which are oriented toward the development of independence and autonomy have a positive effect on the children's self-concept.

There are opposing views of how a positive self-concept is developed and enhanced. Some psychologists advocate praise as a key essential to the development of a positive self-concept (Felker, 1974). Englemann (1969) advises teachers to arrange tasks so that two-thirds of their responses to children are positive in order to enhance a positive self-concept.

There are indications that children who are reared in an atmosphere where domination, rejection, and severe punishment predominate, develop lowered self-esteem (Coopersmith, 1967). Other common causes of the development of a negative self-concept are overprotection and neglect (Swayze, 1980).

Opponents of the reinforcement theory maintain that a weak self-concept will not show substantial gains by being bolstered externally. A strong, positive self-concept does not need and, in fact, is immune to any attempt at artificial inflation. It is maintained through the continuous testing of that which is real (Erikson, 1980). Rogers (1951) argues that a relaxed atmosphere which permits free expression, and does not resort to harsh or frequent evaluations, allows the individual to know and accept himself or herself. The atmosphere built on mutual respect allows the child to develop self-respect and self-trust (Rogers, 1951). This same atmosphere of mutual respect is necessary for the development of autonomy.

Locus of Control

An autonomy-oriented atmosphere allows children to fulfill the basic human need for being competent and self-determining by allowing them to maintain their

intrinsic motivation to learn (Deci, Nezlek, & Sheinman, 1981). Intrinsic motivation has been found to be affected by two factors:

1) a change in the person's perception of his or her competence, and

2) a change in the perceived locus of control (Deci, Nezlek, & Sheinman, 1981).

Control is interpreted as pressure to produce a particular outcome. Even when this control is self-administered the person experiences pressure to do what he or she should do rather than feeling the freedom of choice (Ryan, 1982). In his study of controlling vs. informational rewards, Ryan (1982) found that people who received controlling feedback tended to exert less effort and performed worse than those receiving informational feedback. The reactance theory suggests that when people feel controlled by an external force, they will react against that control by deliberately performing poorly (Brehm, 1966).

In a study of teachers' attitudes toward control and autonomy, it was found that rewards used in a controlling manner undermine intrinsic motivation and self-esteem. On the other hand, when teachers used feedback for informational purposes, intrinsic motivation

and self-esteem were both maintained (Deci, Nezlek, & Sheinman, 1981). These teachers were considered to be autonomy-oriented.

Constructivists operate on the basic premise that children are intrinsically motivated and work toward creating an environment that is sufficiently stimulating that no external motivation is necessary. Behaviorists, however, have the philosophical view that the environment controls the individual, therefore, motivation must be externally controlled (Skinner, 1971).

In summary, it has been shown that the development of autonomy is dependent upon intrinsic motivation, perceived competence, and perceived locus of control. Even though these three characteristics were presented independently, they are factors that must exist together. Each is dependent upon the others.

Chapter 5Conclusions

Autonomy is not an attribute that develops automatically through maturation. The fundamentals of mutual respect (Piaget, 1938), intrinsic motivation (Kamii, 1985), self-concept (Dearden, 1972), and perceived locus of control (Deci, Nezlik, & Sheinman, 1981) must be present for an individual to function autonomously.

The use of behavioristic teaching methods have a stifling effect on the development of autonomy. Mutual respect is not present. In order to maintain control of the class, the teacher demands respect from the children. Reinforcement is used to guarantee the existence of respect for the teacher. This respect is, however, unilateral. Controlling another person's behavior indicates a lack of trust in their ability to control their own behavior.

Intrinsic motivation is not considered to be important to behaviorists. The teacher is responsible for programming the lessons in a way that the children are able to reproduce the correct responses. Content and sequencing of activities are controlled by the teacher.

Because the children are trained through scheduled reinforcement, they are dependent upon others to determine their self-concept. The use of grades, stickers,

candy, report cards, detention halls, token economy systems, and excessive praise for the purpose of controlling behaviors, makes their self-concepts dependent upon their ability to meet the qualifications determined by someone else. Children should be given every opportunity to develop a system of personal values that they are willing and able to defend. In which case their self-concept would be determined by how well they adhere to their own value system.

Behaviorism is fundamentally based on the element of control. Without proper control of the situation, the teacher is unable to produce the desired behaviors in children. Thus, heteronomy is reinforced.

Since autonomy is the long-term goal of constructivism, the teachers with such a philosophy seek every opportunity to enhance its development. Mutual respect is established through the exchange of viewpoints. Intrinsic motivation is guided rather than interrupted. Self-concept is enhanced by trusting the children's judgments and asking them to defend their answers rather than passing judgment on those answers. Locus of control is perceived as internal. This is accomplished through an environment in which the children are encouraged to make decisions. The ability to make competent decisions requires practice. Allowing children to make decisions, no

matter how trivial they appear to be to adults, indicates to the children that they are trusted and that they have at least some control over their own lives. As children grow in their decision-making abilities they learn that they can trust their own judgment and, therefore, become able to govern themselves.

References

- Anderson, R.; Manoogian, S.; & Reznick, J. (1976) The undermining and enhancing of intrinsic motivation in preschool children. Journal of Personality and Social Psychology 34 (5), 915-922.
- Bates, J. (1979) Extrinsic reward and intrinsic motivation: a review with implications for the classroom, Review of Educational Research 49 (4), 557-576.
- Benninga, J. (1980) Integration of self-concept and moral judgment: two studies. The Journal of Genetic Psychology 136, 25-36.
- Brehm, J. (1966) A Theory of Psychological Reactance
New York: Academic Press.
- Bruner, J. (1968) Toward a Theory of Instruction
New York: W. W. Norton
- Coopersmith, S. (1967) The Antecedents of Self-Esteem
San Francisco: Freeman.
- Dearden, R. (1983) Autonomy and intellectual education. Early Child Development and Care 12, 211-228.
- Dearden, R. (1972) Autonomy and education. Education and the Development of Reason Chap. 25 London: Routledge and Kegan Paul.
- Dearden, R. (1968) The Philosophy of Primary Education
London: Routledge and Kegan Paul.

- Deci, E.; Nezlek, J.; & Sheinman, L. (1981) Characteristics of the rewarder and intrinsic motivation of the rewardee. Journal of Personality and Social Psychology 40 (1), 1-10.
- Dewey, J. (1900) The School and Society Chicago: University of Chicago Press.
- Duska, R. (1975) Moral Development: A Guide to Piaget and Kohlberg New York: Paulist Press.
- Englemann, S. (1980) Direct Instruction Englewood Cliffs, NJ: Technology Publications.
- Englemann, S. (1969) Preventing Failure in the Primary Grades Chicago: Science Research Associates, Inc.
- Englemann, S. (1966) Give Your Child a Superior Mind New York: Simon and Schuster.
- Erikson, E. (1980) Identity and the Life Cycle New York: W. W. Norton.
- Erikson, E. (1968) Identity: Youth and Crisis New York: W. W. Norton.
- Evans, E. (1971) Contemporary Influences in Early Childhood Education New York: Holt, Rinehart & Winston.
- Felker, D. (1974) Building Positive Self-Concepts Minneapolis: Burgess Publishing Co.
- Goodman, P. (1962) Compulsory Mis-education New York: Random House.

- Joyce, B. & Weil, M. (1980) Models of Teaching Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Kamii, C. (1985) Young Children Reinvent Arithmetic: Implications of Piaget's Theory New York: Teachers College Press.
- Kamii, C. (1984) Viewpoint: obedience is not enough! Young Children 3, 11-14.
- Kamii, C. (1982) Number in Preschool and Kindergarten Washington D.C.: National Association for the Education of Young Children.
- Kamii, C. & DeVries, R. (1978) Physical Knowledge in Preschool Education: Implications of Piaget's Theory Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Ketcham, B. & Snyder, R. (1977) Self-attitudes of the intellectually and socially advantaged student: normative study of the Piers-Harris Self-Concept Scale. Psychological Reports 40, 111-116.
- Maslow, A. (1968) Toward a Psychology of Being New York: D. Van Nostrand, Inc.
- Miller, P. (1983) Theories of Developmental Psychology San Francisco: W. H. Freeman & Co.
- Parker, R. & Day, M. (1972) Comparisons of preschool curricula In R. K. Parker (Ed.) The Preschool in Action pp. 466-508. Boston: Allyn & Bacon, Inc.

- Piaget, J. (1932) The Moral Judgment of the Child
New York: Free Press.
- Purkey, W.; Graves, W.; & Zellner, M. (1970) Self-perceptions of pupils in an experimental elementary school. Elementary School Journal 71, 166-171.
- Rogers, C. (1951) Client-Centered Therapy: Its Current Practice Implications and Theory Boston: Houghton Mifflin.
- Skinner, B. (1971) Beyond Freedom and Dignity New York: Knopf.
- Skinner, B. (1968) The Technology of Teaching Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Skinner, B. (1948) Walden Two New York: Macmillan, Co.
- Spodek, B. (1972) Teaching in the Early Years Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Swayze, M. (1980) Self-concept development in young children. The Self-Concept of the Young Child Brigham Young University Press.
- Suchman, J. (1961) Inquiry training: building skills for autonomous discovery. Merrill-Palmer Quarterly 7, 147-169.
- Travers, R. (1982) Essentials of Learning New York: Macmillan Publishing, Co.

- Tribe, C. (1982) Profiles of Three Theories: Erikson, Maslow, Piaget Dubuque, IA: Kendall/Hunt Publishing Co.
- White, R. (1959) Motivation reconsidered: the concept of competence. Psychological Review 66, 297-333.