Converging behaviorist and constructivist theories in classroom settings

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CONVERGING BEHAVIORIST AND CONSTRUCTIVIST THEORIES IN CLASSROOM SETTINGS

by

Lisa M. Freitas

Bachelor of Science
University of Nevada at Las Vegas
1996

A thesis submitted in partial fulfillment of the requirements for the

Masters of Science Degree in Special Education
Department of Special Education
College of Education

Graduate College
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Converging Behaviorist and Constructivist Theories in Classroom Settings

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Master of Science in Special Education

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ABSTRACT

Converging Behaviorist and Constructivist Theories for Classroom Practices

by

Lisa M. Freitas

Dr. Rebecca Nathanson, Examination Committee Chair
Assistant Professor of Special Education
University of Nevada, Las Vegas

Educators attempts to meet the needs of all students become more difficult as school districts are forced to reduce spending which may result in increased class sizes, elimination of second language and enrichment programs, and a reduction in school personnel at school sites. With these budget cuts the demands placed on educators will be even greater. Teachers will be forced to implement new strategies to ensure that no child is left behind. The purpose of this study is to assess the effectiveness of converging behaviorist and constructivist theories into classroom management and instructional practices. Three groups of students were randomly selected, and their progress was monitored over the course of one month. Results revealed that the group that utilized both behaviorist and constructivist theories and practices made the most academic and behavioral progress. Moreover, the study indicated that the implications of the results suggest further research by teachers and school districts is warranted.
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CHAPTER 1

INTRODUCTION

Clark County School District Personnel have been surveyed March 2003, on how to cut two hundred twenty million dollars from the District’s budget. At the same time, educators are required to leave no child behind. “The education of the children in Nevada needs to be funded at a level that will afford all children the education they deserve, not the education they have to settle for” (Holloway, 2003 p. 5b). If students currently have to settle for their education, the responsibility to enrich academic experiences inevitably falls on the teachers. The Clark County School District’s mission statement says that students will have the knowledge, skills, attitudes and ethics necessary to succeed academically and will practice responsible citizenship. Although this mission statement sounds appropriate, it fails to recognize the extensive educational practices that must be incorporated into classrooms to ensure student success. One can only hope that educators will accept the challenges of teaching in today’s overcrowded and under-funded school districts, and provide students with quality instruction.

Class size increase, shorter preparation periods, and increasingly diverse classroom populations, as well as district demands are just a few examples of the teachers struggle. An educators attempt to meet the needs of all students requires teachers to utilize extensive educational practices and be knowledgeable about current educational theories. Educators’ we must utilize and customize our bag of tricks. For many of us,
these “tricks” are rooted in two educational theories—Behaviorism and Constructivism.

The behaviorist, direct instruction approach leads the student to independent mastery of skills and expedites task completion, while the students in a constructivist classroom are applying the mastered skill into practice and ensuring everyone on the team understands.

For many teachers, the behaviorist and constructivist perspectives have been at opposite ends of the spectrum. Typically, teachers plan classroom environments depending upon which learning theory they think is most applicable for the student populations in their classrooms. Unfortunately, a single-minded perspective is not always applicable when dealing with children who come into a classroom with different life experiences. It is within these differentiating perspectives that the opportunities for learning can increase.

Converging both behaviorist and constructivist perspectives in classroom environments may be an important step in progressive teaching. Merging these perspectives into one entity, that can be modified and adapted to unique situations may enhance educational opportunities for all students by activating and capitalizing on individual needs within a social setting, thus truly providing real-world experiences.

Statement of Purpose

This study will identify the need for converging behaviorist and constructivist theories and practices, to ensure students benefit both academically and socially during classroom experiences.
Research Questions

The questions addressed in this study are:

1. Do students who receive a combination of behaviorist and constructivist classroom practices remain on task for longer percentages of time than students who receive only behaviorist or constructivist classroom practices?

2. Do students who receive a combination of behaviorist and constructivist classroom practices follow instructions more frequently than students who receive only behaviorist or constructivist classroom practices?

Hypotheses

1. Students who receive a combination of behaviorist and constructivist classroom practices remain on-task for a greater percentage of time than students who receive only behaviorist classroom practices.

2. Students who receive a combination of behaviorist and constructivist classroom practices remain on-task for a greater percentage of time than students who receive only constructivist classroom practices.

3. Students who receive a combination of behaviorist and constructivist classroom practices follow instructions for a greater percentage of time than students who receive only behaviorist classroom practices.

4. Students who receive a combination of behaviorist and constructivist classroom practices follow instructions for a greater percentage of time than students who receive only constructivist classroom practices.
The review of literature has been broken into two sections. The fundamental theorists and principles of each theory will be reviewed. The first section focuses on the behaviorist theory and how it is implemented in classrooms. The second section reviews constructivist theories and their implementation in classroom settings.

Behaviorist Theories

Behaviorist theory is based on the principle that learning is a change in behavior and that changes in behavior occur as a response to external stimuli. A synopsis of Behaviorist theory should begin with Ivan Pavlov (1849-1936) and the classical conditioning of “Pavlov’s dogs”. Pavlov’s classical conditioning experiments demonstrated that a stimulus, ringing a bell before food was given to his dogs, would produce an outcome, salivation, which is a conditioned response.

Edward Lee Thorndike (1874-1949) was another key player in early behaviorist theories. Thorndike is best known for his work with cats and “puzzle boxes.” The puzzle box was designed so that the cat could only escape by pulling a string or pushing a button. Thorndike timed the cat and its response to positive, negative and neutral Responses. Thorndike’s research and its results led to what we now know as
"The Law of Effect," arguing that if animals can learn and make connections, that humans, being more evolved, should be able to form even more connections aiding learning time. Thorndike argued that complicated behavior was influenced by the anticipated results, not by a stimulus as Pavlov had suggested. The implications of Thorndike's work can be seen in schools and classrooms today that are guided by a standardized curriculum, with standardized curriculum guides, which emphasize specific student outcomes. The principle of "The Law of Effect" provided the basis for B.F. Skinner's operant conditioning analysis of behavior (Schwartz & Lacy, 1982, p.24-26).

John B. Watson (1879-1958) is best known for his work with a baby who was trained to fear a rat upon hearing a loud noise. In this experiment Watson demonstrated that emotional reactions could be classically conditioned. He believed that genetics and heredity are important factors in how humans respond to situations, which are based on conditioned experiences. Watson responds to Thorndike that learned behavior is observable and can be defined by variables. Watson suggested the first basic characteristic of behaviorism is that behaviorists emphasize the importance of empirical, observable behaviors (Hall, 2001, viii).

B.F. Skinner (1904-1990) is most famous for the "Skinner Box." Skinner's box introduced us to the behaviorist ideas of shaping by providing positive reinforcement to rats for providing behaviors close to the desired response. When the rat would produce the targeted response a schedule of reinforcements would be determined. Continuous reinforcement is given each time the subject delivers the targeted response. Ratio scheduled reinforcement is given after a predetermined number of responses are given, and interval schedules are a type of reinforcement is given after a certain amount of has passed. Skinners experiments led to implications in the classroom when he
conceptualized a teaching machine where students could answer questions and move to the next level of difficulty. Skinner believed that behavior is controlled by changing environments because environments are what temporarily control behavior. “The major problems of the world today can be solved only if we improve our understanding of human behavior” (Skinner, 1974).

Critics of Skinner believe that he fails to recognize the influences of biological, sociological, or neurological causes. The critics maintain that Skinner bases too much of his research on the probability of response. Skinner’s focus on the environment as the primary reinforcer ignores “internal contingencies.” While Skinner does not believe in free will or human freedom, he never works to disprove such theories; he simply rejects them (Machon, 1974).

Behaviorist theories are implemented in the classroom in many different ways. For example, some programs utilize self-paced learning modules that provide frequent feedback with materials, presented in small sections and then assessed rather than a long unit and end of the unit test. Behaviorist methods are also used in classroom management practices and the attempts to shape classroom behaviors. Behaviorist theories would be implemented in a classroom by having the teacher identify desired behaviors and set up a reinforcement schedule to encourage desired responses. In other words, a teacher would set up a system to reinforce positive outcomes rather than punish for an undesired behavior.

Constructivist Theories

If one seriously adopts the constructivist approach, one discovers that many more of one’s habitual ways for thinking have to be changed (von Glaserfeld). Constructivist
theories are based on the principle that the learner actively constructs knowledge and understanding (cf. Piaget) rather than passively receives information in response to external forces, such as rewards (Marshall, 1994, p. 11). Constructivists believe that the learner accesses prior knowledge and that learning is an active construct. In other words, the constructivist does not believe that learning is an outcome of stimulus and response. From a Constructivist viewpoint the emphasis is on the learner rather than the instructor.

Three major theorists that contributed to the ideas of constructivism are Jerome Bruner, Jean Piaget, and Lev Vygotsky. Jerome Bruner (1915- ), who had a large impact on cognitive learning theories, based his ideas on the processes of categorization. His theory states: “to perceive is to categorize, to conceptualize is to categorize, to learn is to form categories, to make decisions is to categorize. Bruner believed that people understand the world in terms of its similarities and differences, and he further suggested that humans develop a coding system in which higher levels of categories become more specific knowledge. Bruner’s theory emphasizes the formation of these codes to enhance retention of information and increase problem solving ability, which may increase motivation for future learning.

Bruner’s push for schools to utilize discovery oriented learning, which he believed would assist students discover the relationships between categories, led to the Curriculum-Development Model and his ideas of implementing spiral curriculum’s. “The subject matter, therefore, should be represented in terms of the child’s way of viewing the world—enactive, iconic, or symbolic. The curriculum should be designed so that the mastery of skills leads to the mastery of still more powerful ones” (Bruner, 1966). This philosophy with its emphasis on organizing concepts in order to access prior knowledge, to enhance the opportunities to form more meaningful relationships, justifies
presenting curriculum, in any subject matter, from enactive-knowledge in action, to iconic-visual summary, to symbolic-use of words or images to describe experience (Gredler, 2001). Bruner’s Spiral Curriculum is detailed in his social studies curriculum titles “Man: A Course of Study.”

Jean Piaget was another influential theorist in the Constructivist movement. Piaget’s research in developmental psychology and genetic epistemology both addressed the issue of how knowledge grows. Piaget believed that the growth of knowledge is a progressive construction of logically embedded structures superseding one another by a process of inclusion of lower, less powerful logical means into higher, more powerful ones up to adulthood. Therefore, children’s logic and modes of thinking are initially entirely different from those of adults (Piaget.org 2003).

Piaget’s major contribution to early constructivist thinking was that he changed the view of a child from that of a little adult to one with distinctive and changing patterns of thinking (Gredler, 2001). This change helped identify the problems with direct instruction and standardized curriculum. Piaget believed that direct instruction practices did not allow for the child to incorporate individual perspective. This lack of perspective may lead to “socialized knowledge” void of a child’s description of the world, and further void of discovery learning. Some critics of Piagetian concepts believe his theory is void of exploring the relationship between logical thinking and curriculum such as reading and writing. Piaget also believed that implementation of his theories would require much work on the part of the educator. A teacher must create a classroom that is conducive to a variety of student actions (Gredler, 2001). In today’s classrooms this is not a suggestion, but a necessity for survival.

Lev Vygotsky was a Russian educational psychologist, whose work had been
hidden from most of the Western World until the end of the Cold War. His work is often compared to Jean Piaget, but they differed in the aspect of appropriated development age. Thus, Vygotsky’s zone of proximal development coupled with his ideas of socio-cultural theories left their mark in today’s viewpoint of constructivism.

Vygotsky’s socio cultural theory suggest that social interaction leads to continuous step-by-step changes in children’s thought and behavior that can vary greatly from culture to culture (Woolfolk, 1998). In other words, Vygotsky’s theory suggests that development depends on interaction with people and the tools that the culture provides to help form their own view of the world (Gallagher, 2003). Vygotsky’s idea of learning as a life-long process of development was dependent on the social interactions. These social interactions are primarily responsible for what leads to cognitive developments.

Vygotsky’s sociocultural theory of development was a dynamic view of child development. The development is seen as a never-ending transaction, in which the child or children is affected by his or her world, but in turn, actively influences and changes his or her surroundings. This exchange is reciprocal; as people and culture, which are affected by the child, will in turn, further shape the child (Rodriguez, 2003). Vygotsky’s beliefs in culture, and that he thought human development was too complex to be placed into stages of development, led to his suggestion of a zone of proximal development.

Vygotsky states that “learning which is oriented towards development levels that have already been reached is ineffective from the viewpoint of the child’s overall development. It does not aim for a new stage of the developmental process but rather lags behind this process.” Therefore, various support systems should be provided to the child to carry out activities he or she is are not able to complete independently, but will
be able to complete through social interactions with others. The zone of proximal development defines functions, which the child has not mastered but is in the process of mastering. Vygotsky believed that processes occurring within this zone, which signified that development had progressed.

Typically, schools have not promoted Vygotsky’s ideas of educational development. A typical Vygotsky classroom would include students clustered in working groups, workspace for peer collaboration, with a management plan that was student centered. The instructional materials presented would reflect the environment where student interaction and collaboration were part of the instructional process, creating a community of learning.

Constructivism like most theories has variance. Agreement on a constructivist theory of learning is not widespread due largely to what Derry (1996) terms “ethnocentrism within various constructivisms.” At the same time, Ernest (1995) notes that the seven paradigms of constructivism are all variants of radical constructivism. Radical constructivism, which is derived directly from Jean Piaget, maintains that all knowledge is a human construction and ontological reality is not accessible to rational human knowledge (von Glaserfeld, 1991). This idea maintains that an individually constructed viewpoint cannot be judged as less correct than another and that radical constructivism does not focus on logical thinking, its focus lies within the tasks involved in school learning (Gredler, 2001).

Although constructivist theories vary from cognitive to social constructionism, and the psychologist who influenced it varied in thought to some degree, constructivism can be viewed as a model of how learning takes place. Its main focus is that human learning is constructed, it is active, and in that action, learners build knowledge upon the
foundation of their previous learning. This view of learning contrasts with the behaviorist view in that, learning is a passive transmission of information passed from one person to another--a view in which reception, not construction, is key (SEDL, 1996). The implications of constructivism on classrooms are many. Jonassen (1994) proposed eight characteristics that differentiate constructivist-learning environments. Both social and cognitive constructivism would support these characteristics.

1. Constructivist learning environments provide multiple representations of reality.

2. Multiple representations avoid oversimplification and represent the real complexity of the world.

3. Constructivist learning environments emphasize knowledge construction instead of knowledge reproduction.


5. Constructivist learning environments provide learning environments such as real world settings or case-based learning instead of predetermined sequence of instruction.

6. Constructivist learning environments “enable context- and content-dependent knowledge construction.”

7. Constructivist learning environments encourage thoughtful reflection on experience.

8. Constructivist learning environments support collaborative construction of knowledge through social negotiation, not competition among learners for recognition.
These guiding principles of constructionism can be seen in some classrooms today. Vygotsky's influence is beginning to catch on with educators who use the Zone of Proximal Development with assessments like STAR Reading, which gives a ZPD immediately after taking a test. Teacher training and professional development courses are being offered in educational theory, classroom centers, and multi-modality approaches to instruction as well as training in alternative forms of assessment.

As discussed, both behaviorist and constructivist theories are valid and utilized for curriculum implementation. Both theories have strengths and weaknesses in certain situations or individuals. This study attempts to be an example of combining the strengths of both theories, into a manageable application for classroom teachers.
CHAPTER 3

METHODOLOGY AND DATA DESCRIPTIONS

Participants

This study was conducted using three groups with a total of forty-five students. All the students were enrolled in a self-contained classroom for students with emotional disturbance. Of the forty-five students who participated 45.7% were in the third grade, 17.4% were in the fourth grade, and 34.8% were in the fifth grade. Participants age ranged from 7 years of age to 12 years of age (9.75 years old). Forty-five percent of the students were identified as Caucasian; 34.8% as African American; 17.4% as Hispanic, and 2.2% as other.

- Out of the forty-five students, 80% were males, and 20% were females. Sixty percent of the students were classified as children with Emotional Disturbance; 24.4% were classified as students with a Learning Disability; 6.7% as students with Other Health Impairment other than Orthopedic; 6.7% as students who are Mentally Challenged; and 2.2% as students with Autism. The amount of years the students have spent in special education was a minimum of 1 year to a maximum of 5 years (M=2.66).
Design and Interventions

In order to compare the efficacy of teaching approaches, students were randomly assigned to one of three groups: A- Convergence of behaviorist and constructivist based practices; B-Behaviorist theory based practices; C- Constructivist theory based practices. The classroom was the same for all groups with the exception of work areas. It is a small classroom located in the middle of an intermediate wing at a local public elementary school. The elementary school where the study was conducted is located in the Southwest Region of the Clark County School District. Parental and Administrative permission for participation in this study was received prior to the onset of the study.

The following is a description of the design and interventions that took place in each of the three groups.

*Group B-Behaviorist theory based classroom*

*Classroom Environment*

The classroom environment for the students who participated in group B consisted of individual desks, spread out across the classroom. The desks were positioned according to where the focus of instruction, or the instructor would be for the planned activity. Students were not given a choice as to where, or next to whom, their work area would be. The focus of instruction primarily took place in the front of the room where there is a lined white board, an easel, pointer, and miscellaneous writing supplies that were used for direct instruction lessons. Students were expected to complete individual seatwork and were discouraged from collaborating with others.
Synopsis of the Behavior Management Program

The behavior management plans of group B revolved around a set of five classroom rules that were developed by the teacher, along with a behavior-recording sheet that was monitored by the teacher and students every fifteen minutes. For those students who required an individualized monitoring plan according to their Individualized Education Plans, the management sheet served as a supplement. Students received points based on the instructor’s perceptions of their performance during that time slot, based on the behaviors provided. Students were reinforced immediately with points on their management sheets along with verbal praise. These points correlated to dollars with which students could purchase small items and privileges at the end of the lesson. Management sheets were sent home daily to report behavior and academic performance and returned with a parent signature.

Instructional Objectives

The instructional objectives for group B were teacher chosen and presented through direct instructional techniques. All the benchmarks utilized were Literacy based and directly corresponded to the Curriculum Essentials Framework of the Clark County School District for the appropriate grade level. The guidelines agreed upon by students’ IEP teams were also considered in planning instruction. The instructional objectives evolved according to student individual mastery of skills. The students were assessed daily and weekly, primarily by paper and pencil tasks, student work samples, and teacher observation.
Group C - Constructivist theory based classroom

Classroom Environment

The students primarily designed the classroom environment for group C. Students’ desks were placed in a random circle by students at the beginning of the instructional period, and were broken into teams to complete assignments. Students chose and decorated work centers for group activities.

Teacher instruction was presented to the whole group and used proximity to assist teams in completion assignments. Various centers were also utilized to reinforce lesson objectives. Teacher and Students shared supplies located at the front of the classroom and at the applicable center. Student collaboration and cooperation was facilitated by the teacher and was reinforced by students.

Synopsis of the Behavior Management Program

The Behavior Management Plan for group C was a mock community established by students, guided by the instructor. For those students who required an individualized monitoring plan according to their Individualized Education Plans, the management sheet served as a supplement. Students provided job descriptions and chose their roles in the community. Students cooperatively designed the management sheets that would be used by the class.

Student rights and responsibilities were collectively agreed upon with teacher assistance. Students rated their individual performance on tasks, and the accuracy of student management sheets were approved by the teams’ counselor and the teacher. Upon disagreement, the teacher would conference with the counselor and the individual to remediate any discrepancies. At the end of the instructional session, students received auction dollars that they would save to purchase large items at the end of the month.
Students were required to take the management sheets home for parent review and signature.

*Instructional Objectives*

The instructional objectives for group C were teacher chosen but were implemented by student choice of activity. For example, if the objective was: Student will apply skills and strategies to aid comprehension, then students voted on which materials and activities would be utilized in the instructional process. The teacher played the role as facilitator in directing groups to complete assignments after a brief introduction of the skills to be mastered and would monitor groups and assist individuals as needed. All the benchmarks utilized were Literacy based and directly corresponded to the Curriculum Essentials Framework of the Clark County School District for the appropriate grade level. The guidelines agreed upon by students' IEP teams were also considered before students were given a choice of activities.

The instructional objectives evolved according to the team and teacher assessment of group and individual mastery. If a team member or the teacher felt an individual needed further instruction on a specific skill, the individual would then team up with other members of the class for additional assistance. Assessments of lesson objectives were primarily derived from portfolio assessments, individual participation in group work, as well as student work samples and teacher observations.

*Group A- Convergence of Behavior and Constructivist theory based practices*

*Classroom Environment*

The classroom environment was pre-determined by the teacher. Students were assigned into teams randomly. An individualized instructional area was set up for direct instruction with the appropriate supplies, as well as instructional centers provided for
reinforcement of lessons and group work. Students would participate in direct instructional activities or work with their teams by teacher decision. Team and peer collaboration of assignment completion was encouraged and reinforced during all times except during direct instruction, when teacher expectations of student behaviors were presented. Students completed management sheets according to individual and group expectations.

Synopsis of the Behavior Management Program

The teacher established behavioral expectations of the classroom, but how those behaviors were to be reinforced, in a mock community, were established by the students. For those students who required an individualized monitoring plan according to their Individualized Education Plans, the management sheet served as a supplement.

Students developed classroom jobs and the requirements for successful job performance. Students also chose individual behaviors to remediate during the instruction time. The teacher would remind students every half-hour to monitor their management sheets for group and individual performance. Students were reinforced for individual demonstration of positive behaviors by earning points, which correlated to classroom dollars. These classroom dollars could be utilized at the end of the period to purchase small items or could be placed in the student's savings account to be used for larger items at auction at the end of the month.

Instructional Objectives

The instructional objectives for control group A were implemented the same as for group C, with the exception that, at times, activities were teacher chosen without student input. All the benchmarks utilized were Literacy based and directly corresponded to the Curriculum Essentials Framework of the Clark County School District for the
appropriate grade level. The guidelines agreed upon by students IEP teams were also considered before students were given a choice of activities. The instructional objectives evolved according student work samples, teacher observation, standardized assessments, and individual performance within group activities.

Measures and Data Analyses

Student behaviors and academic performance for targeted skills were rated using point systems that were reported as percentages. Percentages were chosen as the method for data reporting based on Clark County School District Grading Policy Guidelines, IEP Documentation, as well as, ease of student and parent reporting.

Students and teachers kept individual management sheets during class instruction, as methods of motivation and individual record keeping. Students in group B utilized a behavior management that recorded behaviors every fifteen minutes. The behaviors, rewards, and consequences were student driven but the teacher had ultimate control over which behaviors and rewards students were able to choose. The teacher recorded the point system every fifteen minutes, with students receiving a point for demonstrating the appropriate behavior. Individual data with teacher recording was utilized for group B, due to the nature of behaviorist theory and practices (see Appendix I). Group behaviors were chosen as data, for group C due to the implications of the constructivist classroom. Data was recorded collaboratively between students and teacher at the end of the academic period. Students received one point for answering yes on their sheets.

Group A data collection included both individual and group responses in correlation with a merging of theories. Student behaviors were recorded every half hour.
during an academic period. Student and teachers collaborated in determining whether points were earned during the half hour time frame.

Many of the students who participated in the study have a history of escalated rates of behavior in small group and/or large social settings, therefore, positive group behaviors were reinforced, while minor inappropriate behaviors were ignored for the purpose of the study and noted for remediation at a later date.
CHAPTER 4

RESULTS

To compare the effectiveness of the convergence of behaviorist and constructivist based practices, behaviorist based practices, and constructivist based practices on student behavior, two one way fixed effects model analyses of variance (ANOVA) were conducted.

On Task Behavior

When the percentage of time on-task was entered into the analysis for students in the three groups, significant differences emerged, F (2,42)=19.58, p<.0001. Tukey’s Studentized Range Test revealed significant differences in the amount of time spent on task between all three groups. Pairwise comparisons found that students who received a convergence of behaviorist and constructivist based practices were on task the most (M=80.2; SD=4.38); followed by students who received only a constructivist approach (M=70.4; SD=8.08); and than students who received only a behaviorist approach (M= 64; SD=8.06).

Following Instructions

When the percentage of time students followed instructions was entered into the analysis for students in the three groups, significant differences emerged, F (2,42)=67.52, p<.0001. Tukey’s Studentized Range Test revealed significant differences in the amount of time following instructions between all three groups. Pairwise comparison found that
(M=80.2; SD=4.38); followed by students who received only a constructivist approach (M=70.4; SD=8.08); and than students who received only a behaviorist approach (M= 64; SD=8.06).

**Following Instructions**

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Further Analysis of the Data

**Group B**

**On-Task Behavior**

Table 1 (see Appendix II) presents the mean average of individual demonstration of on task behaviors during literacy activities. At the end of Week 1, each student on average was demonstrating on task behavior 53% of the time. By the end of the fourth and final week of the study students were on average, on task 74% of the class period. This presented an average increase of 21% for individuals, with the largest increase demonstrated between week 1 and week 2. Data shows that students were able remain On-task during most of the time direct instruction occurred.
**Following Instructions**

At the end of week 1 students' mean for following instructions was 53%. At the end of the study students were compliant on average, 63% of the time. This demonstrates a 10% increase in positive behaviors over the duration of 4 weeks. During weeks 2 and 3, there is little to no gain on the scale.

These results seemingly support the behaviorist theories and implications for instruction. Students do respond well to task that are taught by direct instruction, quickly assessed, and rewarded with immediate reinforces. Students responded generally well to the immediacy of paper and pencil task completion and the rewards surrounding successful task completion. The frequency with which students were reminded to remain on task was successful for students and proved appropriate for the purposes of the self contained classroom, as well as the study.

The data also suggest that those students, who participated in group B, may have remained on task and mastered skills, but had little to no practice with generalizing mastered skills into social or real world application, a problem constructivism tries to remediate.

Academic results for individuals in group B improved steadily, but not to the extent the observer would have liked. Students were improving sight word vocabulary, reading rates, and on task behaviors, but had difficulty generalizing and retaining previously mastered tasks. Students were primarily concerned with finishing assignments for completion and rewards rather than learning itself.
Group C

On Task Behavior

Table 2 (see Appendix II) presents the mean average of group demonstration of on task behaviors during instructional periods. At the end of week 1, groups on average were on task 65% of the time. Week 2 saw an increase of only 1%, but during the duration of week 2 and 3, groups demonstrated an average increase in positive on task behaviors of 7%. At the end of the study, groups mean average of on task behavior was 78%, demonstrating an overall increase of 13%.

Following Instructions

Teams followed instructions with an average increase in positive behaviors by the end of the study at 12%. Data, once again, remained fairly consistent during weeks 2 and 3, with a mean increase of only 1%. Observers’ anecdotal records and comment sections of student reports suggest that during weeks 2 and 3, students spent more of their time completing classroom assignments individually, not as a team. As the study progressed for group C, active participation in teams improved, thus a 12% increase in following instructions by the end of the study.

The data suggest that students who participated in group C, the constructivist theories based practices received benefit from collaborative work with peers. The following instruction and cooperation scales for the constructivist classroom were larger than those demonstrated in group B. Students demonstrated the ability to generalize tasks such as following group instructions and working collaboratively. This data supports the fundamental ideas of the constructivists, that students who participate in active, collaborative working environments are able to problem solve in a social setting.
Academic results for group C, also improved. Students were able to complete task within their zone of proximal development, as well as task above the ZPD, with assistance from team members. As the study progressed, students became less concerned with task mastery, and more concerned with extending learning activities into more complex projects such as dioramas, reader's theatre, and independent research with technology.

Group A

On Task Behavior

Data for group A supported the original premise of the study, that students would receive the most benefit from a classroom designed with a convergence of behaviorist and constructivist practices. Data for week 1 demonstrates positive on task behaviors at an average rate of 70%. On task behaviors for control group A consistently increased by at least 6% weekly, culminating with an average on task behaviors of 91% at the end of the study.

Following Instructions

The data for following instructions demonstrated a significant increase in positive group and individual behaviors during the duration of the study. Week 1 students followed directions 70% of the time, increasing to 76% by the end of week 2. The largest average increase of positive behaviors was seen between weeks 3 and 4. The students averaged being on task 91% of the time by the end of week 4. This was the largest increase on following instructions for any of the groups.

Academic results for teams and individuals participating in group A, were significantly increased. Individual academics improved and students were able to apply new skills to group problem solving situations and extension activities. Students retained
new information longer due to the fact that they had actively applied individual academic learned tasks into a collaborative social setting, thus demonstrating that most tasks which are individually mastered, must be applied in order for students to receive the largest benefit. Students in group A were more concerned with learning and helping their peers learn, than individual results on management sheets or lesson objectives.
The purpose of this study was to demonstrate how utilizing the strengths of two theories could be beneficial for students. In developing an academic and behavioral program that incorporated components of behaviorist and constructivist theories, the study proved that individual academic and social growth could be facilitated through meaningful collaboration between students and adults in a classroom setting.

Students who participated in groups B and C demonstrated success, but not to the same extent as group A. Students who were given little choice or too much choice in their classrooms programming, viewed assessments, points, or verbal praise as the reason for learning. Students who participated in groups B and C valued the motivation for learning with external factors.

The results for students in group A were more discrepant. As students became more comfortable with individual and group expectations of the program within group A, positive behaviors were noted more frequently. These students were able to take ownership for their behavior and learning, and therefore, developed a sense of internal motivation for success. Success, either academic or social, has been minimal for the majority of students in an SEC classroom. These students, with a history of non-compliant behaviors, are typically forced to participate in what a group of adults considers appropriate at an IEP meeting. Allowing them to participate in their programming, while providing behavioral parameters and facilitating meaningful
instruction, guarantees at the very least, participation.

Limitations of the Study

There are a number of possible limitations with this study, the first being the classroom itself. The study conductor and the students had time to establish a rapport before the study was implemented. Thus, certain behavioral and academic expectations were previously identified. Academic present levels of functioning, as well as identified behavioral deficits, were previously recognized and partially remediated. This also presents a problem in replicating the study without previous baseline data of the student's current levels of functioning.

The second potential limitation of the study would be its implementation to the general education setting and across grade levels. The general education setting has an increased class size, no assistant to aide with data collection and parent reports, and a lack of student history, as you see in a confidential folder which tracks students throughout their time in special education. The study may also be difficult to implement across grade levels. Lesson plan formats; data collection procedures, and classroom community make-up would have to be adapted according to the age of the students and teacher knowledge.

Another possible limitation of the study could be the fact that the students had been together for at least three months before the study was conducted. The students had also participated in some character education training during the year and this may have impacted how well they worked together as a group, although in a self-contained
classroom for students with emotional disturbance, student to student rapport changes as quickly as it is established.

Directions for Future Research

The literature review suggests that there has been ample study of educational theories for years. However, there has been little research in the merging of behaviorist and constructivist viewpoints and its implications for classroom practices. The literature and the study further suggest a need for future research in converging behaviorist and constructivist theories and practices, into a practical application for teachers to implement in a variety of classroom settings.

This study further suggests the practicality of implementing a new way of thinking and teaching. School Districts and School Administration may find it difficult to implement new strategies when they are facing budget shortfalls. Research should include a description of the potential changes in classroom environments, teacher training, instructional materials, student materials, etc. Teacher training programs may find it difficult to find knowledgeable facilitators to prepare future teachers. Many current teachers, who may already feel overwhelmed, may resist changing a process or program they have used for years and are comfortable with. Therefore, the practicality of a programs implementation should not be neglected in the future.

Another implication of the study is to assess in greater detail the impacts of converging theories and its impact on long-term behavioral change and academic growth. Results that provide a more intense behavior change monitored over a longer length of time could demonstrate, and generate, innovative teaching practices.
Further research should also expand the educational philosophy current educators typically employ. This research may show a correlation between the amounts of years a person has been teaching to their personal educational philosophy. This may guide researchers to determine the likelihood that educators would implement a new philosophy once their classroom doors were closed. Teachers need hard copies and a convincing argument to change a teaching philosophy and practices that have been ingrained for years.

Practical Implications

This study could be a starting point for many more studies to address the diversity of student needs in classroom environments. The first implications of the study are directed towards students. Students who participate in classrooms where collaborative problem solving skills are taught and reinforced should be better prepared for life outside the classroom. As the world becomes a more complex ocean to navigate, communication skills are desirable traits that colleges and employers look for. Classrooms with mock communities, student driven lessons, with solid assessment and documentation procedures, will ultimately enhance the educational experiences for students and in turn meet their diverse needs.

The second implication the study has is on educators. As stated previously, demands on teachers are increasing. The study suggests that teacher’s may spend more time in the beginning of the year setting up a program in which a mock community is utilized. This may require more planning in the beginning of a school year, but eventually teachers would spend less time dealing with behavior management issues. Teachers would be able to modify the mock community to fit their personal style, making
the program beneficial for all involved. A converging of the theories has a standardized component in the sense of implementing good documentation procedures, yet it is flexible enough to be individualized according to the classroom and teacher style. These documentation procedures will enhance parent and student communication, thus potentially avoiding parent complaints, and at the same time encouraging parent involvement.

The final implication that needs to be addressed is the study’s potential impact on Administrators, Districts, and Teacher Training Programs. Most administrators have notoriously long been out of a classroom and as a result understand teacher difficulties but do not understand the lengths to which educators must go to meet parent, student, and district demands. As a result, Administrators may need to attend professional development courses on the benefits and practicalities of implementing such a program. School Districts would have to pay for these professional development courses for teachers and administrators, as well as assist with community involvement from business and communities to support such a program. The cost may be substantial at first, but with community support, eventually cost would decrease and the programs benefits would outweigh the initial cost. If academic success is the District’s goal, programs like the study suggests would be less expensive than inter-session and summer remediation programs.

Teacher Training Programs could provide an ease of district implementation. Undergraduate teacher programs could provide courses, which review a variety of management programs that includes practical ways to include community and parent involvement. These courses should include observations in classrooms that have been selectively chosen based on student success rather than ease of location, or the practicum
student's ability to make copies, thus ensuring a well rounded, well-prepared first year teacher.

Conclusion

This study represents an example of converging and implementing the strengths of the behaviorist and constructivist perspectives in teaching. The findings of the study may provide an innovative perspective for teachers to address the increasing demands in their classrooms, ultimately ensuring success for all.
APPENDIX I

LESSON PLANS AND MANAGEMENT SHEETS
# Lesson Plan Format

<table>
<thead>
<tr>
<th>Material</th>
<th>Objective</th>
<th>Procedures</th>
<th>Assessments</th>
<th>Notes</th>
</tr>
</thead>
</table>

Monday story: 

Tuesday story: 

Wednesday story: 

Thursday story: 

Friday story: 

Novel: 

Guided Reading Notes: 

Modeled Reading Notes: 

S.S. Reading: 

Character Education Component:
Group- B- Sheet

Student Name: 

<table>
<thead>
<tr>
<th>Time</th>
<th>Completed Classwork</th>
<th>Behavior 1</th>
<th>Behavior 2</th>
<th>Behavior 3</th>
<th>Bonus Points</th>
<th>Step Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:15-10:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30-10:45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:45-11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00-11:15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:15-11:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 

Scale

0-9 >
Consequence
10-19 > An O.K. day
20-30 > Reward

Behavior Points
0 = not accomplished
1 = accomplished

Step Process
1. Verbal Redirection
2. Warning
3. Time-out for 3 minutes
4. Time-out for 10 minutes
5. Phone/Note home
6. Office referral

Academic Points
0 = not completed
1 = completed with minimal effort
2 = good quality work

Teacher Comments: 

*BONUS POINT IF HOMEWORK AND THIS SHEET ARE RETURNED

Adapted from: Classroom Behaviors Management Sheets

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<table>
<thead>
<tr>
<th>REWARDS</th>
<th>BEHAVIORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART PROJECT</td>
<td>CO-OP. WITH ADULTS-CA</td>
</tr>
<tr>
<td>COMPUTER TIME</td>
<td>CO-OP. WITH PEERS-CP</td>
</tr>
<tr>
<td>GAME TIME</td>
<td>TALK OUT-DT</td>
</tr>
<tr>
<td>GROUNDED PASS</td>
<td>FINISH ASSIGNMENTS-FA</td>
</tr>
<tr>
<td>HOMEWORK PASS</td>
<td>FOLLOW INSTRUCTIONS-FI</td>
</tr>
<tr>
<td>K'NEX</td>
<td>HANDS/FEET TO SELF-HF</td>
</tr>
<tr>
<td>MOVIE TIME</td>
<td>NO COMPLAINING-NC</td>
</tr>
<tr>
<td>NAP</td>
<td>NO STEALING-NS</td>
</tr>
<tr>
<td>PHONE CALLS HOME</td>
<td>NO LYIN-NL</td>
</tr>
<tr>
<td>PLANTS</td>
<td>NO THREATS-NT</td>
</tr>
<tr>
<td></td>
<td>PARTICIPATE-P</td>
</tr>
<tr>
<td></td>
<td>STAY IN SEAT-SS</td>
</tr>
<tr>
<td></td>
<td>STAY ON TASK-OT</td>
</tr>
<tr>
<td></td>
<td>USE APPRO. LANGUAGE-AL</td>
</tr>
<tr>
<td></td>
<td>USE MANNERS-MA</td>
</tr>
<tr>
<td></td>
<td>WALK APPRO. IN LINE-WL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSEQUENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>DON'T GET LUNCH ON TIME</td>
</tr>
<tr>
<td>EXTRA HOMEWORK</td>
</tr>
<tr>
<td>NO COMPUTER LAB</td>
</tr>
<tr>
<td>NO PLAY STATION</td>
</tr>
<tr>
<td>NO RECESS</td>
</tr>
<tr>
<td>NO SPECIAL</td>
</tr>
<tr>
<td>OFFICE REFERRAL</td>
</tr>
</tbody>
</table>
**Classroom Behaviors Management Sheet for Group C**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I listened to others.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>I helped my team members.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>I respected Class Rights and Responsibilities.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>I actively participated in activities.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Tomorrow I will</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Governor's initials:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor's initials:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent's signature:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auction $ earned:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Classroom Behaviors Management Sheet for Group A

<table>
<thead>
<tr>
<th>Time</th>
<th>Worked Cooperatively</th>
<th>Beh. 1</th>
<th>Beh. 2</th>
<th>Grp. Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:30</td>
<td>Y        N</td>
<td>1 2 3</td>
<td>1 2 3</td>
<td>Y  N</td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Y        N</td>
<td>1 2 3</td>
<td>1 2 3</td>
<td>Y  N</td>
</tr>
<tr>
<td>11:00-11:30</td>
<td>Y        N</td>
<td>1 2 3</td>
<td>1 2 3</td>
<td>Y  N</td>
</tr>
</tbody>
</table>

Comments:________________________________________

Teacher signature:_________________________ Counselor's initials:_________________________
Parent Signature:_________________________

Scale
1-No Effort
2-Minimal Effort
3-Good Effort
APPENDIX II

TABLES
Table 1
Results for Group B

Results for Group B

<table>
<thead>
<tr>
<th>Percentage %</th>
<th>On Task</th>
<th>Following Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2
Results for Group C

Results of Group C

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>90</td>
</tr>
</tbody>
</table>

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Table 3
Results for Group A
Table 4
Results for Groups A, B, and C

Group Comparison of "On Task" Behavior

Group Comparison of "Following Directions"
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