Towards a Reflexive Pedagogy in Early Childhood Education: Interweaving the Project Approach and the Reggio Emilia Approach

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Abstract

This paper discusses differences between two popular curriculum approaches in early childhood education: the Project Approach developed in the United States and the Reggio Emilia Approach developed in Italy. Although they are similar in many ways, their differences are mainly due to their divergence in focus on domains of learning: one on science and social science, the other on art. In turn, differences in epistemology, ontology, the purpose of education, the learning process, and types of reasoning are conceptualized. We recommend an integrated approach that blends both approaches through systematic investigation and creativity, objective and subjective aspects of reality, science and social science–oriented and meaning-oriented lessons, planned and spontaneous learning, and deductive and inductive reasoning. We elaborate and term this integration as reflexive pedagogy–to support a child's learning in a dynamic and dialectical relationship. We then provide examples and suggestions of the successful use of this pedagogy.

Keywords : reflexive pedagogy, reflexivity, project approach, Reggio Emilia approach

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Over the past decade, the Project Approach (PA) proposed by Helm and Katz (2000) in the United States and the Reggio Emilia Approach (REA) founded by Malaguzzi (as cited in Edwards, Gandini, & Forman, 1998) in Italy have greatly influenced curriculum development in early childhood education (ECE) around the world. These two approaches have been adopted in regions such as Hong Kong (Lau, 2005), Taiwan (K. C. Y. Liu & Chien, 1998), and Australia (Millikan, 2003). Although the two approaches differ, the literature in pedagogy often refers to PA as an American-style REA and to REA as an in-depth PA that emphasizes the arts (e.g., Hewett, 2001; Topal, 2008; Wurm, 2005). REA's focus on project work and documentation-oriented learning contributes to people's tendency to confuse the two approaches.

Although they are similar at first glance, by allowing children's interests to guide the learning process, the two approaches differ in the type of reasoning on which they are based. PA relies mainly on deductive reasoning; it employs a systematic approach to inquiring and then acquiring knowledge of science and social science (Dixon, 2001; Firlik, 1996; Youngquist & Pataray, 2004). In contrast, REA relies mainly on inductive reasoning; it emphasizes the power of art to represent children's thinking and allows art to guide the meaning-making and learning process (Eckhoff & Sepearman, 2009; Firlik, 1996; Maynard & Chicken, 1996).

PA and REA also reflect different social and political orientations. Even though both remark on the diversities in learning, their ways of coordinating among children's diversities in a classroom setting are different. Like the U.S. political system, which is representational democracy, PA vests power in the majority to determine the topic to investigate (Firlik, 1996). Even though children from the minority share equal power in voting, the result of the vote on which topic to explore for group investigation may be unable to please everyone. Conversely, reflecting the heavy influence of socialism in Italy, REA does not attempt to coordinate children's interests through voting on a topic to investigate at the early stage; rather, REA advocates the belief that art can support individual children's diverse interests and that the group's shared interests may be met in a later stage, when children exchange views and interpretations of each other's drawings, narratives, or artifacts (Turner & Wilson, 2010).

In addition, PA and REA reflect different societal assumptions about children. In PA, children's investigations of projects are regarded as purposive for learning science and social

science, but in REA, children's meaning making with art is regarded as emerging learning (Ede & Da Ros-Voseles, 2010). PA emphasizes that children are investigators of (existing) knowledge, whereas REA marks children as innovators and creators of ideas (Lai, 2009). For example, REA educators routinely display the artistic objects and publicize the narratives that children create to the community with the inventive meanings.

However, in our view, the primary difference between the two approaches is that the focused domains of learning between the two approaches are different. PA places more emphasis on science and social science, whereas REA remarks more on art. In turn, we conceptualize these two seemingly similar approaches differently, in terms of epistemology, ontology, purpose of learning, learning process, and types of reasoning.

Our purpose in comparison is not to contrive the two approaches as two extremes; we believe that both are valuable in different ways. Rather, our purpose is to reconceptualize the two approaches to recommend that the two approaches be integrated to formulate a reflexive pedagogy. Such a pedagogy accords with the United Nations' advocacy of education that fosters sustainable development and with Kauffman's (2009) theory of reflexive thinking.

Differences between PA and REA

PA and REA differ with regard to epistemology and ontology; reflect different views of education's purpose and of the learning process; and emphasize different types of reasoning.

Epistemology

Epistemology refers to the nature of knowledge. In PA and REA, children gain understanding through both investigation and the construction of meaning. However, PA emphasizes a rational, scientific, goal-oriented approach to knowledge inquiry and then acquisition (Katz, 1994). According to Katz (1994), one of PA's founders, pedagogy should relate language, math, science, and other subjects to children's lives, accommodating children's diverse interests and strengths, but the ultimate goal is to enhance thinking abilities and acquire knowledge through systematic investigation. Compared to REA, the PA approach

is more orderly, structured, and focused on integrated learning. Children learn by posing hypotheses, which they test, revise as needed, and ultimately confirm or re-explore (Chard, 1992; Helm & Katz, 2000).

Katz (1994) has provided an example of a PA learning project. A kindergarten teacher asked her students to collect different kinds of balls, and they collected 31 kinds. The teacher then divided the students into three groups and instructed them to gather and document data on the balls' textures, circumferences, or materials. Katz noted that the teacher might have extended the ball project by asking students to investigate the relationships between variables—for example, the extent to which a ball's weight, circumference, or texture predicts how fast the ball will roll or how high it will bounce.

Conversely, REA places more emphasis on making meaning and creating ideas (Dahlberg, Moss, & Pence, 2006). Children socially create ideas by means of symbols, artifacts, narratives, and other creative and interpretive tools as a way to approach learning. The process of learning is equal to or more important than any particular subject content. In any given situation, each child creates and interprets in her or his unique way (Edwards et al., 1998). REA celebrates diversity and children's autonomy to create ideas or invent meanings rather than simply receive it from teachers and other adults (Cadwell, 1997).

A REA version of the ball project might proceed as follows. The children would go out to the playground, observe children playing with various kinds of balls, and photograph or sketch balls of different types. They would then return to the classroom and depict or make balls, using materials such as paint or clay. So that the children would think about balls in relation to their own lives, they might also create narratives about different types of balls and the activities for which they are used. For example, a child might write about playing baseball, playing with a beach ball, or watching a basketball game. The teacher could display the children's artistic creations or have the children share their stories with other students by reading them out loud. The learning process would be creative rather than investigative, emerging rather than planned, and unique to each child rather than of predetermined outcome.

Ontology

Ontology refers to the nature of reality. The world is composed of both objective realities

(such as fire and water) and subjective realities (such as interpretations of good or bad, similar or different). Proponents of PA subscribe more to the objective realities, discoverable through the collection and analysis of evidence (Hatch, 2006). PA emphasizes the discovery and dissemination of principles and facts through systematic investigation and the completion of set tasks (Dixon, 2001). However, PA differs from more traditional instruction in that children actively pursue knowledge rather than passively receive it from their teachers—for example, in the form of direct instruction (Helm & Katz, 2000). In addition, PA is also distinct from the thematic approach because children have more initiative to decide the topic of interest to investigate.

Compared to PA, REA places more value on pursuing subjective reality. This means that reality is subjective and fluid, dependent on humans' creating meaning and interpreting the world in which they live (Dahlberg et al., 2006). According to this view, there are as many realities as there are minds. In REA, the environment is a resource and art a vehicle with which children create their own unique versions of reality (Cadwell, 1997; Edwards et al., 1998).

Purpose of Education

In PA, education is science or social science oriented. Because objective reality is of greater concern, education is considered largely a matter of teaching children how to reason and systematically investigate so that they can become ever more knowledgeable—that is, approach objective reality ever more closely and comprehensively. Basically, PA investigates knowledge as it is perceived and valued by the instructor's culture and society.

In REA, education is more meaning oriented. Because reality is regarded as subjective— uniquely created by each individual—teachers see their students as "co-constructors of knowledge" (Dahlberg et al., 2006, p. 48). Culture is not viewed as a single or static entity but as a collection of diverse, continually changing cultures.

Teachers view even the youngest children as partners in creating meaning; indeed, young minds are seen as especially fertile. In REA, the purpose of education is to promote societal movement by nurturing children's makings of arts and meanings (Abbott & Nutbrown, 2001).

The Learning Process

Whereas in traditional pedagogy, the teacher largely dispenses information and ideas, in PA, the teacher *facilitates* students' learning and inquiry. However, in PA, the investigatory process is still systematically oriented. Students conduct fieldwork and other investigations, document and discuss their findings, and draw conclusions based on the collected evidence (Helm & Katz, 2000).

Compared to PA, REA instructors regard learning more as emergent than as systematically acquired. Instead of starting with a plan and proceeding with execution, the overall process consists of improvised interest and emergent meaning making (Abbott & Nutbrown, 2001) when interacting with the environment and community (Edwards et al., 1998). REA proceeds at a pace appropriate to a particular child by utilizing a wide range of natural or artistic materials that best enable the child to create meaning (Cadwell, 1997).

Type of Reasoning

PA emphasizes deductive reasoning, in which the individual formulates a principle or premise and then tests it by means of available empirical evidence (Firlik, 1996). Children are encouraged to learn by formulating hypotheses; collecting relevant data; and then, based on the empirical evidence, modifying, rejecting, or accepting a particular hypothesis (Helm & Katz, 2000). Deductive reasoning is the basis of scientific investigation.

In contrast to PA, REA emphasizes inductive (dialogical) reasoning, in which the individual arrives at general principles by observing particular examples (Eckhoff & Sepearman, 2009). In REA, children collectively and dialogically construct meaning by interacting with their environment and one another (Maynard & Chicken, 1996).

Reflexive Pedagogy in Theory

Must educators choose between PA and REA? We believe that either approach alone is unlikely to maximize learning. Compared to REA, PA is more likely to deliver the visible and

measurable results in science or social science learning and problem-solving ability increasingly demanded by parents and required by government, but REA is more likely to address children's diverse and idiosyncratic approaches to constructing meaning through their own interpretations and creations.

Educators are increasingly recognizing the importance of adopting various pedagogical approaches (Graue, 2005; Peter, 2000; Siraj-Blatchford, 2009). Sometimes, seemingly contradictory paradigms may be employed simultaneously. Even a postmodernist approach (subjectivistic constructionist reality) can be overly narrow and rigid if it excludes learning based on the objectivistic views of reality (Siraj-Blatchford, 2009). In addition, from an agentic perspective, even though children are empowered as knowledge creators, some poststructuralists (i.e., Davies, 2008) have also underscored that teachers have to actively intervene and disrupt to stimulate children's thinking.

In an increasingly complex and global society, sustainable development relies on societies' ability to accept and integrate diverse values and practices. It is important that educators demonstrate this ability and foster it in children (Jones, 2002; Jucker, 2004; Locher & Prugl, 2001; Siraj-Blatchford, 2009). As Dewey (1938) noted, education should promote an ability to synthesize and collaborate. We, therefore, propose a pedagogical approach based on useful elements distilled from both PA and REA. We expect this innovative thought experiment to generate more dialogs among researchers; however, further empirical studies are needed to investigate its practicality in ECE.

We term this approach "reflexive," in keeping with Kauffman's (2009) theory of reflexivity. Reflexive pedagogy was initially developed for the instruction of sociology to reflex between imaginings of the future and reflections on the past as a way to emphasize both agency and structure in sociological study (Stalker & Pridmore, 2009). Here we reconceptualize the term by using Kauffman's theory and catering to early childhood education. According to this theory, learning is both self-directed and self-organized and each action impacts learning as a whole. The overall "consequence" of these actions in turn affects how subsequent actions proceed. In this sense, actions are both causes and consequences. The goal of education is to support each individual's autonomy to coordinate his or her learning around knowledge acquisition, investigation, and creation (Fuchs, 2004; Paavola, Lipponen, & Hakkarainen, 2004). In the reflexive pedagogy, through self-initiation, self-modification and self-

organization, these goals reflexively affect how subsequent learning activities are conducted. Hence, our reflexive approach has dual meanings—to "interweave" PA and REA in order to make learning process "reflexive"—a dialectical and dynamic process of learning between the two approaches. In the reflexive approach, knowledge are both acquired through investigation and created through negotiation. Students are encouraged to see reality as both objective and subjective depending on the learning tasks in hand. In other words, students interact with the reflexive reality which they are also part of. Curriculum entails both science and social science– and meaning-oriented activities; one strengthens the other. The learning process is both systematic and emerging and thus systematically emerging in a way similar to any reflexive phenomena. Students engage themselves in reasoning neither deductively nor inductively but recursively. Consequently, students think beyond the dichotomy of independent and dependent variables, causes and consequences, or theory and practice. We compare reflexive pedagogy with PA and REA in Table 1.

Table 1. *Reflexive Pedagogy*

	Project Approach	Reggio Emilia Approach	Reflexive Pedagogy
Epistemology	Knowledge inquiry	Creation of meanings	Learning is both knowledge inquiry and meaning creation
Ontology	Objective reality	Subjective reality	Reflexive reality
Education's Purpose	Science and social science oriented	Meaning-oriented	Curriculum is both science and social science oriented and meaning oriented; one strengthens the other
Learning Process	Systematic	Spontaneous	Systematically emergent
Type of Reasoning	Deductive	Inductive	Recursive

Our recommendation of reflexive pedagogy is also viable for ECE by interweaving both the radical constructivists' and post-modernists' views of learning. Although both views are intended to augment students' learning and promote creativity, the ways of approaching them are different. Radical constructivists believe that promotions of thinking ability and creativity have to go side by side with the learning of science and social science. Even though creativity

is important, constructivists (such as Krischner, Swelle, & Clark, 2006) have stated that systematic investigation with teachers' guidance (such as PA) can lay a foundation for better development of creativity. Conversely, postmodernists approach through manifestations of children's imagination and creativity empowers children's interest in learning science and social science. Particularly in ECE, postmodernists remark that the movement of society through the empowerment of children serves the ultimate rationale of ECE. The movement of society and empowerment of children have to be actualized by encouraging their various modes of expression and ways of interpretation. By doing so, the learning of science and social science should be able to emerge at any possible time. Reflexive pedagogy interweaves these two views by ensuring the individual child's success by adopting both radical constructivists' and postmodernists' views, connecting and shifting between them.

Reflexive Pedagogy in Practice

Although, to the best of our knowledge, true reflexive pedagogy cannot be found, there exist examples with characteristics of reflexive pedagogy. These approaches can be seen as compartmentalized PA-REA approaches. We first identify the reflexive elements in each example, and we then offer discussion of and projections for an ideal reflexive pedagogy.

Reflexive Purpose

Children are engaged in both goal-oriented and meaning-oriented activities. The teacher allocates equal time to both activities. For example, a U.S. kindergarten teacher fosters knowledge of subject content, thinking disposition (PA), and creativity (REA) by ensuring that each child spends approximately equal time (a) investigating a particular topic and (b) engaging in creative tasks such as drawing ;or writing (Tzuo, 2006). When the teacher tutors a pupil, she helps the child reach educational goals (PA) but individualizes the instruction so that it suits the child's interests and strengths (REA). Most important, the activities are interconnected. The content knowledge gained from science and social science–oriented activity becomes a child's repertoire for meaning-oriented activity. Conversely, the agentic

creative process from meaning-oriented activities may inspire interest in science and social science–oriented learning pursuits.

Reflexive Epistemology

The learning activity involves both knowledge inquiry and knowledge creation. For example, an art project initiated by an Australian lower elementary school teacher similarly combines PA and REA (Piscitelli, 1996). By visiting a local art museum, children not only learn about art history, interpret art, and share their interpretations (PA) but also have the chance to create their own exhibitions to make their own representations public (REA). In addition, the teacher invites children and their families to create an art exhibit reflecting their backgrounds and family histories (REA). Visits to art museums are based on knowledge inquiry epistemology intending that children acquire knowledge about art history. Children's art exhibits adopt the knowledge creation epistemology.

Reflexive Reasoning

Children are engaged in both deductive and inductive reasoning. A "Netpal" project involving a U.S. kindergarten class and a Taiwanese kindergarten class has the goal of teaching the U.S. children Mandarin and the Taiwanese children English (PA), but the children also create intercultural meaning by sharing with one another about items representative of their cultures such as gummy bears or chopsticks (REA; S. Liu & Chang, 2007). These responses are a mix of PA elements, such as making assumptions about the meanings of a cultural item (by children's guess), fixing assumptions, and acquiring new information (deductive reasoning), and REA elements, such as writing and exchanging narratives of the culturally specified experiences inspired by the children's lives (inductive reasoning).

Reflexive Process

The learning is characterized by both systematic and spontaneous processes. In Singapore

and Taiwan, some schools allow the children to investigate any topic of their own choosing in a systematic way (PA; Lin, 2001, 2002). However, they are given extensive time to pursue the project in their own way, and they are encouraged to create artifacts related to the project (REA). One of the schools published several books to present children's created narratives. The books have gained public attention and become powerful vehicles that acknowledge that children's learning is both systematic and spontaneous (Lin, 2001, 2002).

Discussion

In short, the preceding examples can be seen at most as fusing the characters of both PA and REA into practices, but these practices are not yet truly reflexive—in a way, they are still compartmentalized because the activities are mostly prearranged and coordinated by teachers, absent children's agentic participation in planning and reflecting on the events. In a truly reflexive approach, both teachers' authority and children's autonomy have to be attended to so as to enact reflexive epistemology, ontology, purpose of learning, and reasoning. By utilizing time and documentation reflexively, we provide our projections of an ideal reflexive pedagogy (with reflexes between knowledge acquisition and creation, subject and object realities: science and social science–oriented and meaning-oriented learning, and deductive and inductive reasoning: systematic and emergent, learning), as follows.

Reflex between knowledge inquiry and creation. In a reflexive approach, a planned curriculum complements children's freedom to improvise, learn at their own pace, and learn in the ways in which they are most comfortable. Some class time is structured, whereas other class time allows children to engage in tasks of their own choosing. However, structure and agency have to inspire and reciprocate one another. For example, the artifacts, writings, or drawings children create have to include the elements of the pursuit of discipline, knowledge, and personally created meanings or realties.

Reflex between subject and object realities: Goal-oriented and meaning-oriented learning. In reflexive pedagogy, each school day includes activities in which the entire class

participates, small-group learning activities, and individual activities that differ from student to student. Each of these three types of activities entails both PA and REA activities. For example, the whole class might brainstorm to decide what phenomenon to investigate (a PA activity) or share personal stories related to some topic (an REA activity). Similarly, when students work on their own, they might work on either a PA project (e.g., a scientific experiment) or an REA project (e.g., doing art and writing a short story). The usages of time and documentation have to validate the reciprocation between both paths (PA and REA) of learning—one becomes the repertoire of another; one inspires another.

Reflex between deductive and inductive reasoning: Systematic and emergent learning. In reflexive pedagogy, each child's progress is thoroughly documented. Each student maintains a portfolio in which he or she notes information; records impressions, experiences, and accomplishments; and keeps completed work and work-in-progress. At the end of each week, children share their portfolios' contents with their teacher as a way to reflect on the past week and plan for the next. By reflecting on what has been learned inductively, a teacher and children can brainstorm together and make plans for next week deductively. The teacher provides feedback such as suggestions for future projects or for further development of current projects. If the children and their parents give permission, contents of their portfolio can be published or exhibited.

Conclusion

PA (Helm & Katz, 2000) and REA (Edwards et al., 1998) have significantly influenced modern pedagogy. PA instruction is science or social science oriented, with a systematic approach to investigation, emphasizing deductive reasoning and objectivity (Helm & Katz, 2000; Katz, 1994). In contrast, REA instruction is art oriented and emphasizes learning as a creative process in which each individual subjectively creates meaning and interpretations (Hewett, 2001). A growing number of educators are advocating a pedagogy that combines various approaches (Graue, 2005; Peter, 2000; Siraj-Blatchford, 2009), such as PA and REA, and a number of early childhood educators are increasingly using such an integrated approach,

with success. However, to take these practices one step further, and in keeping with Kauffman's (2009) theory of reflexivity, we propose the idea of reflexive pedagogy for ECE. Much research still needs to be done to substantiate our theoretical proposition. However, we believe that we have proposed an attractive alternative. We recommend a reflexive pedagogy to ECE as most likely to maximize learning because it fosters mastery of science and social science content and nourishes thinking disposition while respecting individual's artistic meaning making and promoting creativity.

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