

# An Investigation of Teachers' Developmental Theory and Their Teaching Practice

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## Abstract

Research indicates teachers' beliefs in a specific adult development theory have an effect on their teaching. These beliefs provide the lens through which teachers view their teaching practices and the instructional needs for students. (Baumgartner, 2001) Teachers who know their development theory will be able to teach students and help students be successful in acquiring and retaining knowledge. The purpose of this investigation was to determine if teaching practices correlated with the self-identified adult development theory of teachers. Findings revealed that the majority of participants identified with the behavioral/mechanistic theory and showed evidence of practicing that theory in their teaching.

**Keywords:** developmental theories, beliefs, self-identification, teaching practices, teachers' preparation, practitioners.

## 1. Introduction

Developmental theories provide a structure for understanding how the human grows, develops and learns. Berger (2004) states, "theories not only form the basis for hypothesis-testing, but they also help to generate change and discovery. In addition, theories provide a context in which to interpret behaviors." She further defines two purposes for theories. Namely, that some theories are considered "grand" and provide an understanding of development in all humankind and "mini-theories" focus on specific areas of development. According to Deng (2004), the role of theory is ... to education [them] more widely about the complexities, intellectual and more nature of classroom practice. He further states that it "refers to the principles, generalizations, models, and theoretical frameworks formulated through disciplinary, scientific or scholarly inquiry, which have a direct or indirect bearing on the enterprise of education." Clark and Caffarella (1999) stated, "Theories [serve] as a lens through which we view the life course; that lens illuminates certain elements and tells a particular story about adult life" (p. 3).

Developmental theories play a major role in preparing teachers to reflect and understand how their belief influences their teaching, and it also helps teachers to plan actual classroom activities that will stimulate students' learning. It is important for teacher preparation programs to embrace the notion that how teachers obtain beliefs/knowledge of developmental theories impact the teaching practices/behaviors.

Research by Day, Kington, Stobart and Sammons (2006) showed how personal, profession and situational factors impact teacher identity. All of the previous factors listed, as well as developmental theories, have a great impact on teaching practices. As teachers grow in their educational experiences they find what works and what is effective to them and consequently teach in that same manner.

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Our personal identities are powerful entities that are shaped by myriad experiences that occur within a given social and cultural context. To understand others, one must begin with an understanding of self (Gross, et. al., 2010).

Moss and Schreiber (2006) explains that there is a direct relationship between teachers’ belief statements and their actual educational practice. Some studies have uncovered important consistencies between the beliefs that teachers hold and the actions that can be observed in their classrooms (Cornett et. al., 1990). Moss and Schreiber (2006) stated that these studies provide evidence that teacher beliefs and teaching practices often go hand-in-hand.

Lisa M. Baumgartner (2001) in her article, “Four Adult Development Theories and Their Implications for Practice”, discusses four theories relative to how educators may base their actions for working in educational settings. The four adult development theories are behavioral/mechanistic, psychological/cognitive, contextual/sociocultural, and integrated. A person may identify with a certain theory depending on a myriad of variables. The table below, Table 1, gives a summary of the 4 theories, their description and characteristics as outlined by Chen (n.d.).

**Table 1: Approaches to Adult Developmental Theories**

<b>Theory</b>	<b>Description</b>	<b>Characteristics</b>
Behavior/Mechanistic	Focuses on skills that will be used later in life. Learning is the result of conditioning. Reinforcement is the core of this theory. The following skills are used in the classroom: <ul style="list-style-type: none"> <li>• Break down the skills and information to be learned into small units</li> <li>• Check student’s work regularly and provide feedback as well as encouragement</li> <li>• Teach “out of context”</li> <li>• Direct or “teacher centered” instruction</li> </ul>	<ul style="list-style-type: none"> <li>• Learning is passive</li> <li>• Students must learn the correct response</li> <li>• Learning requires external reward</li> <li>• Knowledge is a matter of remembering the information</li> <li>• Understanding is a matter of seeing existing patterns</li> <li>• Applications require “transfer of training” which requires “common elements” among problems</li> <li>• Teachers must direct the learning process</li> </ul>
Psychological/Cognitive	Focuses on how the individual interacts with the environment. This theory emphasizes that life happens in stages and that individuals are active participants in their development.	<ul style="list-style-type: none"> <li>• Active development</li> <li>• Encourage critical reflection and discussion through a variety of activities</li> <li>• Look for ‘teachable moment’ in which learners are receptive to new ideas</li> </ul>
Contextual/Sociocultural	Focuses on individuals as being unable to be separated from the environment in which they operate, similar to psychological/cognitive. Emphasizes the significance of culture and its influence on how and what teachers choose to teach and share with students.	<ul style="list-style-type: none"> <li>• Critical reflection and discussion</li> <li>• Cultural awareness</li> <li>• Infuse materials from different cultures into Curricula</li> </ul>
Integrated Approach	Focuses on how the individual changes over time. The individual takes on a “holistic view” that allows teachers to view the “whole child” in the educational	<ul style="list-style-type: none"> <li>• Teaches to the multiple intelligences of students</li> <li>• Builds positive</li> </ul>

	environment.	relationships with students <ul style="list-style-type: none"> <li>Encourages students to be aware of the affective domain related to their various assignments</li> </ul>
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Adapted from “An Electronic Textbook on Instructional Technology” by I. Chen (no date).  
 University of Houston, College of Education. Retrieved from  
<http://vikings.coe.uh.edu/~ichen/ebook/et-it/cover.htm>

The four developmental approaches for which participants might view themselves served as a vehicle for them to identify which specific approach guided their actions as they interacted with students in their particular educational environment.

**Setting**

This study was conducted in the teacher education program housed at a southern public Historically Black College or University (HBCU). Participants in this study are from 12 counties in North Carolina. Table 2 below shows the counties from which the participants are located. The second setting was in various classrooms of participants in the 12 counties.

**Table 2: Counties Represented by Participants (N=52)**

Counties	n	%
Alamance	2	3
Cumberland	1	3
Durham	6	19
Franklin	1	3
Granville	1	3
Orange	2	7
Person	5	16
Swain	1	3
Vance	2	7
Wake	8	26
Warren	1	3
Watagua	1	3

**Program Description**

The design of the program was based on evidence-based practices, active involvement through field-based experiences, and built on an already established knowledge base in education. Participants in this study were enrolled in the course, Teachers as Leaders: Roles and Responsibilities were from several areas of education. Participants who enrolled in the course were working on their Master’s degree and took this course as a requirement or an elective. The participants were able to enhance their knowledge by incorporating the educational perspectives related to their topics that were presented in this course.

**2. Methodology**

The purpose of this study was to examine in-service teachers’ knowledge and beliefs about developmental theories. Another purpose of the study is for participants to do a self- identification and determine if they use a specific theory and utilize the theory in their teaching practices. The primary research question underlying this study was: *Do teachers who identify with a specific developmental theory practice that theory in their teaching?* The findings suggest that teachers do practice in their teaching the

developmental theory with which they identify based on evidence of classroom activities and the completion of a final project. (Baumgartner, 2001).

**Participants**

A total of 31 graduate students comprising of 23 females (74%) participated in the study, of which 18 are in curriculum and instruction, 3 are in physical education, and 1 each in elementary education and physical education. Eight males (26%) participated in the study, of which 5 are in curriculum and instruction, 2 are in physical education, and 1 in special education. Thirty-one (100%) of the students were teachers and a librarian (whose job description included teaching subjects that related to the library/media center for different classes). Twenty-one (68%) of the participants taught at the elementary school level; 4 (13%) taught at the middle school level; and 6 (19 %) taught at the high school level. The participants were enrolled in several educational programs, namely: Curriculum and Instruction (23, 74%), Physical Education (5, 16%), and one student (1, 3%) in each of the following programs, Elementary Education, Family and Consumer Science, Library Science, and SPED. Table 3 shows a breakdown of the demographic characteristics of these students.

**Table 3: Demographic Characteristics of Graduate Students**

Characteristics	n	%
Gender		
Female	23	74
Male	8	26
Employment		
Teachers	30	97
Librarians	1	3
Level of Employment		
Elementary School	21	68
Middle School	4	13
High School	6	19
Program of Study		
Curriculum & Instruction	23	74
Physical Education	5	16
Family & Consumer Science	1	3
Library Science	1	3
Special Education	1	3

**Procedures**

This course is designed to develop or enhance leadership skills that would enable the master teacher to be an effective positive change-agent within the schools. Participants in the course engaged in the following required activities:

Step1: Teacher and participant lead discussion about effective teaching practices and developmental theories. This discussion was done before participants read the article and was used to determine their base knowledge about theories. The assessment for this Step was a note beside each students’ name indicating the level of knowledge (+ = knowledgeable; and -- = no knowledge).

Step 2: Participants read the article by Baumgartner, “Four Adult Development Theories and Their Implications for Practice”. This step was used to increase participants’ knowledge about theories.

Step 3: Participants applied the adult development theory through supervisory strategies that promoted growth and development in the student/beginning teacher based on individual needs. Strategies were discussed in class that helped the participants in teaching information to students based on the participant’s theory which they practiced. Participants also used the strategies in their student/beginning teaching experiences. The assessment for this Step was a note beside each students’ name to indicate that

students are applying things discussed and found in the article in strategies for teaching the students (+ = used information discussed and read and -- = did not use information discussed and read).

Step 4: Participants used effective communication skills to do peer to peer discussion about the development theories. Participants were divided into pairs and discussed their development theory – characteristics, thoughts about the theory, adjustments made to teaching strategies. The assessment for this Step was the instructor walking around in the classroom as the pairs are communicating with each other about the theories (+ = used effective communication skills in their pairs and -- = did not use effective communication skills in their pairs).

Step 5: Participants served as a resource in curriculum decisions (including development of materials) and classroom management strategies. With the knowledge gained, participants can become a valuable resource in the school in which they are employed. The assessment for this Step was the instructor actually visiting the classroom of the student/beginning teacher.

Step 6: Participants wrote a paper listing the theory with which they identified; included in the paper was a description of the theory, why they thought they identified with this theory, and what or who influenced them to practice this theory. This paper was used as the final assessment to determine if students had a clear understanding of the theories.

Throughout the course, students reflected upon their own philosophies, skills, and practices in learning, teaching, and mentoring through reflective class discussions, group activities, and the discussion board on Blackboard.

### 3. Findings

The investigation revealed that elementary teachers were the largest group represented in each theory, namely behavioristic/mechanistic (13, 42%); psychological/cognitive (4, 13%); contextual/sociocultural (6, 19%); and integrative (8, 26%).

**Table 4: Participants Self-Identification with Developmental Theories**

Theories	n	%
Behavioral/Mechanistic Approach	13	42
Psychological/Cognitive Approach	4	13
Contextual/Sociocultural Approach	6	19
Integrated Approach	8	26

The specific results related to each approach are detailed in the following paragraphs.

#### **Behavioristic/Mechanistic Theory**

As a result of reading the article there were 13 (42%) of the participants who identified with the Behaviorist theory (see Table 4). It is noted that of the 31 participants 22 (71%) were elementary teachers (see Table 5). This approach is commonly taught to pre-service teachers in teacher training programs. It is well known that teachers trained to teach elementary students are well versed in “molding behaviors”. This finding is supported by Duru’s (2006) research whose literature review showed that ‘tradition in the culture of teaching is still affected mostly by behaviorist, and positivist theories.’ In the article, *Behavioral, Cognitive, Humanist Approaches* it is stated that the behaviorist approach is the result of conditioning. The characteristic of reinforcement, immediately rewarding for desired behavior and not rewarding for undesirable behavior is the core of the behaviorist approach. Driscoll (2000, p.3) writes that “learning is a persisting change in performance that results from experience and interaction with the world.”

**Psychological/Cognitive Theory**

There were four (13%) of the participants who identified with the psychological/cognitive theory (See Table 4). The largest group who were represented in this theory was elementary teachers at 4 and 0 for middle and high school teachers (see Table 5).

Participants who identify with this theory believe that learning is an internal process. As stated in the article, *Behavioral, Cognitive, Humanist Approaches*, learning occurs in stages. The first stage is to learn the overall picture and the sequence involved. The second stage is to gain skill in performing the task. And, the third stage is to gain confidence and competence in performing the task.

**Contextual/Sociocultural Theory**

Six (19%) of the participants identified with the contextual/sociocultural theory (see Table 4). Table 5 shows the breakdown of participants’ teaching level and the theories with which they self-identified. This theory moves from the traditional notion of academic learning as separate from personal and social development to learning that emphasizes the significance of culture and its influence on how and what teachers choose to teach and share with students. Merriam & Caffarella (1999) points out the importance of the sociocultural elements of race, class, gender, ethnicity, and sexual orientation and their influence on adult development. It is important for teachers to be cognizant of the effect of culture on the education of students. In addition, there is a plethora of research on preparing educators to be culturally responsive teachers. Ladson-Billings (1994) defines “culturally responsive teaching” as a pedagogy that recognizes the importance of including students’ cultural references in all aspects of learning.

**Integrated Theory**

**Table 5: Theories and Participants’ Grade Level**

Theories and Grade Level	n	%
Behavioristic/Mechanistic Approach		
Elementary School	8	62
Middle School	2	15
High School	3	23
Psychological/Cognitive Approach		
Elementary School	4	100
Middle School	0	0
High School	0	0
Contextual/Sociocultural Approach		
Elementary School	3	50
Middle School	1	17
High School	2	33
Integrated Approach		
Elementary School	7	88
Middle School	1	12
High School	0	0

There were eight (26%) participants who identified with the integrated theory (See Table 4). Clark and Caffarella (1999) noted that the integrated approach to adult development takes a holistic view of adult development. They also stated, “This perspective is focused on how the intersections of mind, body, and sociocultural influences affect development. “ Swaner (2008) writes that integration is from multiple settings and resembles a “lattice of meaning-making and application across students’ experiences in and out of class, as well as on and off campus.” Swaner (2008) addresses research on teaching the “whole” student and writes about transformational education in a developmental view. He states that,

“students experience fundamental shifts in their perceptions of self, others, and community... [which] have profound implications for the ways students make meaning of their learning and experiences, as well as their functioning in relationship to other individuals and to society.”

Comments from participants, as seen in Table 6, revealed their thoughts and approaches to teaching in relation to their self-identified theory of behavioristic/mechanistic theory. The participants elaborated that the characteristics were evidenced in the way they interacted with their students and the instructional decisions they made in their educational environments. The results such as prior knowledge, positive/negative reinforcement, gratification, external forces, extrinsically motivated, positive/negative consequences, praise, rewards, drill and practice, punishment, behavior, discipline, and higher order thinking were evident from participant’s comments that identified with this theory.

**Table 6: Examples of how Educators Self-Identified with the Behavioristic/Mechanistic Theory**

Developmental Theory	Comments
Behavioristic/Mechanistic Approach	<ul style="list-style-type: none"> <li>• My approach to teaching is to access their prior knowledge and build on what they already know. If there is no prior knowledge, I spend time teaching that required knowledge to my students. I have learned that my students learn best with positive and negative reinforcements in place. Learning is a matter of developing excellent habits and that can be taught using effective techniques. Therefore, I embrace the behavioral/mechanistic approach to teaching my students.</li> <li>• Verbalizing positive reinforcements normally bring instant gratification and my students always want to impress me and therefore the more I use it the more my students continue to do well. During a warm up I will ask questions and as I get the answers will say good job, excellent work, yes, but not quite correct, you want to try and say it again.</li> <li>• As a teacher I use positive reinforcement and punishment in my classroom. At the beginning of the year I describe to my students that I am looking for well-behaved students and I describe to them what this looks like. Overall, this assignment helped me to recognize why I teach the way I do and how to use these theories in my teaching practice. I look forward to developing lessons based on these theories to further enhance my student’s development.</li> <li>• People learn like machines through external forces. Reinforcement is used to get a desired action or to deter that action.</li> <li>• People’s actions are extrinsically motivated. External factors such as rewards and punishments determine what people do and how they act. Students who don’t see the relevancy of the material also don’t see the need to do any work. I had to use positive reinforcement to motivate most of my students to do any work in class.</li> <li>• I feel that in the more formative years, specifically from birth to about 7 years of age, the behavioral approach is more relevant because this is when the bulk of learning takes place and habits are already being formed.</li> <li>• When I was a young child and through adolescence, my parents used the behavioral approach in rearing me and teaching me right from wrong, as did many of my teachers. When I behaved inappropriately, there were always negative consequences. When I behaved appropriately there was praise and positive reinforcement. I remember my dad paying us five dollars for every “A” on our report card.</li> <li>• At our school, we have implemented the PBIS (Positive Behavior Intervention System) initiative to further align high expectations for staff and students. It is a commonality to see the guiding principles posted within each classroom to reflect I for integrity, M for maturity, P for positivity and S for self-discipline. The expectations for class, hallway, cafeteria, gym and any part of the school building is posted and taught by all staff at</li> </ul>

designated times throughout the year.

- “Instructors who favor the behavioral/mechanistic perspective provide student with plenty of opportunity for drills and practices.” I constantly do this with my students. We practice everything even walking down the hall. After the drills and practices, I follow up with candy and rewards. Just as this approach states. The problem I had with this approach was it only addressed the mind. Also, its reference to machines made it seem very cold and robotic which provided a disconnection between the theory and me.
- Learning behavior based on receiving positive or negative reinforcement is at our most basic infantile stage of development. This stems from the animalistic part of our nature which primarily deals with survival mechanisms. Although many aspects of this theory are true, I think that instructors that favor this teaching methodology are limiting the higher order thinking abilities of their students.
- My students enter each day with an open mind just waiting to learn something new. In return, I strive to educate them with the knowledge and thinking skills that they need to be successful productive citizens in a global environment. They enter with prior knowledge on many things but I must build on that prior knowledge to enhance their learning. Furthermore, often times they have no prior knowledge of a concept of skill and are without the foundation to springboard them to success. My approach to teaching is to access their prior knowledge and build on what they already know. If there is no prior knowledge, I spend time teaching that required knowledge to my students.
- It is my belief that people are more apt to learn in any setting if there is some sort of reinforcement that goes with their actions. If there is the same consequence for getting a 60 on a test as there is for getting a 100 then there will be no motivation to work harder for the better grade. This motivation can occur even if there is no immediate form of reinforcement.
- This approach seems very cold and seems not to take much thought, yet I do a lot of drills and routines in my classroom each day. I feel that past behaviors predict future behaviors. When I reflect on my classroom teaching, I often think repetition is a good thing. The more students are exposed to a particular subject, the better they can grasp the concept.
- I have learned from previous employment experiences and carried that knowledge with me through my time in the professional world. One must be assertive rather than passive so as to be proactive rather than reactive.
- Students who don’t see the relevancy of the material also don’t see the need to do the work. Therefore, I had to use the positive reinforcement to motivate most of my students to do any work in class. As soon as you walked into my classroom you saw a bookshelf full of games like Checkers, Chess, Connect Four, etc. Right next to that shelf was a white board that listed the agenda for the day. All my students knew that if they finished everything on the agenda they could play a game for the remainder of the class.
- I can identify with this theory by referring to a prior employment experience where I performed as administrative assistant and developed a routine for all of my job tasks and did things this way for over 6 years. I continued to absorb existing knowledge, but failed to construct or seek out new knowledge. My seventh year in that job was a trying year because we were experiencing budget cuts and all employees were tasked with finding ways to streamline their entire job to take on more tasks in preparation for a reduction in force.
- As a teacher today, data has revealed that positive reinforcement given to students yielded good grades. The notion that one learns from experience has proven to be accurate in many cases in educating students.
- Being an elementary teacher (third grade), I am really doing a lot of reinforcement in

the classroom. I am very much an advocate of rewarding correct answers to questions, obedience of classroom rules and over all positive behavior. I have taught my students different kinds of claps (for example: round of applause, fireworks clap, camera clap, etc.) and we do that to acknowledge classmates who participate in discussions and recitations. I also provide treats like stickers, stamps, extra minutes of recess, and parties as rewards.

- Being a health and physical education teacher allows me to relate to this theory because this is very helpful when learning new skills as well as teaching new skills to the student. Having to set up activities which require a person to repeat that skill several times and being able to give them praise when they are doing well to allow them to continue that behavior or to redirect them if they are going off course to bring them back to the outcome that is needed to complete the activity.
- The idea behind this theory is that people learn like machines through external forces. Reinforcement is used to get a desired action or to deter that action. Every teacher has this concept down as it is a proven fact that using positive reinforcements will get the students molded to how the teacher sees fit. Still this does not work for all students, so negative reinforcements, even punishments, are used to correct any unwanted actions. If students get the problem right, I will praise them or give them a prize for doing a good job. Even if the students make a mistake, I will still praise them for working the problem as I asked, so we can all see the problem to correct it. What I really used my reinforcements for are the desired behaviors I am looking for to make my classroom the best learning environment possible.
- We practice everything even walking down the hall. After the drills and practices, I follow up with candy and rewards.) The problem I had with his approach was it only addressed the mind. Also, its reference to machines made it seem very cold and robotic which provided a disconnection between the theory and me.
- I work with exceptional education students and my specific role is behavior management and case manager to those students that continuously have behavior issues in the classroom. Student's behavior changes drastically when there is a positive or negative reinforcement or punishment. When I praise students for certain behaviors they continuously try to repeat those behaviors because they are so use to being negatively reinforced. I also experience that consistent and stern negative reinforcement for negative behaviors help to teach exceptional learners the difference between right and wrong which a lot of them do not receive at home or easily forget.
- This approach increases the achievement of students with intellectual disabilities. Students with disabilities do well in class when given time to learn and practice information. These students thrived off positive reinforcement and immediate feedback, and when incorrect responses were given, the opportunity to practice and drill a specific set give these students the opportunity to respond correctly.
- I am of the opinion that behaviors can be controlled by the type of reinforcement following the behavior call consequences. I like to use the principles of reinforcement to bring about changes in behaviors that I would like to see in my classroom and eliminate unwanted behaviors. I use the Token economy system where different forms of tokens are given out as reinforcement for positive behaviors which can be later turned in for rewards. I give silent lunch as a form of punishment when students have not completed homework or projects to prevent these behaviors from repeating again.
- My personal experience with this approach is teaching/tutoring in elementary schools. Students are taught the behaviors and the expectations of the school system very early in order to help equip them for later lessons. I believe that my behaviors and expectations for my tutors most closely follow this approach. I am a huge proponent on discipline

	<p>and establishing right from wrong effectively.</p> <ul style="list-style-type: none"> <li>• This approach helps students to gain confidence in their work through drill and practice. When students in the classroom try but do not succeed it is important to embrace the effort and not the failure. I am studying behavior so that I can work closely with juvenile delinquents to improve their behavior and environments. We can learn from our development to improve our teaching practices, our students will follow our lead.</li> <li>• People do respond to external forces, but I refuse to classify myself or another human being as a machine. This approach asserts that past behavior predicts future behavior and that people’s machine-like minds do not construct knowledge but instead absorb existing knowledge. I believe that this is not completely true, as we do have the power to change our thoughts and therefore our actions.</li> <li>• I think that instructors that favor this teaching methodology are limiting the higher order thinking abilities of their students. My experience with this approach stems from my military background and how they train military personnel in basic training. In my opinion, this method is used more for re-programming than for teaching.</li> </ul>
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The comments from participants who identified with the psychological/cognitive theory was building a strong foundation for learning, making better decisions going forward, and connecting past and present information. Additional comments are shown below in Table 7.

**Table 7: Examples of how Educators Self-Identified with the Psychological/Cognitive Theory**

Developmental Theory	Comments
Psychological/Cognitive Approach	<ul style="list-style-type: none"> <li>• Students that have many experiences to draw from are able to better make connections to the new content they are learning. Students who have fewer experiences have a more difficult time with learning and retaining new information. Experiences provide foundation for learners to build more knowledge upon. Without the foundation, the students struggle.</li> <li>• I know first-hand that I learn best when I am a part of my development. When I can connect my learning to personal experience, my understanding is increased. Knowing that, I make sure that I stress real world relevance in whatever we are learning in my fourth grade classroom. Through my experiences as a student and a teacher, I have come to see great value in knowledge that is constructed through active participation.</li> <li>• I learn by experiences. When I make a mistake or decision, I learn from the personal experiences and I can grow from that experience and I know what I should and shouldn’t do for future references.</li> <li>• I do believe that reflection and discussion and an important part of my classroom every day. My students are expected to reflect on different activities throughout the day, and even taught to write or discuss how they can improve a project, writing, or various other activities that we may complete.</li> <li>• If my students are able to understand the connections between concepts, break down the information and build connections, then their understanding increases. My students are aware of the learning process and don’t just learn facts and information because they know it is required. To help the students see the connections, I also use student</li> </ul>

	<p>learning maps on a daily basis.</p> <ul style="list-style-type: none"> <li>• With my students I find that if they are engaged in an activity that has to do with the subject they are more likely to have a tighter grasp of the concept.</li> </ul>
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Participants’ results that identified with the contextual/sociocultural theory was early experiences affect students’ world view, culture affect the learning process, students should know different cultures, classroom climate should be accepting to all, students are value to society, and students are not separated from their context of where they live. More explicit comments are shown below in Table 8.

**Table 8: Examples of how Educators Self-Identified with the Contextual/Sociocultural Theory**

Developmental Theory	Comments
Contextual/sociocultural Approach	<ul style="list-style-type: none"> <li>• I believe that context is critical in understanding Adult development and in teaching. This viewpoint acknowledges the influence culture has on the learning process. Race, class, gender, and sexual orientation are critical elements to this approach, as they all influence adult development and learning. I believe that my sociocultural background has influenced my development in many ways. I can use this approach in practice by figuring out ways to incorporate and foster the importance of cultural awareness and diversity in my learning processes and learning processes that I engage students in as an educator. I also try to instill a respect and tolerance for various cultures, while adhering to and valuing their own.</li> <li>• I am a believer that a student’s mine is molded very early in life based on the environment that they are raised within. I see this each day at school when I hear students repeat ideas that obviously reflect their parent’s ideas on controversial issues such as politics and religion. One of the things that I try to pass on to my students each year is an understanding for both sides of these types of issues. This is something that I try to accomplish by having students participate in class discussions and by having students read and discuss articles that give alternate viewpoints on these types of issues. I feel that the contextual/sociocultural perspective is effective because it gives students the opportunity to express their individuality while also learning more about the differences that are present in individuals everywhere.</li> <li>• I strongly believe that individuals are not separated from the contexts in which they live, but are part of them. For the most part, people identify with what they know from their upbringing. Different cultures emphasize different kinds of tools, and that influences who people become. When I express to my students the need for individuals to take an interest in math and science the way their peers in Asia are, they begin to see the disparity between our two societies or cultures. I discuss various topics with my students about everyday issues that affect them in their communities and homes. I also stress to my students to stay abreast on current events and to know what’s going on in the world around them.</li> </ul>

	<ul style="list-style-type: none"> <li>• I do not expect for all of my students to come into the classroom knowing all of the exact same information. I never know when a student from one background may learn better using methods of a different background. That is why I think it is important to make students aware of other cultures and their practices. At my current school we encourage students to use a cycle of inquiry to solve problems. Although we start with local issues we broaden the scope to a global perspective and students come up with ways to take action. They have to use what they already know and what they learn from each other to construct action plans.</li> <li>• “Scaffolding” is used daily in my classroom as we review yesterday’s assignment and prepare for today’s lesson. Higher-level thinking skills are used as we analyze, infer and predict what we think will happen. I see this in my classroom as we predict from scatter plots and lines of best fit what we think will happen in the future.</li> <li>• The type of community that I have tried to create within my classroom is one of understanding and acceptance. I try to foster a climate where all students feel comfortable to be themselves. I am most concerned with teaching holistically, rather than just being concerned with academics. If I can’t teach students in every aspect of life, then I don’t feel as though I have been successful. I take advantage of those moments when someone hurts someone else’s feelings to teach the rest of the class why the situation may not have been appropriate. It is never done in a way to single out another student; on the contrary it is used to show both students how we can avoid this situation in the future.</li> <li>• I am a minority because my parents were Japanese-American. Growing up, I was taught to be submissive and conform to society. As I later encountered people who valued Japanese culture and my personal gifts, I came to see that every person has talents and has tremendous value to society.</li> </ul>
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Comments from participants who identified with the integrated theory were teaching the “whole” child, teaching to different learning styles, structure the learning environment based on the students, help students to make a connection between what they are learning and the world in which they live and spirituality give meaning to all aspects of the human experience. Additional comments are shown below in Table 9.

**Table 9: Examples of how Educators Self-Identified with the Integrated Theory**

Developmental Theory	Comments
Integrated Approach	<ul style="list-style-type: none"> <li>• I must add that I think my approach to instruction is slightly driven by the students I service. As a middle school math teacher, I find that quite often my students operate better in a very structured environment. To that end, I think that perhaps one’s approach is fluid and shifts based upon the group that an individual is servicing. Most importantly, regardless of what approach one is utilized, it is clear that they all are pertinent in the big scheme of</li> </ul>

	<p>development.</p> <ul style="list-style-type: none"><li>• I also know that I can't meet the needs of the learners in my classroom unless I am aware of all their needs. I want my students to be successful in life and to do what I believe that the students must be well rounded. I believe for students to be successful there must be a connection between what they are learning and their world. I want to develop students in my classroom that are lifelong learners and the most effective way to do that is through the integrated approach.</li><li>• I try and identify students' problems and find solutions to their behavior and learning needs. I look at the student as a whole. I have concluded that the way we treat students as they develop is the same way adults need to be treated as they encounter a lot of impediments, experiences, and positive or negative factors in the change process of their life over a period of time.</li><li>• I believe that this theory is valid as I reflect upon my life experiences. This theory approach supports the integration of the mind, body, and sociocultural interaction for adult development. I believe that students may have many similarities but they also have various learning styles and or needs. All students do not think alike nor respond the same to my teaching styles nor strategies. It is my responsibility to meet their needs by using multiple learning approaches to enhance their learning experience and expand their short and long term memory. The integrated approach parallels my belief, "When all else fails try God", let's try spirituality!</li><li>• I've always been the kind of teacher who not only thought about my students' academic achievement, but also was concerned with how they thought of themselves and prepared for interactions in society. I have always tried to teach my students to be cognizant of the world around them and have an awareness and compassion for other races, ethnicities, gender, and economic lifestyles. As teachers we must understand and be prepared to foster relationships with all types of adult learners.</li><li>• My philosophy of adult development would be more like the Integrated Approach. I am an adult that cannot retain information from lectures alone. I approached my learning in many different ways. I believed that I made a connection with some of the students by sharing my experiences on learning and coming up with some different ways to approach learning. In my present situation as an Instructional Facilitator I get to go into classes and make observations on what I saw. I also get to model lessons for classes and I will try to model new ways to teach information. This will give the teacher another way to look at learning.</li><li>• One of the things that I think about the most when planning for each week is how can I challenge my students that are more developmentally mature and how can I reach those that are developmentally delayed and still teach those that fall in the middle. I make sure that I have work for my faster students to do when they finish their given assignments. The challenge is making sure that the work I have for them is not just busy work, but work that requires higher order thinking skills. I also have to make sure that I am available to assist those that may work slower and also make sure that time is allotted in the day for those to go back and work on any work that they were not able to finish. "Encouraging students to connect in a variety of ways" is exactly how what I base my teaching on. I offer students several varieties of instruction. The centers that I use in my class are an example of how I give each learner</li></ul>
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	<p>an opportunity to learn and be successful. I believe that to truly teach a child you must be able to reach them on many different levels.</p> <ul style="list-style-type: none"><li>• The integrated approach encompasses everything I do as a teacher and represents what I want for my students. Spirituality can be implemented into one's own personal development, but personally I do not feel that integrating spirituality into a public school setting is appropriate. I have students' form letters with their body and tell me a word that starts with the letter they made.</li><li>• The strength of my agreement was due to the inclusion of spirituality as one of the components of development. Spirituality gives meaning to all aspects of the human experience therefore its impact on the learning experience cannot be underestimated. Spirituality guides and informs my instructional practices. Role-play has been a powerful experiential tool that I have utilized in the past and currently employ during instruction. The children's discussion session and reflection after engaging in the role-play gave them a 'lived' understanding, which discussion alone could not have afforded them.</li><li>• I teach as a facilitator to learning. I envision myself as an educator that creates students that are splendid problem solvers and critical thinkers. I feel that teaching on a student's level and creating a welcoming, creative and loving environment situates students on the path of success in education and life. Incorporating all types of learning styles assists with ensuring that students experience success. Teaching students with multiple intelligences opens a wide range of activities and ideas that can be incorporated within a learning situation. The integration of technology can assist learners in demonstrating projects and academic skills with phenomenal results. I believe it is my position to provide a place of enrichment, excitement, creativity, and growth opportunities. To educate students with disabilities is a reward to me.</li><li>• I completely agree that children learn to survive through the environment in which they live. At the beginning of each school year, I can almost immediately determine which of my students need positive reinforcement by me, because they are getting little, if any, positive reinforcement at home. I believe that a big part of my job is to model for them, and instill in them, that what they do now will greatly affect their future. Praise and encouragement for a job well done, or even an attempt at doing their best, is often times the best way I can get through to, and leave a lasting impression on my students. It is important to me, when planning, that I consider as many different learning styles as I can so that I can reach multiple intelligences. This gives me such insight as to how important it is to not only consider individual learning styles, but to respect and incorporate different learning methods and styles inside modern classrooms.</li></ul>
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#### 4. Discussion

The results of the study suggest that of the four developmental theories, behavioristic/mechanistic, psychological/cognitive, contextual/sociocultural, and integrated approach, the majority of the teachers relate to behavioristic/mechanistic approach. The participants in the study did a self-evaluation, discussed the developmental theories, read an article that outlined the developmental theories, and wrote a final paper selecting the developmental theory that best described their characteristics and teaching style.

The information in the article by Baumgartner (2001) gave the participants valuable information to help them do an evaluation of their characteristics and match them with the developmental theories. A

successful teaching experience for teachers and their students make it essential that teachers know themselves so that can provide a meaningful educational experience for the students.

### **Future Research and Limitations**

Future research in this area would include more systematic observations of participants from secondary education. Further, all students taking the graduate course should be selected for participation, not just those who are planning to become/are classroom teachers. Studying all teachers in all levels of school settings (e.g. elementary, middle, and high school) will contribute significantly to the literature on developmental theories and teaching practice. This would challenge the assumption that the majority of teachers are in the behavioristic/mechanistic theory. One limitation of the study includes not having enough professors to do the observations. Studies of developmental theories include multiple observers to observe participants as a means to improve subjective reliability of observation data.

### **5. Conclusion**

Based on findings in this study, in-service teachers who identified with a specific developmental theory, their teaching practice is reflective of their self-identified developmental theory. With this in mind, teachers should be cognizant of the fact that not all students learn through the strategies they are using based on their specific developmental theory.

Each of the four developmental theories makes different assumptions. Recognizing these different outlooks on adult development broadens our perspective on adult development and its relations to practice. This awareness can lead to appropriate instruction for our students, which, in turn, will promote their development.

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