

## **Maximizing Early Childhood Practices by Incorporating Constructivist Principles in an Elementary School**

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### **Introduction**

In most public schools, children begin school in kindergarten. Recently, many school systems have begun to implement programs for preschoolers, ages three and four. Georgia introduced the first statewide universal pre-K program in 1995 which offers all 4 year old children free preschool. New York, Oklahoma and Florida have followed (Barnett & Hustedt, 2003). Tennessee recently passed a bill to use \$25 million of lottery money to fund preschool for children considered "at risk" ("Latest Pre-Kindergarten News," n.d.). The substantial amount of research involving brain development has stressed the importance of quality experiences in the early years of life (birth-8 years). Why not house these programs along with childcare in a public school? And, better yet, why not design a program and building for children six weeks through 11 years of age (traditional grade five age) which is based upon early childhood practices and incorporates constructivist principles? That is exactly what educators in a small, diversified school district in Northeast Tennessee did when the system committed to creating a "21st Century" elementary school.

### **The Beginning**

The foundation for the development of the program was based upon the constructivist principles of: (a) integrated curriculum, (b) organized yet flexible learning environment and schedule, (c) learning from one another,

(d) choice, (e) developmentally appropriate curriculum, (d) continuous assessment and progress, and (f) teaching for understanding.

After receiving a summer work grant from the system, four educators were selected to take the first steps on the journey toward creating this unique school. A principal, early childhood director and two elementary teachers began to visit programs and study aspects of the newly proposed curriculum design. Rezoning was to occur, as an old elementary school was due to close in May of 1994, and the new school's expected opening was anticipated for August of 1994. Early on, it was determined that the building would complement the innovative program design. Based upon research and effective practice, this design would include as its main features (a) non-gradedness; (b) multiage grouping; (c) developmentally appropriate practice; (d) child-centered learning; (e) integrated thematic instruction; (f) team teaching; (g) community involvement; and (h) parent involvement, with an emphasis on creating a sense of community within the classroom.

## **Non-Gradedness**

Due to this innovation and non-traditional approach, parent and community members waved a flag of concern. What is non-gradedness? Most parents and community members thought it meant no letter grades (A, B, C, D, F), which is one component, but there was more. As referred to by Gaustad (1992), "non-graded education is the practice of teaching children of different ages and ability levels together, without dividing them into groups labeled by 'grade' designations" (p. 2). Children make continuous progress at their own rates of speed, remaining with the same teacher for more than one year. Individuals are different and should not be treated as items on an assembly line. A non-graded organizational structure allows students to complete the curriculum at an individual rate rather than requiring them to proceed in lock-step with their peers (Gaustad, 1994).

Anderson & Pavan's (1993) eleven elements of non-gradedness were chosen when planning the program:

1. Individual differences in the pupil population are accepted and respected, and there is ample variability in instructional approaches to respond to varying needs.

2. Learning, which is the “work” of the child, is intended to be not only challenging but also pleasurable and rewarding.
3. Students are viewed as a whole; development in cognitive, physical, aesthetic, social, and emotional spheres is nurtured.
4. The administrative and organizational framework, for example, with respect to pupil grouping practices, is flexible and provides opportunities for each child to interact with children and adults of varying personalities, backgrounds, abilities, interests, and ages.
5. Students are enabled through flexible arrangements to progress at their own best pace and in appropriately varied ways. Instruction, learning opportunities, and movement within the curriculum are individualized to correspond with individual needs, interests, and abilities.
6. Curricular areas are both integrated and separate. Instructional, programmatic, and organizational patterns are flexible, with outcomes rather than mere coverage of content as the primary focus.
7. The expected standards of performance (in terms of outcomes) in the core areas of the curriculum are clearly defined, so that the points to be reached by the end of a designated (e.g., a three or four-year) period are well known. However, the time taken to reach that end, and the path followed to that end, is allowed to vary for students with different histories and potentialities.
8. Within the curriculum and related assessment practices, specific content learning is generally subordinate to the understanding of major concepts and methods of inquiry, and the development of the skills of learning: inquiry, evaluation, interpretation, and application.
9. Student assessment is holistic, to correspond with the holistic view of learning.
10. Evaluation of the learner is continuous, comprehensive, and diagnostic. Except for reference purposes as necessary to parental and staff understanding, chronological age and grade norms play a much smaller role in evaluation and reporting activities than does the child’s own growth history and potential.
11. While there are some core components of the curriculum that are especially valued (as reflected in performance standards in the major content areas), the system is largely teacher-managed and controlled. Thus, it empowers teachers to create learning opportunities and to use instructional strategies at their own discretion, based on the perceived needs of the students they are serving. Assessment procedures are similarly flexible, individualized, and teacher managed (p. 62-63).

These elements of non-gradedness coupled with a constructivist framework served as a guide for planning the program and designing the building. According to Brooks and Brooks (1993), “a constructivist framework challenges teachers to create environments in which they and their students are encouraged to think and explore” (p. 30). Wilson (1996) defines a constructivist learning environment as “a place where learners may work together and support each other as they use a variety of tools and information resources in the guided pursuit of learning goals and problem-solving activities” (p. 5). This was the vision: to create a program that incorporated constructivist principles for elementary-aged children as well as for the infants, toddlers and preschoolers attending the “new school”.

### **Learning Communities to Accommodate Multiage Grouping**

The first question to explore was how to design this multiage grouping for young children. This type of a grouping encourages collaboration between and among teachers and children. Vygotsky’s (1962) theory emphasizes that social interaction plays a fundamental role in the development of cognition. The range of skill that can be developed with adult guidance or peer collaboration exceeds what can be done alone (Vygotsky, 1978). By combining multiage grouping, team teaching and the philosophy and practices of non-gradedness, a truly child-centered environment can be created (Anderson, 1993).

The physical facility of the new school consists of six large learning centers. Approximately 500 elementary-aged children are served. Each of the three primary (grades K, 1, 2) learning centers consist of four teachers, one teaching assistant and 80-100 students. The learning centers are modeled after Anderson’s (1993) ideal multiage non-graded grouping which involves 70-120 students and a team of three to six teachers. Each teacher is assigned 20-25 children equally divided by the “traditional” grade placements. This allows students to remain with the same teacher for their primary education. The three intermediate learning centers (grades 3, 4, 5) consist of four teachers, one teaching assistant and 20-28 students. Again, students are assigned equally, based on the traditional three-grade span. This also assures the possibility of students remaining with one teacher for their intermediate education.

## **Notable Features**

The school has many notable features. The building is wired to technologically assist instruction. Twenty computers are located in each learning center, as well as additional computers in the media center and related-arts rooms. The media center is designed to be open to students all day, in an effort to support research and project work. An aesthetically appealing white bricked, single-story building placed on a beautifully landscaped campus houses this student-centered school.

An outdoor learning center includes three designated areas to extend the learning outside. The wooded area behind the school consists of three sections that were constructed using natural materials (large rock) and contains an amphitheatre, reflection area around a large oak tree, and a meeting area overlooking a mountain range.

## **Developmentally Appropriate Practices**

Developmentally appropriate practices are at the heart of multiage classrooms. A developmentally appropriate approach is very child-centered and allows teachers to focus on individual student needs. Bredekamp and Copple (1997) define developmentally appropriate practices as the result from the process of professionals making decisions about the well-being and education of children based on at least three important kinds of information or knowledge:

1. What is known about child development and learning – knowledge of age-related human characteristics that permits general predictions within an age range about what activities, materials, interactions or experiences will be safe, healthy, interesting, achievable, and also challenging to children.
2. What is known about the strengths, interests, and needs of each individual child in the group – to be able to adapt for and be responsive to inevitable individual variation.
3. Knowledge of the social and cultural contexts - in which children live to ensure that learning experiences are meaningful, relevant, and respectful for the participating children and their families (p. 8-9).

The National Association for the Education of Young Children (NAEYC) emphasizes that teachers must teach the whole child, supporting intellectual, social, emotional, and moral growth. They strongly recommend curriculum integration, which actively involves the child both physically and cognitively (Bredekamp & Copple, 1997). According to Lolli (1998), “Curriculum in the multiage classroom is based upon a constructivist view of learning” (p. 12). Information is more easily learned and remembered when it is taught in a meaningful context, when it is relevant to the learner, and when the learner takes an active role in learning (Gaustad, 1992). Children create meaning from the experiences and modeling that occurs around them. Developing deeper bonds with peers, as a result of multiage grouping over a three year period, extends and expands a variety of scaffolding opportunities between all learners.

## **Team Teaching**

The team teaching approach is very similar to the approach of the schools of Reggio Emilia, Italy, where team teaching is a core element of the program. Fu, Stremmel and Hill (2002) stated, “If passion in teaching is rooted in collaboration, then why do American school systems isolate teachers?” (p.170). Teaming requires sharing of materials, skills, territory, equipment and recognition for successes and student achievement (Gaustad, 1994). It also involves brainstorming, documenting, discussing, interpreting and analyzing teaching and learning.

Team teaching is a requirement for the program. Each member of the team needs to be comfortable with the other’s style of teaching and learning. The goal is to develop and maintain trust in an effort to assist all students in their learning process. Learning community teams (learning center team, administrators, and related-arts specialists) are responsible for the development and implementation of the integrated thematic units of instruction. In order to promote effective teams, team-building activities involving all faculty were initially provided not only by the system, but also by local industry. This included administration of the Myers-Briggs Inventory. The information gleaned and shared in a team setting proved to be a very positive step in the development of effective teaming. The initial goal for teaming was to create teams that are diverse in their strengths, interests and personality types in an effort to reach all children in the learning community.

## **Thematic Instruction**

Moving from a teacher-directed method of instruction to more of a child-centered or constructivist approach is a challenge in a public school system. Kovalik's (1994) "Integrated Thematic Instruction" model was selected as the guide for the integration of the curriculum. Thematic units were created to address curriculum standards. Units connected to an overall theme like, "Let's Investigate," which spanned across an entire year. Three, year-long cycles were developed to encompass science and social studies criteria according to state and national standards. A framework was created by teams of teachers utilizing standards as a guide. Teachers and students begin each study accessing prior knowledge and planning learning experiences. This integrated approach employed constructivist principles such as those noted by Brooke and Brooke (1993): "student-initiated questions, student-to-student interactions, textbooks as only one of the sources of information, cooperative learning opportunities, valuing student expression of thoughts, and construction of new knowledge in constructivist programs" (p. 6-7). Reading and writing experiences are integrated into the thematic study as well. Reading and writing, and math are also studied outside of the designated theme time using a hands-on interactive approach.

## **Parent Involvement**

From the beginning it was known that the triad of child-teacher-parent, was a key element for success. Due to the uniqueness of the program, including parents early in the development process was imperative. An information session was provided during the planning phase. Community members were asked to give feedback and become involved. Many of the features of the school were new, thus the program developers decided to go into the homes of students who would be attending the school to explain and relieve anxieties that the parents had concerning the program design. This was accomplished in 15 small-group sessions scheduled by the Parent Teacher Association (P.T.A).

Parents are welcomed and encouraged to participate in the learning process. Parents volunteer in the classrooms throughout the day. Beyond the typical scenarios of adults reading with individual children, parents engage in inquiry-based learning experiences in both the primary (K, 1, 2) and

intermediate (3, 4, 5) learning centers. They guide children through active exploration of concepts, problem solving and reflection. This hands-on, active-learning approach allows parents to assist with teaching and learning, and witness evidence of student success. This became a great source of support and proved to be positive in the public relations endeavors.

### **Sense of Community within the Classroom**

The quality and nature of the relationship between the teacher and his/her students is key to building a sense of community (Kovalik, 1994). Building a culture where students feel respected, cared about, and bonded to classmates, teachers, and the school makes a “caring community” (Goleman, 1994). The new program utilized Kovalik’s (1994) “Lifeskills” and later included the system wide “Character Counts” program. Both of these recognize and teach about character traits. The students became familiar with the lifeskill terms: (a) integrity, (b) initiative, (c) flexibility, (d) perseverance, (e) organization, (f) sense of humor, (g) effort, (h) common sense, (i) problem solving, (j) responsibility, (k) patience, (l) friendship, (m) curiosity, (n) cooperation, and (o) caring (p. 30). They learn the importance of such skills as they use them regularly. All children are “members” of the classroom. Children with special needs are included and easily become contributing members of the classroom community. Children, teachers, and parents become “school families” in the three years they spend growing and learning with one another.

### **Early Childhood Learning Center**

This model multiage school also houses a state of the art NAEYC accredited Early Childhood Learning Center for children six weeks to five years of age. The developmentally appropriate practices at this center lay the foundation for continued success in the elementary years. The classrooms are also multiaged, serving 48 children with a team of teachers facilitating the learning journey. The Early Childhood Learning Center program encourages parents and children to become a part of the school family much earlier than in most public schools. The children move into the elementary program more easily and remain with their new group for the next three years in the multiage elementary setting. The inclusion of the Early Childhood Learning Center within the elementary school building results in less stressful transitions for the child and family, as noted on parent surveys

completed at both the Early Childhood Learning Center and in the elementary program of the school. Bringing families into the public schools for their early childhood experience forms a family/school partnership early, which extends throughout the student's elementary years.

## **Obstacles**

Quality early childhood programs are well accepted, however, implementation of early childhood practices in an elementary program proved to be complicated. The newness of the program brought with it major obstacles that were successfully overcome. The three most significant were community acceptance, staffing, and curriculum restructuring.

As in most new programs, the fear of the unknown must be overcome. Some parents had previously been aware of quality early childhood programs, however, others needed to be educated. This was accomplished by conducting the previously described home visits during the planning phase. Once the school opened it became evident that additional public relations were needed. Written information was prepared in the form of a newspaper informing parents and the community about the many components of the multiage, developmentally appropriate program. Newsletters describing learning activities unique to each learning center complemented this newspaper. Inviting the parents and community to participate in forums designed to further educate them, including one conducted by a nationally recognized non-graded, multiage specialist proved beneficial. These initial endeavors encouraged parents to become actively involved in the daily learning aspects of the program. The goal, as it was for the schools of Reggio Emilia (Edwards, Gandini, & Forman, 1988), was to create an environment for children, teachers and parents.

Staffing, which initially wasn't thought to be a problem, became one. Approximately one-third of the teachers from the closing school enthusiastically joined the planning team. The remaining teachers anticipated the granting of their choice to move to one of the other six traditionally-structured schools in the district. Other teachers in the system who desired to teach in a multiage, non-graded program thought that they would be offered the opportunity to join the faculty of the "new school". All good plans don't necessarily come to fruition. Two months prior to the opening of the school the new superintendent made the decision that all of

the teachers who taught at the old school would move to the new school to teach in a multiage, three-grade span classroom. Though the program was not to begin fully staffed with teachers who wanted to teach in a multiage, non-graded classroom, the initial plan was implemented. A school program that focuses on all children having an opportunity to learn was to begin. An intensive on-going staff development program was designed specifically for those teachers who had not anticipated being a part of the program. A two-week comprehensive summer workshop was helpful, as well as ongoing mentoring by those teachers who were effective in program implementation. New hires, due to attrition, allowed for the development of a cohesive staff committed to the development of a philosophy based on constructivist principles.

The next hurdle was curriculum restructuring. The goal was to develop a three-year cycle of thematic units addressing national, state and local skills and concepts, keeping in mind constructivist principles for implementation. Key faculty members were trained as leaders in the implementation of integrated curriculum. Initially, a prototype unit was developed and shared with parents, school board, and faculty prior to its implementation for the opening of the school. The development of units and themes connected to standards continued to be developed and refined by teams of teachers, including related-arts teachers. All teachers continuously reflect on the pedagogy used to implement the three-year curriculum cycles. Again, teaming and collaboration are key components of the process. The active involvement and teaming of the teachers proves to be successful as they develop meaningful thematic units which integrate skills and concepts, and allow for flexibility in an effort to meet all students' needs.

## **Evidence of Success**

Proof of overcoming these obstacles was evidenced in various ways. A main indicator of success was the strong student achievement scores of 2nd – 5th grade students. The students have continuously scored above district and state averages, thus supporting the curriculum design. Anecdotal data reported by middle school teachers and administrators found fifth grade students who have moved on to the designated middle school make a smooth transition and stand out as a group of strong academic achievers. In addition, the overall success of the program has been confirmed by outside evaluations including “The National Blue Ribbon Schools” and “Southern

Association of Colleges and Schools". The nationally recognized non-graded, multiage specialist evaluated the design of the program positively. His visit confirmed for many that the multiage configuration was developmentally appropriate for the students.

School climate was evaluated formally in 1997 by consultants from the University of Tennessee. The program was rated higher by the parents than any other school that had previously been surveyed. A parent satisfaction survey in 1999 supported the 1997 evaluation by revealing an excellent rating for a consistently positive environment in which children learn. Parent involvement in the school through active participation in the learning process and evaluation of the program increases collaboration and the sense of community.

The school received the "2001 National Blue Ribbon School of Excellence Award". The site visit report concluded with the statement, "This school now enjoys a strong reputation for excellence and should be considered a demonstration school for all districts seeking to build a 'better way.'" Maximizing early childhood practices by incorporating constructivist principles in this elementary school, enabled administrators, faculty, staff, children, and parents to engage in the collaborative process of creating an environment and program in which all children can learn!

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