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Constructivism in Early Childhood Education

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Introduction

At most universities and colleges, a form of constructivism based on child psychological theories dominates the stage as the “official knowledge pre-service early childhood teachers must know to be proclaimed competent” (Livingston, 2003, p. 3). Why, then, have the understandings of how children learn and the teaching practices suggested by this theory not taken root in many early childhood classrooms? In attempting to answer this question through a review of current literature in the field, three topics of discussion have been suggested: an explanation of the development and learning theories which support constructivism, identifying classroom practices which are considered to be constructivist in nature, and identifying the barriers teachers face in the implementation of these theories and practices. This paper will attempt to address these three topics.

The Theoretical Foundations of Constructivism

At least two major theories underlie the formulation of constructivist pedagogy in the early childhood classroom: cognitive constructivism and sociocultural constructivism. The beginnings of these theories can be traced from John Locke who believed that all knowledge is constructed through experience, through Jean Jacques Rousseau who envisioned education as “child-centered” with the child being the determiner of what knowledge is worth learning, and to John Dewey who noted that all knowledge is constructed through social relationships (Edwards, 2005; Livingston, 2003).

These three ideas are fundamental to both forms of constructivism discussed here which, according to Livingston (2003), frame “childhood as a developmental sojourn in which a biological organism wrestles with the forces of nature and the social to create a unified identity as an individual” and position “the individual as the locus of learning and identity” (p. 7).

Cognitive constructivism emanates from the work of Jean Piaget. Piaget saw the child as an explorer or scientist who investigates the world around him to construct his own understandings and to structure his world intellectually through experience (Edwards, 2005; Palmer, 2005; Windschitl, 2002). Piaget (1964) denoted three types of experience in relation to knowledge construction: physical logical-mathematical and social experience. Physical experience is derived from acting on objects and drawing knowledge directly from the objects themselves (Piaget, 1964). Logical-mathematical experience draws knowledge from the actions effected on the objects, not from the objects themselves (Piaget, 1964). Piaget also described a third type of experience, social, in which knowledge is derived from experiences or interactions with adults and peers (Palmer, 2005; Piaget, 1964; Wadsworth, 2004). This theory has been used to “articulate a view of early childhood education that provided learning experiences to young children that were considered suitable to their ages and levels of development, while simultaneously enabling them to ‘construct’ their own learning. According to this argument, young children were viewed as needing to actively explore their learning environments in order to build their
own understandings of the world and its various phenomena” (Edwards, 2005, p. 38). The role of the teacher is therefore to provide experiences which will promote learning (Palmer, 2005).

Social constructivism has evolved from the work of Lev Vygotsky and his emphasis on the significance of society, culture and language to knowledge construction (Edwards, 2005; Palmer, 2005). Palmer (2005) writes:

According to this perspective, knowledge is socially constructed and learning takes place in particular social and cultural contexts. Social interaction provides children with ways of interpreting the physical and social world, and students thus become enculturated into ways of thinking that are common practice in that specific community. Much learning occurs when children interact with more competent individuals such as adults and teachers. Through a process of scaffolding, a teacher can gradually guide students to develop their knowledge and skills while making connections with students’ existing schemes. Through language, students are able to share ideas and seek clarification until they understand. The emphasis is on a communication-rich environment in which students are given opportunities to interact with adults and peers in order to negotiate meaning. (p. 1855)

An important aspect of Vygotsky’s theory is the zone of proximal development. Vygotsky (1978) described this as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). Understanding of this principle leads to the ability to think of development in terms of developmental potential rather than what has already been achieved developmentally (Vygotsky, 1978). This makes the interactions among children, adults and peers critically important in social constructivism. In fact, Windschitl (2002) says, “a major role of schooling is to create the social contexts...for mastery and the conscious awareness of the use of cultural tools...so that individuals can acquire the capacity for higher-order intellectual activities” (p. 141). Therefore, teachers are crucial in their roles of giving guidance and support to learners (Palmer, 2005).

While there are obvious differences between these two forms of constructivism, there is an important commonality. From both perspectives, learning is seen as an active function of the child as he reconstructs his own understandings in response to experiences. He must access his prior knowledge and beliefs and, through association with his current experience, modify them if needed. In both views, the learner must make the effort to construct/reconstruct his own knowledge (Palmer, 2005). If, as stated earlier, the understanding of these theories is seen as crucial to the educational foundations of early childhood teacher candidates, it must also be true that knowledge of the recommended practices that are derived from the theories is also a major component of teacher education.

**Theory Into Practice**

It might appear to be obvious that these two theories of constructivism would suggest different instructional practices in the early childhood classroom. However, because the aim of constructivism is to focus on students’ “deep and elaborate understanding” (Windschitl, 1999), there are more commonalities in constructivist practices from both perspectives than differences. According to Gardner (1999), “in a classroom that focuses on understanding, teachers are clear about the understandings that they value and the understandings that they want students to exhibit” and “students continually try out ideas and practices for themselves and see where they work and where they prove inadequate” (in Scherer, p. 13). And according to Windschitl (1999), all constructivist classrooms include strategies such as “problem-based learning, inquiry activities, dialogues with peers and teachers that encourage making sense of the subject matter, exposure to multiple sources of information, and opportunities for students to
demonstrate their understanding in diverse ways” (p. 752). Windschitl (1999) also points out that “constructivist principles suggest that students experience the ideas, phenomena, and artifacts of a discipline before being exposed to formal explanations of them” (p. 753). This would be true in any constructivist setting.

In A Vision Educators Can Put Into Practice: Portraying the Constructivist Classroom as a Cultural System, Windschitl (1999) also points out the need to think of constructivism as a cultural system in which the classroom operates instead of a “toolbox of techniques.” He describes this culture in light of a system of beliefs and practices about students and teachers, content and context, and planning and evaluation. Constructivists see learners as possessing a rich knowledge base, continually organizing and re-organizing this knowledge to make sense of their world, and they strive for learners to realize that they create knowledge and that it does not exist outside of them as a universal entity. The role of the teacher based upon these beliefs is one of a guide, a co-developer of understanding with the learner. Constructivists approach content as a search for “Big Ideas” built around student interests and contextualized in a manner that suits them. They value long-term involvement in problem-solving, as problems provide context and purpose for learning. Constructivists view planning as a day-to-day activity, shaped by the interests and needs of learners, and they evaluate students based upon the process as much as the product. Evaluation is rigorous and multifaceted, and strategies may include performance-based assessments, examination of artifacts, portfolios, objective testing, observations, and anecdotal records.

Through this approach of seeing constructivism as a classroom culture, Windschitl (1999) believes it becomes possible to effectively link practice with theoretical beliefs or philosophies.

In spite of the commonalities found in all constructivist classrooms, there are differences found in settings based upon the theoretical underpinnings guiding the particular philosophy. The main difference is in the role of the teacher. In settings based upon cognitive constructivism, guidelines for practice recommended by the National Association for the Education of Young Children (NAEYC) have long been used to promote Developmentally Appropriate Practice (DAP) (Edwards, 2005). According to Bredekamp & Copple in NAEYC’s position statement on DAP (1997):

Development and learning are dynamic processes requiring that adults understand the continuum, observe children closely to match curriculum and teaching to children’s emerging competencies, needs, and interests, and then help children move forward by targeting educational experiences to the edge of children’s changing capacities so as to challenge but not frustrate them … understanding that children are active constructors of knowledge and that development and learning are the result of interactive processes, early childhood teachers recognize that children’s play is a highly supportive context for these developing processes. (in Edwards, 2005, p. 68)

Practices in cognitive constructivism also draw upon the work in Reggio Emmilia, Italy. Malaguzzi (1998) says:

All people, who in any place have set themselves to study children seriously—have ended up by discovering not so much the limits and weaknesses of children but rather their surprising and extraordinary strengths and capabilities linked with an inexhaustible need for expression and realization … children are autonomously capable of making meaning from their daily life experiences through mental acts involving planning, coordination of ideas and abstraction. Remember, meanings are never static, univocal, or final, they are always generative of other meanings. The central act of
adults, therefore, is to activate, especially indirectly, the meaning-making competencies of children as a basis of all learning. (in Edwards, 2005, p. 69)
The common thread between these two cognitive-based frameworks is the role of the teacher as a guide and/or facilitator.
In settings based upon socio-cultural constructivism, the teacher sees knowledge construction not only as something that happens in the individual, but as something which is fostered in the social situation (Edwards, 2005). In this setting, it is considered appropriate for the teacher to establish guidelines for interactions between students and their peers or between students and adults, which are seen as necessary to moving the children forward in their understanding of a topic (Edwards, 2005). Teachers must be able to respond to the needs of their students which requires a complex range of strategies designed to support students as they learn (Windschitl, 1999).
According to Windschitl (1999):
These strategies include scaffolding, in which the task required of the learner is strategically reduced in complexity; modeling, in which the teacher either thinks aloud about or acts out how she would approach a problem; and coaching, guiding, and advising, which are loosely defined as providing learners with suggestions of varying degrees of explicitness. (p. 753)
Windschitl (2002) further explains:
Teachers become representatives of canonical science, mathematics, or history in the classroom. As such, they are disciplinary practitioners who must model intellectual skills and dispositions for students and thus engage them in scientific, mathematical, or historical discourse. Students participate in activities relevant to the discipline, using tools commonly available to practitioners as they carry on their work. They include language itself, computers, diagrams, maps, math symbols – anything that can facilitate the co-construction of knowledge among learners. (p. 141)
Social constructivist classrooms include characteristics such as questioning, critiquing and discussing ideas among children and teachers; problem solving; group project work; a sense of individual responsibility to the group; and routines for participation (Windschitl, 1999; Windschitl, 2002). However, the teacher has a much more direct involvement in the construction of knowledge.

**Barriers to Constructivist Practices in the Classroom**

If it is true that universities and colleges are making the constructivist theory the focus of instruction in how children learn and guiding teacher candidates in developing pedagogy consistent with constructivist theory, it should then follow that a majority of classrooms would have the characteristics described above. However, putting the constructivist theory into practice has been more difficult than many educators would have guessed (Windschitl, 2002). Many frame the difficulties of implementing constructivism as being threefold: teachers’ abilities to understand constructivism and to acquire the skills necessary to implement its strategies, teachers’ abilities to change the culture of the classroom to be consistent with constructivist philosophy, and the politicized atmosphere surrounding education in today’s society (Beck and McKeown, 1999; Cardy and Kroeger, 2006; Perkins, 1999; Windschitl, 1999; Windschitl, 2002). These are challenges which have prevented the widespread implementation of the constructivist philosophy.

The first challenge is teachers’ lack of understanding of the constructivist philosophy; confusion between the psychological foundations represented in the theory, or their misconceptions about them; and their lack of skill in implementing constructivist practices. Although there is plenty of talk about constructivism, there is rarely more than a surface effort to develop teachers’ deep understandings of the philosophy (Edwards, 2005; Perkins, 1999; Windschitl, 2002). If the teacher does decide to adopt the constructivist philosophy,
which one will she adopt (Perkins, 1999)? This confusion is further complicated by the fact that there is not a definitive set of instructional practices for constructivism (Perkins, 1999; Windschitl, 2002). The result of this lack of a firm grounding in the theoretical roots of constructivism and the lack of a coherent set of tools for practice is often the fragmented, isolated implementation of constructivist strategies instead of striving to create a classroom culture of constructivism (Beck and McKeown, 1999; Perkins, 1999; Windschitl, 1999; Windschitl, 2002).

Perhaps one reason for the difficulty in creating this new classroom culture is the educational experiences of the teachers themselves. As Windschitl (2002) notes, “the implied precepts for [constructivist] instruction break radically from the traditional educational model in which teachers themselves were schooled, making it especially difficult for them to visualize constructivist pedagogy” (p. 138). This might explain why the teacher-centered mode of instruction which prevailed during most of the 20th century is still prevalent in America’s classrooms today. Heckman says, “Most teachers talk most of the time; students sit, do seatwork, and take tests. This occurs for approximately 85% of the 75% of the class time devoted to instruction” (in Windschitl, 2002, p. 150). When teachers are able to re-envision their classrooms as a constructivist culture, they are able to see it as a “coherent, embodied representation of this complex idea that transcends a bulleted list of instructional prescriptions” (Windschitl, 1999, p.190). It becomes a system in which all participants’ beliefs about the roles of each member of the group are identified and made explicit (Windschitl, 1999). However, even when teachers understand the theoretical foundations of constructivism and determine to create this classroom culture, they are faced with obstacles that lie outside of their control.

According to Apple and Rogers, “Historically, policymakers have sought to control curriculum and standardize teaching rather than to educate teachers to make more sophisticated choices about their own curriculum and this continues today” (in Windschitl, 2002, p.154). According to Fyfe, this “emphasis on standards, goals, and predefined outcomes has resulted in an unintended narrowing of our views about learning” (in Cardy and Kroeger, 2006, p. 392). In fact, many teachers feel coerced into using direct instruction methods to teach to the objectives of minimum competency and basic skills achievement tests (Cardy and Kroeger, 2006; Windschitl, 2002) and are actively discouraged from learning and using pedagogy which promotes individualization and teaching for deeper understanding (Windschitl, 2002). Teachers also often face intense pressure from parents and organized parent groups to stick to what is seen as basic, time-proven educational practices (Windschitl, 2002). These political, administrative and parental pressures might be the final word against constructivism in many classrooms.

Conclusion

In determining the fate of constructivism in the early childhood classroom, perhaps it is best to go back to the beginning of this discussion: the education and preparation of early childhood teacher candidates in universities and colleges. Parrott and Daros-Voseles (2004) believe that teacher preparation is greatly influenced by dispositions, efficacy, and autonomy and that these traits greatly impact the philosophies and practices that these candidates carry with them into their classrooms. As related to their study, Parrott and Daros-Voseles define dispositions as behaviors one displays voluntarily and frequently, teaching efficacy as a belief in one’s ability to teach effectively and that this effective teaching will have a positive effect on students. They define the autonomous teacher as one who is capable of setting her own goals from day to day and making educational decisions based upon her own knowledge of how children learn and consideration of the views of others. Parrott and Daros-Voseles argue that university professors must nurture these qualities in pre-service teachers by encouraging them to think for themselves. They relate the following experience from a pre-service teacher:

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Very often I have noticed in my university classes professors insisting that students conform to a specific philosophy. Interestingly, in the next breath, these same professors preach the benefits of constructivism. This practice is so prevalent that I was dumbstruck when a professor actually acknowledged that we might develop our own philosophy [generate our own thoughts]. With this simple gesture, she demonstrated value for our individual thoughts and abilities. As the class continued, she acknowledged us as people with worthy contributions. She created an atmosphere where we could share ideas freely without risk of ridicule. We knew all suggestions would be taken seriously and considered thoughtfully. We were always encouraged to think for ourselves but to consider different viewpoints. I gained confidence in my abilities as a teacher because I was treated with the respect the title deserves. I truly felt that I was preparing to impact the future — one child at a time. I flourished in this classroom. It’s easy to learn when you feel valued, intelligent, and confident. While I soon will be taking the title of teacher, I will always be a student of my students. (in Parrott and Daros-Voseles, 2004, pp. 9-10)

According to Parrott and Daros-Voseles, nurturing just these qualities in candidates is essential to developing teachers who are confident in their abilities and in their beliefs and are able to communicate these to a wider audience. Windschitl (2002) says, “In communicating with the larger school community, educators must be armed with a grounded rationale for their curriculum and their teaching methods. Because constructivism is so contrary to historical norms, the rationale must be based upon research that appears coherent and applicable to the local school context” (p. 157). Therefore, this teacher confidence, based upon a sound understanding of the theoretical roots of constructivism and coupled with a desire and ability to create a constructivist classroom culture, might be the only way of overcoming the political pressures and spreading the implementation of constructivist principles in early childhood education.

References


Mr. Joseph Mills received his BSEd and MEd in Early Childhood Education from Columbus State University. He taught eight years in Muscogee and Fulton County schools. In 2001, he was named the Muscogee County Teacher of The Year and was given the Outstanding Alumnus award by the CSU College of Education. Mr. Mills is pursuing a doctoral degree in Early Childhood Education at Georgia State University.