

DEWEY REVISITED: AN INVESTIGATION INTO THE RELATIONSHIP OF
DEWEY'S PHILOSOPHY OF EDUCATION IN THE PRESCHOOL
CLASSROOM IN LIGHT OF LIMITED EXPERIENCE.

by

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A MAJOR PROJECT

Submitted to Dr. James E. Plueddemann
in partial fulfillment of the requirements
for the course ES 8210 CURRICULUM THEORY AND DESIGN
at Trinity Evangelical Divinity School

Deerfield, Illinois
July 2011

ABSTRACT

To assert that John Dewey's philosophy of education is foundational to the American educational system would be a vast understatement. His views, modified and refined, over the years have influenced nearly every aspect of the educational process. How do his theories express themselves in the preschool classroom? So often, when speaking to preschool teachers the phrase "their work is their play", "they learn from playing" or similar statements are made to describe the activity in the classroom. This is exactly where a revisit to Dewey's original works will be useful for the preschool teacher as we reflect on the purpose of that play, the role of the child in play, and the role of the teacher in that play, and explore what the environment will look like for play experiences. What makes the play, or experience, a learning one? So much emphasis is placed on play, or experiences, but how does this productively happen given the preschool child's limited experience?¹

¹ This paper is prepared for the course ES 8210 Curriculum Theory and Design, for submission to Early Childhood Research and Practice Journal, a peer-reviewed multilingual journal on the development, care, and education of young children, and meets the submission requirements for that journal.

A preschooler is asked by their parent, “What things are you most excited about for preschool?” One replies, “playing with the trains”, another “being on the playground”, and yet another learning about “Spiderman and flowers.” All of these answers are experiences just waiting to happen that are based upon some experience, or expectation, of the past. From Dewey’s perspective, a good education is one that provides a child with an expansion of meaning and an increased capacity to experience the world, or to have worthwhile experiences (Dewey 1938).

To assert that John Dewey’s philosophy of education is foundational to the American educational system would be a vast understatement. His views, modified and refined, over the years have influenced nearly every aspect of the educational process. How do his theories express themselves in the preschool classroom? This is exactly where a revisit to Dewey’s original works will be helpful for the preschool teacher as we reflect on the purpose of that play, the role of the child in play, and the role of the teacher in that play and what the environment look like for play experiences. What makes the play, or experience, a learning one? So much emphasis is placed on play, or experiences, but how does this productively happen given the preschool child’s limited experience?

Foundational Concepts

“The purpose of education has always been to every one, in essence, the same - to give the young, the things they need in order to develop if an orderly, sequential

way into members of society" (Dewey 1934, 1). For Dewey becoming a member of society was a strong component in the development of his system of education, and in a sense could be used in many different cultural setting, and in America the promotion of democracy. For Dewey, democracy was not simply a governmental system, but also represented a way of life. In this way of life, individuals are presumed to be self-directing and able to pursue their own goals (Covaleskie 1994, under "democracy"). In his *Pedagogic Creed*, he further mapped out the two sides of the educational process – the psychological and sociological (Dewey 1897, 77). The psychological dimension referred to the child's own intrinsic abilities, their instincts and tendencies. The sociological dimension referred to understanding the social context of the culture and more pointedly the child's context. For Dewey, it is necessary to understand the interrelationship of these two sides, else the activities of the teacher in the classroom may, in fact, produce external results, but not be educative. In order to facilitate this educative development, the most basic concept of Dewey's system is the role of experience in learning. An experience is "defined by those situations and episodes that we spontaneously refer to as being a 'real experience'; those things of which we say in recalling them, 'that was an experience'" (Dewey 1958, 36). What makes an experience 'real' or educative? Dewey posits at least three criteria that make an experience real: the experience promotes education in general, it does not cut off the individual from other opportunities in which they will continue to grow in new directions, and the experience must foster continuing growth (Dewey 1938, 36). The concepts of *experiential continuum* (experiences of the past connecting with the present) and *interaction* thus form a real experience that is educative (Dewey 1938, 39-44).

There is also the caution that an experience can be mis-educative. Those are experiences that have the effect “of arresting or distorting the growth of further experience” (Dewey 1938, 25). What makes the difference? The difference is the values of anticipation, ideas and interaction. Anticipation is necessary because “it is the connecting link between the next doing and its outcome for sense” (Dewey 1958, 50). It is not simply enough for the child to have had an experience, but does the experience help the child grow forward and expand the idea. Ideas come into play because they can initiate an experience. “Action is at the heart of ideas” (Dewey 1988, 134). For example, as one observes a child building with blocks, are they building randomly, or is there an idea behind the building? Did the idea originate from a past experience or a new one, thus making the experience more than just an experience but an educative one? Interaction occurs at the intersection of the external world (environment) and the internal world (natural abilities) of the child (Dewey 1928, 44).

For Dewey, the role of the teacher was that of facilitator (Dewey 1938). The teacher should be the most mature and experienced member of the group, because the teacher assists students in educative experiences. The teacher’s role as an educator “is based upon experience and educative experience and is seen to be a social process...the teacher loses the position of external boss or dictator but takes on that of a leader of group activities” (Dewey 1933, 56, 57, 71). As such, the teacher has three main tasks: to evaluate the experiences that their students have had (the process of the experiential continuum), to direct those experiences toward an educative end, and the teacher must draw from their own life experiences as a member of the society (Dewey 1938, 37-39). To facilitate these

experiences, it is essential that teachers understand the role of play in the life of children.

After all, play is simply what children do (Cuffaro 1995, 78-79).

Dewey saw the schools of his day treating students as passive learners. He argued that children were naturally curious, and that outside of school they learned through activities; thus, his philosophy became known as being child-centered. Reflecting on the interplay of the psychological and sociological he wrote concerning the child, “A child’s life is an integral, a total one...The things that occupy him (*sic*) are held together in unity of the personal and social interests which his (*sic*) life carries along” (Dewey 1971, 5). For a child, the activity that is held together is playing – sometimes it is simply free play at other times it will be structured. Further Dewey recognizes the vast difference in the cognitive process between adults and children when he writes, “The adult mind...cannot realize the amount of separating and reformulating which the facts of direct experience have to undergo before they can appear as a ‘study’ or branch of learning” (Dewey 1971, 9). The point of this work was the emphases placed not only on the child’s internal capabilities and the social context, but also on the fact that they develop and therefore think (learn) differently.

The classroom becomes the place where past experiences can connect with current ones thus providing an educative experience (Hansen 2002, 270). Dewey writes of the classroom environment:

the only way in which adults consciously control the kind of education which the immature get is by controlling the environment in which they act, and hence think and feel. We never educate directly, but indirectly by means of the environment. Whether we permit chance environments to do the work, or whether we design environments for the purpose makes a great difference. And any environment is a chance environment so far as its

educative influence is concerned unless it has been deliberately regulated with reference to its educative effect (Dewey 1997, 18–19).

Once again we see the role of the teacher as a guide and the child at the center of learning, however, the classroom environment provides the medium for that educative or mis-educative experience to occur. Bearing in mind Dewey's goal of education – to sequentially become members of society – then how can the classroom environment aid in that goal? Dewey argues that the classroom should be simplified, purified, balanced, and steadyng (Dewey 1997, 20-22; Hansen 2002, 272).

A simplified classroom is one where the set-up is fundamental and capable of being responded to by the child (Dewey 1997, 20). For example, instead of the teacher showing the preschool child how to build a tower with blocks, the teacher will provide the blocks and ask the child questions, "What can you do with those blocks?" This provides the child the ability to draw on past experiences, yet gain new ones, and encourage the child to explore further (Cuffaro 1995, 80).

A purified classroom again emphasizes on the societal aspect of Dewey's system. Purify does not imply pure, but rather seeking to encourage the child think and explore. Again, as Dewey defines democracy, the pureness of the classroom aids in promoting this concept. In contrast, a classroom that enforces preconceived ideas has the potential to become mis-educative (Hansen 2002, 272).

A balanced classroom environment is one where the children have the opportunity to interact with others that may not have the same background experiences and this leads to "a new and broader environment" (Dewey 1997, 21). Again, as individuals

make up the society, this diversity of individuals needs to be represented in the classroom so that children can learn from one another.

A steady classroom environment is one that helps the child see life as harmonized whole, not separate spheres such as school, family, home, etc. (Hansen 2002, 272). For Dewey this environment, guided by the teacher, interacted upon by the child, assists the child in “coordinating” their understanding of the society in which they live (Dewey 1997, 22).

Given Dewey’s goal of education, the role of the teacher, the role of the child and the importance of the classroom environment: What are preschool teachers experiencing in the classroom, and can Dewey’s philosophy of education provide insights for education?

*A Day in the Life of a Preschool Teacher*²

Ms. Ruth arrives at the preschool center around 8:00 am and prepares for her class of twelve 3 year olds. Each day she is called upon to fulfill many different roles in the classroom – mediator, artist, ‘mom’, musician, storyteller, nurse, janitor, counselor, friend, and teacher (Fortin 2007). For the first hour, she prepares her room by setting up centers for free play and reviewing her lesson plans for the morning. “I have lesson plans that I have created over the years that I use, but sometimes I have to pull a rabbit out of a hat” (Fortin 2007). Ms. Ruth is a wise teacher with 15 years’ experience that understands

² *A Day in the Life of a Preschool Teacher* is a fictitious account based on observations of several preschool classrooms, teachers, and Internet articles. The names have been changed.

that the needs of the children may not be what she has planned that particular day.

At 9:00 am the children begin to arrive, each greeting Ms. Ruth in unique ways. One a high five, still another with a hug, some are running to their favorite center, some are coming in a little teary-eyed. After about thirty minutes of free play, Ms. Ruth calls the children around one of the tables and sets out Play-Doh and cookie cutters, other days it could be Legos, or blocks. She asks the children to pretend to be cooking and cut out some of the favorite cookie shapes, but then follows up with asking the children, “Why is that your favorite?” Their answers are met with encouragement as the children give their answer.

Then it is story time, and the children race across the room to the carpet squares. No sooner does Ms. Ruth sit in her rocker, than one of the children bursts out, “I need to go potty.” Soon a chorus of little voices suddenly all call out, “I need to go potty.” Those that need to go potty are lineup, others are allowed to free play. Even going potty is a teaching moment, as the children are encouraged to wash and dry the hands after using the potty. Now, back to story time and the children gather on the carpet. Ms. Ruth reads the story with great inflection in her voice, and pulls props out from behind her rocking chair, and the children are highly engaged.

After story time, it is back to free play, some are acting out the story, others are making up their own stories. However, during this time two little boys are trying to play with the same toy – a large dump truck. Ms. Ruth at first watches to see if the boys can work out the situation for themselves, but when an impasse is reached she steps into the situation. “We need to use our words to work this out, Johnny, I think that Bobby had the

truck first.” Johnny nods, and Ms. Ruth adds, “Bobby when you finish playing, please give the truck to Johnny.” Bobby nods his head in agreement (Fortin 2002).

Snack time, a favorite break in the morning. Each child finds their snack and sits at the table. Ms. Ruth sits with the children and engages in conversation about which center they were playing in and if they have any plans for the weekend.

Ms. Ruth’s day is full. When asked about her job, she responses, “My job is to teach the children in my class to survive outside the home. I want them to leave me with good self-esteem. I want them to leave here with a love of learning” (Fortin 2002). How can Ms. Ruth make the most of the time she has with the children, knowing that she cannot focus exclusively on any one child? How can she guide the play, the experiences, to be educative ones?

Implications for the Preschool Classroom

At least two curricula have attempted to put Dewey’s principles in place in the preschool classroom – the High/Scope Curriculum and the preschools of Reggio Emilia, Italy.

David Weikart in Ypsilanti, MI created the High/Scope curriculum in 1970. The purpose of the program is to “lift lives through education. We envision a world in which all educational settings use active participatory learning so everyone has a chance to succeed in life and contribute to society” (High Scope Foundation 2011, under “About Us”). More specifically the goals for young children are:

1. To learn through active involvement with people, materials, events, and ideas.

2. To become independent, responsible, and confident – ready for school and for life.
3. To learn to plan many of their own activities, carry them out, and talk with others about what they have done and what they have learned.
4. To gain knowledge and skills in important academic, social, and physical areas. (High Scope Foundation 2011, under “goals for young children”)

The role of the teacher in this curriculum is very much as a facilitator and guide, and summarized as:

1. Organizing environments – Play areas are clearly defined and stocked with interesting, age-appropriate materials.
2. Organizing routines – The sequence of the day’s events is carefully planned.
3. Establishing a supportive social climate – Relationships among adults and children are relaxed and positive.
4. Encouraging children’s intentional actions, problem solving, and verbal reflections – The adult focuses on the children’s actions and goals.
5. Interpreting children’s actions in terms of the High/Scope key experiences – Teams meet daily to discuss and interpret observations.
6. Planning experiences – The adults planned this recall-time activity to build on children’s interest.(Holman and Weikart 1995, 20-21)

The role of the child is that of an active learner. *Active Learning* is defined by High/Scope as “learning in which the child, by acting upon objects and interacting with people, ideas, and events, constructs new understanding” (Holman and Weikart 1995, 17). Only the child can create the experience, it cannot be done for them, and the environment can provide a setting for those opportunities.

The environment in High/Scope is carefully chosen in order to allow for active learning. Each center is slightly different, however, there are characteristics that all the High/Scope spaces conform, they are:

1. A welcoming to the children.
2. Provides enough materials for all children.
3. Allows children to find, use and return materials independently.

4. Encourages different types of play and learning
5. Allows the children to see and easily move though all the areas of the classroom or center
6. Is flexible so children can extend their play by bringing materials from one area to another
7. Provides materials that reflect the diversity of children's family life.

The High/Scope curriculum takes Dewey's philosophy seriously as its seeks to implement its purpose of education, the role of the teacher, the role of the child, and the environment of the classroom.

The second curriculum, which has employed the philosophy of Dewey, is the school system in Reggio Emilia, Italy. After World War II, the citizens of the Reggio Emilia area felt an urgency to rebuild the school system, with particular attention given to the young. In the 1960's and 1970's under the direction of Loris Malaguzzi, the community came together and developed what has become known as the Reggio Emilia Approach (Reggio Emilia Approach 2011, under "history"). The goal of these new schools is best expressed by Malaguzzi:

A simple, liberating thought came to our aid, namely that things about children and for children are only learned from children. We knew how this was true and, at the same time, not true. But we needed that assertion and guiding principle; it gave us strength and turned out to be an essential part of our collective wisdom. (North American Reggio 2011, under "history")

The role of the teacher in the Reggio Emilia schools is one of co-learner and collaborator and not just an instructor. "Teacher autonomy is evident in the absence of teacher manuals, curriculum guides, or achievement tests. The lack of externally imposed mandates is joined by the imperative that teachers become skilled observers of children in order to inform their curriculum planning and implementation." (Reggio Emilia Approach

2011, under “About the Reggio Approach”). This skill in observation also leads to a cooperative spirit among the members of the teaching team as their attention is focused on the children. Another influential piece in the instruction of the Reggio Emilia schools, is the active role of the parents and other members of the community in the classroom.

The Reggio Emilia Approach views the educational system as a child-centered system (Firlik 1994, 7). Children are viewed according to the following set of guiding principles:

1. Children must have some control over the direction of their learning.
2. Children must be able to learn through experience of touching, moving, listening, seeing, and hearing;
3. Children have a relationship with other children and with material items in the world that child must be allowed to explore and
4. Children must have endless ways and opportunities to express themselves. (Wikipedia 2011, under “Philosophy”)

The environment plays a very important role in the Reggio Emilia schools, and is often referred to as the “third teacher”.

“The preschools are generally filled with indoor plants and vines, and awash with natural light. Classrooms open to a center piazza, kitchens are open to view, and access to the surrounding community is assured through wall-size windows, courtyards, and doors to the outside in each classroom. Entries capture the attention of both children and adults through the use of mirrors (on the walls, floors, and ceilings), photographs, and children's work accompanied by transcriptions of their discussions. These same features characterize classroom interiors, where displays of project work are interspersed with arrays of found objects and classroom materials. In each case, the environment informs and engages the viewer. Other supportive elements of the environment include ample space for supplies, frequently rearranged to draw attention to their aesthetic features. Throughout the school, there is an effort to create opportunities for children to interact. Thus, the single dress-up area is in the center piazza; classrooms are connected with phones, passageways or windows; and lunchrooms and bathrooms are designed to encourage community.” (Reggio Emilia Approach 2011, under “Environment”)

A key feature of this environment is the display of the children's work. Again, the design of the environment encourages children to create and interact with one another. The displaying of the artwork reinforces this child-centered philosophy to those in the facility.

The Reggio Emilia Approach also reflects the philosophy of Dewey, but set in an Italian culture. Therefore, it cannot be simply imported directly to another culture; however, there are lessons to be learned for the American preschool classroom (Hewett 2001, 99).

General Conclusion

Dewey's philosophy of education and its implementation by these two curricula help us to answer the question, "How do educative experiences occur given the preschool child's limited experience?"

The first item to note is the importance of the goal of education. In both cases, the child is not seen as a blank slate to be written up by the school and teacher. The preschool child is respected and seen to come with experience, albeit limited, that can be drawn out and built upon as the teacher attempts to provide the child with educative experiences. These experiences allow the preschooler to reach for self-discovery and learn the expectations of being part of this social community.

The second element is the role of the teacher in these schools. The teacher is not viewed simply as a dispenser of knowledge. Rather the teacher is called upon to assume multiple roles, such as mediator, artist, 'mom', musician, storyteller, nurse, janitor, counselor, and friend. These roles allow the teacher to see themselves as a continuation of

the community of the home as the preschool child enters their classroom.

The third aspect is the children themselves. They are not viewed as empty vessels, but people who think and act differently than adults, but no less members of the community. As a result, the classroom, teachers, and the school in general radiates the importance of children.

Fourth, is the emphasis placed on the environment. In order for the limited past experiences to be build upon, an environment must be provided that encourages the child to have educative experiences. This attention to details can be seen in the two examples from the concern for centralized play areas, to creative art space, to being able to retrieve and return items that were used.

The preschool child does have limited experience; however, Dewey's concept of the continuum of experience allows us to place the child in the context. The school simply becomes an extension of the home and the values, or experiences that are learned there. The lessons from Dewey, and from the two school examples, show the importance of giving attention to the preschool child as a respected individual, a member of society, and one capable of learning and growing, provided the right opportunities for educative experiences exist. Otherwise, the preschool years could slip away and be viewed as a mis-educative time in the child's life that may have consequences later in life.

Particular Conclusion³

How are Dewey's principles applicable to Wildwood Preschool? One of the goals of education for Dewey is the development of the child in the context of the society in which the child lives. Dewey writes "it is the business of the school to deepen and extend his (*sic*) sense of the values bound up in his (*sic*) home life" (Dewey 1897, 78). For the Christian preschool, its aim is to work with the parents to reinforce the faith development of children. Further, Dewey states of the role of the teacher:

I believe that every teacher should realize the dignity of his (*sic*) calling; that he (*sic*) is a social servant set apart for the maintenance of proper social order and the securing of the right social growth.

I believe that in this way the teacher always is the prophet of the true God and the usherer in of the true kingdom of God. (Dewey 1897, under "Article 5")⁴

From this high view of the role of the school and the influence of the teacher in guiding and providing educative experiences for the young child, there are several lessons for Wildwood Preschool.

The first lesson is an emphasis on the value of the child. Generally, preschool teachers would not be involved in this profession if there were not some love for children, however in the Christian context this value must be heightened given the *imago dei*. As God has created each child with gifts and talents these need to be celebrated in art, concerts, writings, or bulletin board displays.

³ Wildwood Preschool is a two to four year old preschool sponsored by Wildwood Church. The author is responsible for the preschool and this article will be used for the first teacher in-service.

⁴ Although in Dewey's book, *A Common Faith*, it is clear he is not advancing traditional Christian beliefs, his educational philosophy allows for the import of Christian beliefs if the goal is becoming part of *that* society.

The second lesson is the role of the teacher. The teachers take on the multifaceted roles of a preschool teacher, but does the curricula allow for intense interaction, or is it filled with lesson plans that must be filled? Because the classroom is an extension of the home, effort must be made to create a strong partnership with the home. This may take different forms such as building into the month an intentional time for parent interaction, formalized parent/teacher conferences, or assigned parenteral classroom helpers.

The third lesson is that of the importance of the facility. Is the design of space reflective of goals of the program? Are renovations planned with the preschool program goals in mind, or simply the lowest bid? Is there planning so that spaces are scheduled so that multiple classes can interact? Is there an attempt seek a diverse student population, or give into the pressure to be homogeneous society? For the classroom facility to become the “third teacher”, the administrators and teachers must carefully think through each element and the child’s interaction within it.

Overall, the preschool does reflect many of Dewey’s insight for education. However, as the new school year begins there is the opportunity for collaborative reflection by the faculty on how to more consistently implement these worthy ideas of Dewey and the two sample curricula, rather than fall in the trap of routine. Therefore, even the first of the year “Teacher In-Service” becomes an educative experience for the teachers, rather than just another experience.

REFERENCE LIST

Covaleskie, John F. *Dewey, Discipline, and Democracy*. 1994.
http://www.ed.uiuc.edu/eps/PES-Yearbook/94_docs/COVALESK.HTM#fn8
 (accessed July 2011).

Cuffaro, Harriet K. 1995. *Experimenting with the World: John Dewey and the Early Childhood Classroom*. New York: Teachers College Press.

Dewey, John. 1958. *Art as Experience*. New York: Capricorn Books.

-----, 1997. *Democracy and Education (1916)*. New York: Free Press.

-----, 1938. *Experience and Education*. New York: Macmillan Publishing.

-----, 1933. *How We Think: A Restatement of the Relations of Reflective Thinking to the Educative Process*. Boston: Heath.

-----, 1934. Individual Psychology and Education. *The Philosopher* XII.

-----, 1988. *John Dewey: The Later Works 1925-1953*. Edited by D.K. Detterman and R.J. Sternberg. Carbondale, IL: Alblex Publishing Company.

-----, 1897. My Pedagogic Creed. *School Journal*
<http://dewey.pragmatism.org/creed.htm> 54: 77-80.(accessed July 2011).

-----, *The Child and Curriculum*. 2011. 11th. London: University of Chicago Press, 1971. Dodd-Nufrio, Arleen T. "Reggio Emilia, Maria Montessori, and John Dewey: Dispelling Teacher' Misconceptions and Understanding Theoretical Foundations." *Early Childhood Education Journal*.

Firluk, Russell J. 1994. Reggio Emilia, Italy Preschools: The Synergies of Theory and Practice. *EDRS*.
http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED382313&ERICExtSearch_SearchType_0=no&accno=ED382313. (accessed July 2011).

Fortin, Cassandra. 2007. *A Day in the Life of a Preschool Teacher*.
<http://www.marylandfamilymagazine.com/2007/1-29/1318731-day-life-preschool-teacher/> (accessed July 2011).

Glassman, Michael. 2000. Dewey and Vygotsky: Society, Experience, and Inquiry in Educational Practice. *Educational Researcher*, (May): 3-13.

Hansen, David T. 2002. Dewey's Conception of an Environment for Teaching and Learning. *Curriculum Inquiry* 32, no. 3: 267-280.

Hewett, Valarie M. 2001. Examining the Reggio Emilia Approach to Early Childhood Education. *Early Childhood Educational Journal* 29, no. 2:95-100.

High Scope Foundation. 2011. *High Scope*. <http://highscope.org/> (accessed July 2011).

Holman, Mary and David P. Weikart. 1995. *Educating Young Children*. Ypsilanti, MI: High/Scope Press.

North American Reggio Emilia Alliance. 2011. *North American Reggio Emilia Alliance*. Infant-Toddler Centers and Preschools. <http://reggioalliance.org> (accessed July 2011).

Pugh, Kevin. 1998. Seeing the World Anew: A Case Study of Ideas, Engagement, and Transfer in a 3 Year Old. *Annual Conference of the American Educational Research Association*. San Diego, CA.: 26.

Reggio Emilia Approach. 2011. *The pre-school Childs languages of learning*.
<http://www.reggioemiliaapproach.net/> (accessed 2011 July).

Sanders, William J. 1940. The Logical Unity of John Dewey's Educational Philosophy. *Ethics* (The University of Chicago Press): 424-440.

Shusterman, Richard. 2010. Dewey's Art as Experience. *Journal of Aesthetic Education* 44, no. 1: 26-43.

Wikipedia. 2011. *Reggio Emilia Approach*. July 2011.
http://www.wikipedia.org/wiki/Reggio_Emilia_approach (accessed July 2011).

Wilms, Wellford. 2001. Educational Transition and Reform: The Status of Dewey in Contemporary Schools. In *Handbook of Educational Ideas and Practices*, by Noel Entwistle, 242-254. London: Routledge.

Wong, David and Kevin Pugh. 2001. Learning Science: A Deweyan Perspective. *Journal of Research in Science Teaching* 38, no. 3: 317-336.

