

Nongraded Classrooms: A Socially Just Alternative

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Presented at the “Emerging Scholars Conference”

at Chapman University Sept 23-24, 2011

In order to change an existing paradigm you do not
Struggle to try and change the problematic model.
You create a new model and make the old one obsolete.
That, in essence, is the higher service
To which we are all being called.

Buckminster Fuller

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INTRODUCTION

Historically

The nongraded or multiage classroom was the first hallmark of American education, in the form of one room school houses across the country. However, in the early 1800's the industrial revolution increased the gross national product and American productivity. Advanced economic growth brought with it social and economic problems. According to Gutek (1986), a leading educational historian, industrialization increased the numbers of children in urban populations who required schooling, stimulating a need for managers and skilled labor, and called for homogenization of a population that was considerably more heterogeneous and non-English speaking due to immigration. As a result, business and mainstream society had a converged interest in perpetuating the establishment of the graded school system, as a way to maintain the uniformity required for the industrial revolution (Gutek, 1986).

Business Interest in Graded Education

The lens of commerce provides a perspective for viewing the graded classroom scheme of schools because according to Giroux (1983), "school institutions (can) only be understood through an analysis of their relationship to the state and the economy" (p. 258). The inspiration for graded education seen in the "common school" according to most historians comes from the Prussian school system, which Horace Mann and others considered superior to the American system (McClusky, 1920a, 1920b). Modeling the Prussian system of education which incorporated the "proper classification of scholars," where children were "divided according to ages and attainments, and a single teacher has

the charge only of a single class,” Mann in 1843 correlated the graded school system to current industrial practices (as cited in Pratt, 1986, p. 112). Mann described the similarities between graded education and the factory model saying:

The principle of the division of labor holds good in schools, as in mechanical industry. One might as justly demand that all operations of carding, spinning and weaving be carried out in the same room, and by the same hands, as insist that children of different ages and attainments should go to the same school and be instructed by the same teacher. (1843, as cited in Pratt, 1986, p.112)

According to Gutek (1986), businessmen and professionals in the northeast were convinced of the need for graded “common schools,” which they viewed as a means to provide a stable and skilled work force. They also believed the design of the graded school would teach work ethic and the “old Puritan values of hard work, punctuality, industriousness, and productivity” (Gutek, 1986, p.101). In Gramsci’s (1971) view a state uses age as a means to separate the education of students. Its motive is reflected in the general economic conditions of the time, where the immediate need for the productive contribution of youth is imminent.

Legislation and Graded Education

Propelled by economic demands, the proponents of graded “common schools” were businesspersons, scholars, and politicians in Massachusetts in the early 1800’s, namely Edmund Dwight, Horace Mann, and George Emerson. It is important to note that Henry Barnard and Calvin Stowe were also advocates, but their influences were felt in Connecticut and Ohio, where they brought graded education to their respective states (McClusky, 1920a). The first legislation to establish graded education was realized in Massachusetts in the 1840s with the approval of the “common school,” and the creation

of a central school authority via the conception of the positions of a state superintendent of public instruction and a state board of education (McClusky, 1920a). To understand the speed with which the graded school statute became legislation, from Mann's trip to Prussia in 1843 and the opening of the first model graded "common school" in 1848, it is important to follow the reasoning and financing of businessman Edmund Dwight.

Edmund Dwight, a wealthy businessman in Springfield, Massachusetts, who employed in his industries about 3000 workers, began to venture into the textile industry in both Springfield and Boston. A review of the Dwight family records showed their business profits from 1803 to 1820 tripled, "before shrinking over the next three years as the Dwight's began to invest in the textile industry" (Weil, 1998, p.1345). In fact the family's value decreased by one quarter or 26.4% of the total value of all their assets due to textile investment. During the family's financial decline, according to Frederick McClusky (1920b), Mr. Dwight enlisted the services of Horace Mann, who was secretary of the Massachusetts Board of Education and former Massachusetts Senate

Representative, by:

Personally increasing the compensation allowed to him by the state; that Dwight gave \$10,000 on the condition that the state appropriate ...the establishment of the first normal (common) school; and that on numerous other occasions he contributed important pecuniary aid in carrying forward the designs of the board and of its secretary. (p. 46)

Dwight also mentioned in his memoirs the offering of his house, time, and money to secure the legislation of graded schools in Massachusetts (McClusky, 1920b).

Under Dwight's financing, Mann was able to push graded schools through Massachusetts State legislature in the 1840's along with establishing a publically

supported education system through taxation and a centralized graded public school system via the creation of a state superintendent of public instruction and state board of education (McClusky, 1920b). The Quincy Grammar School, the first graded or “common” school in 1848, served as a model for the reform. Within six years every school in Boston replicated the graded Quincy School and soon the graded system was molded into the Ohio and Connecticut school systems (McClusky, 1920b). This same model is replicated throughout the United States, and includes California’s Public School System. The historical development of the current educational structure is crucial because it confirms that graded education was created solely based on the needs of industry, not child developmental and/or educational research (Guttek, 1986; Kasten, 1998; Osin & Lesgold, 1996; Rogoff et.al, 2003; Stone, 2009). This paradigm runs contrary to the philosophy of nongraded education which is centered on developmentally appropriate practice for the student (Elkind, 1987; Katz et al., 1990; Schrier & Mercado, 1994).

GRADED EDUCATIONAL INJUSTICES

The term nongraded may invoke thoughts of students who are not assigned letter grades (A-F). Instead nongraded refers to classrooms without grade level designation (1st-12th) in which students receive letter grades, are educated by the same teacher/s for three or more years, and whose classmates span three to four years in age. In contrast graded education (K-12) is the traditional and most common form of grouping students. It is based solely on chronological age and groups students into corresponding classroom levels. According to Kasten (1998) children in graded systems are considered

commodities similar to cars in the factory model. For example, the term *superintendent* was first used in factories and quality control checks were called *promotion* or *nonpromotion*. The child proceeded from grade level to grade level, similar to a car's movement down the assembly line, where at the end non-uniform vehicles were discarded (dropped out). The danger when applying industrial methods to education is that assembly lines utilize homogeneous inputs which undergo the same processes to produce uniform outputs (Kasten, 1998; Katz, Evangelou, & Hartman, 1990; Osin, 1996). However, three injustices are present in industry's graded education model: the identical treatment of all children, the perpetuation of age segregation, and the mismatch between the means and the goals of No Child Left Behind.

First, humans will never be homogeneous as predetermined by their unique genetic makeup of deoxyribonucleic acid (DNA) and differing environmental stimuli. No two humans are alike, so why does graded education insist on uniformity? Children are not cars but complex individuals with their own educational needs, yet governments apply simple factory analogs which run counter to current educational research. It is unjust to treat children as identical inputs and expect standardized outcomes. Where is the acknowledgement of the individual? In 1890 Charles Eliot, the president of Harvard, noted that graded education was the "worst feature of the American school" because it flew "in the face of nature" and schooling should have the "utmost possible account of individual instruction" (Hamilton, 1989, p.132). William Kilpatrick, a professor at Columbia University in 1925, cited failure in graded education because it did not acknowledge the individual in favor of the institution and stated, "As always, the easiest

solution was to hold to the institution and let the individual suffer. So we did” (as cited in Osin, 1996, p.631).

The second social injustice of graded education comes in the form of the perpetuation of age segregation. In a recent paper on ageism, Hagestad and Uhlenberg (2006) define graded schools as institutional segregation, where children spend most of their time with a narrow age range of peers working in a setting exclusive of younger and older. Age segregation is an industrial phenomenon and is not consistent with anthropological, ethological, and developmental biology/psychology which all point to the innate nature of age-stratification in learning (Konner, 1975; Pratt, 1986). Ellis, Rogoff, and Cromer (1981) have found negative effects in same age groupings including aggressive and antisocial behavior.

Finally, if the social obligation of schooling under NCLB is to reach all students without rejections, then the means of the factory scheme can never accomplish this goal. The graded industrial framework is developed to remove students from education who do not respond to standardized education. This is achieved via grade level testing, which leaves children behind who are not developmentally ready to be pushed through a system of promotion and retention without full consideration of the child’s innate cognitive and social emotional needs. Where is the response to children’s need for individual development? The system searches for outliers, and a bell shaped curve will always illustrate failure. Standardized testing under NCLB produces winners and losers, and as Eisner (2005) stated, “We Americans are very much interested in our position in a distribution. Doing well means, in practical terms, doing better than one’s neighbors”

(p.14). The age old expression where a square peg will never fit in a round hole applies to the means-end model of our current educational system. Graded systems by their very nature cannot achieve success because the means by which they are structured do not follow the goal of leaving no child behind.

The public graded system was established with predetermined standards, curriculum, letter grades, and retention/promotion practices in an effort to boost test scores and homogenize student outcomes (Aina, 2001). Standardization of children in school districts nationwide provides a competitive-comparative student performance data evaluation system which is required under the federal *No Child Left Behind* (NCLB) legislation, allowing for assessments of educational effectiveness and, according to Anderson (1993), fuels the American culture of competition (Eisner, 2005).

The performance data of schools is based on conjecture: the efficacy of the graded structure of schools. In fact Anderson (1993), a leading educational researcher finds it “strange that the graded school...and its relatively primitive assumptions about human development and learning, has held its ground this long” (p.10). Anderson and other researchers (Elkind, 1987; Kasten, 1998; Levenson, 1977; Williams & Strangis, 2002) agree the current graded organizational framework does not support theories of child learning and development. In the current graded system “uniformity and efficiency become hallmarks” of education in America (Eisner, 2005, p.17). According to Eisner, in the United States students are raced towards an academic finish line, modeling the competitive culture of society, where the winners are considered to be more intelligent. Can the values of a competitive dominant culture, which favors speed and competition,

be removed from education? Will the pace of each child be enough to satisfy our educational system? Will structural practices change to meet the biological needs of children?

The Nongraded Alternative

In contrast, the nongraded system of education abides by the fundamental developmental learning theories of Vygotsky, Piaget, Gardner, and Bandura. As such, nongraded education responds to the vast educational research promoting the efficacy of developmentally appropriate practice (DAP).

DAP as coined in 1986 by the National Association for the Education of Young Children (NAEYC) is defined in their 2009 position statement as, “grounded both in the research on child development and learning and in the knowledge base regarding educational effectiveness... practice(s) that promote...optimal learning and development” (p. 1). Based on the nature of children, DAP is focused on biological as opposed to physical time. DAP acknowledges children grow at different rates not only in regards to physical measurements such height: but also in their mental and psychological processes (Elkind, 1987).

Noncognitive Rationale

A review of noncognitive rationale serves as a foundation toward achieving a deeper understanding of the reasoning behind the nongraded education movement. It is important to note that studies in the field are dated, with the majority of research spanning the 1960s to 1990s. At the onset of 2000, research studies became limited and commentaries on multiage education appeared with titles such as “Once-Popular

Multiage Grouping Loses Steam” (Jacobson, 2003, p.1). With the enactment in 2001 of a standards-based educational reform titled No Child Left Behind (NCLB), nongraded education was held to rigid yearly graded standards (Pardini, 2005). According to Grant, at the onset of NCLB multiage programs began to wane because “teachers and administrators...felt compelled to “teach to the test”...it’s easy to understand and sympathize with teachers whose jobs are on the line because their test scores are going to be published” (as cited in Pardini, 2005, p.27-28). Therefore, nongraded programs were reduced in an effort to meet the yearly performance standards of NCLB, as revealed by the sparse literature on nongraded education over the past 10 years.

Retention, promotion, and ability tracking. From the early literature, one of the best summaries of the nongraded educational rationale is found in a Virginia state policy brief:

It’s a change from conformity to diversity; from sequential, step-by-step approaches to self-paced and developmentally paced approaches; from age and ability grouping to multiage, multiability grouping. It means moving from the notion that the child should fit the school to a notion that the school should fit the child, from segregating special programs to integrating special programs, from competition to cooperation, and from failure-orientated to success-orientated schools. (Policy Briefs, 1991, p.3)

The underlying belief of nongraded education is that a child’s chronological age should not be used as a system of classification to be equated with the cognitive, social, and emotional capabilities of the student. In the traditional graded classroom children are homologous in age, establishing norms in terms of the student’s ability. Students are compared to one another based on grade level expectations, creating a bell curve of low, average, and high performing students. This sets the stage in the graded classroom for

issues of promotion, retention, and ability tracking. For researchers (Cohen, 1989; Gutiérrez & Slavin, 1992; Shepard & Smith, 1989) retention and ability tracking are two factors in particular which relate to failure in children. Ability tracking is seen in elementary groupings with students who are at the same level within a classroom, for example in math and/or reading. At the middle and high school levels students are segregated into separate classrooms which match their ability level in varying subjects.

Proponents of graded education argue that segregation based on age and ability is acceptable because children from nongraded and graded classrooms receive the same level of education via the employment of developmentally appropriate practices (DAP), a “consistent factor” in “positive achievement outcomes” (Kinsey, 2001, p.1). While segregation of students based on aptitude may appear appropriate, it is contrary to developmentally appropriate practice and cognitive learning theory where a heterogeneous grouping of students is essential to benefit from educational scaffolding within the zone of proximal development (“Developmentally Appropriate Practice”, 2009; Vygotsky, 1978).

Ability tracking still occurs at all grade levels, with students above the norm being recommended for gifted and talented education (GATE) and/or permitted to skip a grade level, whereas students who are below the norm face retention, promotion to the next grade level for which they are not prepared, and/or referral to special education testing (Pratt, 1986). According to Elkind (1987) young children are particularly at risk for failure in kindergarten where the youngest students commonly perform below their older classmates. Achievement data from one study suggested that children entering first grade

can vary in aptitude by four years (Goodlad & Anderson, 1987). As a result, developmental kindergarten (2 years), transition classes before 1st grade, retention, and screening tests such as the Gesell have all been utilized to ensure that the child is ready for the school. However, Elkind (1987) contended, “the problem is not in the child but rather in the mismatch between the child and the curriculum” (p. 2). Therefore according to researchers (Anderson & Pavan, 1993; Franklin, 1967; Goodlad & Anderson, 1987; Song et al., 2009) graded education with its rigid set of curriculum and age related standards does not respond to the developmental needs of students and abandons the needs of both high and low achievers. Does graded education’s focus on age curriculum requirements affect drop-out rates? While research is limited, an early study by Chalfant (1972) showed a significantly lower drop-out rate in nongraded secondary schools, warranting future studies in this area.

Cooperation versus competition. In nongraded classrooms, students learn in an environment without reference to grade level norms. According to Goodlad and Anderson (1987) ungraded education is a process where children are met at their current level and provided a DAP via individualized instruction, so learning and not failure can take place. Each student is challenged at their own stage of development with no set time limit, so there are no ability tracking, promotion, or retention issues, and the need for student school readiness testing and transitional programs becomes irrelevant. Also, curriculum is integrated and matched with individual student interests. Assessment is continuous, varied, and comprehensive instead of being solely test driven (Goodland & Anderson, 1987). Student performance is not compared and as a result there is no sense

of high and low ability: failure is simply not recognized (Anderson & Pavan, 1993). As one researcher states, “In multiage settings children are expected and encouraged to learn at different rates and levels” (Aina, 2001, p.223). As a result nongraded classrooms foster cooperation as opposed to competition (Elkind, 1987; Katz et al., 1990; Policy Briefs, 1991).

Cooperation is also fostered by grouping children of varying ages, a combination which occurs most commonly in human nature (Kasten, 1998; Konner, 1975; Rogoff et al., 2003). In numerous research studies (Anderson, 1993; Elkind, 1987; Katz et al., 1990; Logue, 2006; Noddings, 2005; Pratt, 1986; Song et al., 2009; Veenman, 1995) comparing same age and mixed age students, mixed age groupings children were significantly more altruistic, caring, cooperative, and less aggressive. According to Pratt’s (1986) review of past research, children made friendships based on similar developmental levels, not age, and as a result more relationships developed in nongraded classrooms. This is important as socially withdrawn children are known to be at risk for future psychiatric disorders (Pratt, 1986).

Peer tutoring. Another rationale behind nongraded education is that mixed age groupings allow for Vygotsky’s zone of proximal development to take place. As such students at different developmental levels are able to scaffold information for one another which alone they could not grasp. According to Cohen, Kulik, and Kulik (1982) students achieve a higher level of achievement when peer tutoring occurs among students of different ages, as opposed to same age tutoring. Peer tutoring in nongraded classrooms is a major educational tool that occurs spontaneously between students, as well as in group

learning experiences designed by the teacher (Kasten, 1998). The most common criticism of multiage groupings is made by parents of developmentally advanced learners who fear their child will become a teacher, and not a student in the classroom (Kasten, 1998; Pratt, 1986). However, according to research (Elkind, 1987; Katz et al., 1990; Schrier & Mercado, 1994) the tutors gain caretaking behaviors, leadership skills, communication skills, and intellectual skills in the process of explaining their knowledge to others. At the same time the tutee not only receives the knowledge imparted, but also social skills and benefits from cooperative interaction as modeled by the tutor.

Environment. According to Maslow's (1970) hierarchy of human needs, an individual's ability to learn is impeded until their physiological, safety, and security needs are met. In classrooms children can feel threatened by the experience of a new environment, which includes teachers and peers at the onset of each school year, such that learning cannot take place until the child feels secure in their environment (Papay, Costello, Hedl, & Spielberger, 1975). According to medical research by Quas, Murowchick, Bensadoun, and Boyce (2002), during times of school transition children experience stress which causes their hypothalamic-pituitary-adrenocortical (HPA) axis, part of their neuroendocrine system, to release high levels of the hormone cortisol. Increased activation of the HPA axis is associated with, "poor immune functioning...negative emotionality, social inhibition, and shyness, all of which can lead to difficulty during transition" (p. 304).

Researchers believe measures to relieve student stress in order to promote learning are fostered in the nongraded classroom. Burts et al.'s (1992) study determined

students in classrooms that employed developmentally appropriate practices (DAP) such as nongraded education, were less likely to experience stress when compared to non DAP classrooms. Another stress reducer in the nongraded classroom is the presence of the same instructor for two or more years. Studies have shown that students in nongraded classrooms are more secure and comfortable in their already familiar environments when they begin a school year, as opposed to their graded peers (Fu et al., 1999; Papay, Costello, Hedl, Speilberger, 1975).

According to a study by Way (1981) multiage students scored significantly higher on “Happiness and Satisfaction Factors” than their single aged student counterparts. Way concluded that teachers were able to form stronger teacher-parent connections, understand each student’s development and personality at the onset, plan appropriate individualized curriculum over summer, and experience fewer discipline issues when compared to single-age classrooms. As a result nongraded educators were able to avoid typical beginning of the year introductions and instead could focus immediately on instruction. For parents, teachers, and students the nongraded classroom provided a less stressed environment representing familiarity and comfort (Anderson & Pavan, 1993; Elkind, 1987; Logue, 2006; Miller, 1994).

Socioemotional development. Whether it is a combination of rationale or separate factors such as environment, students in nongraded education appear to be more social and emotionally developed than their graded peers. In an analysis of 30 studies completed by Pratt in 1986, none showed a negative association between a nongraded student’s self-concept and attitude toward school. A later meta analysis by Lloyd (1999)

found a significantly positive effect in student's attitude toward school and students were "more advanced" in "interpersonal intelligence" than their peers in age-segregated or "straight" classes" (p.190). A higher self-concept and positive attitude toward the nongraded school melds with Noddings' (2005) "ethic of care" where such characteristics are visible when a school is able to "nurture the whole child" (p.10).

Noncognitive summary. According to Lloyd's 1999 meta analysis, in both the academic and affective realm of multi-age students no negative aspects were associated with nongraded education. In fact according to Kinsey's 2001 review, studies consistently reported positive outcomes in the noncognitive realm such as, "more positive attitudes towards school, greater leadership skills, greater self-esteem, and increased prosocial and fewer aggressive behaviors, compared to peers in traditional graded classrooms" (p.1). Due to these studies it is important to reconsider nongraded education as a positive alternative to the graded system, for as Pratt (1986) suggested, "conventional structures though sanctioned by a century of familiarity, must be questioned if they stimulate rivalry, aggression, and isolation, for no apparent advantage" (p.114).

Cognitive Rationale

Quantitative research studies. The first study of nongraded education was completed by Crosswell in 1897. He concluded that the graded system in the cities was superior to the ungraded system in rural areas of the nation based on his observation that the ungraded students were less knowledgeable on basic facts such as addition of fractions and grammar (Crosswell, 1897). Following Crosswell, several hundred studies

have been completed on multi-grade, multiage, graded, and nongraded educational systems. In the 90s two best-evidence syntheses stand out as the most highly cited and inclusive literature reviews: Gutierrez and Slavin in 1992 and Veenman in 1995.

Gutierrez and Slavin (1992) focused their review on quantitative studies dating back to 1958. They compared the achievement of nongraded students on standardized tests in relation to their graded peers. In the evaluation the authors reported, “every effort was made to obtain every study ever reported” that included evaluations of “nongraded, ungraded, multiage, or Individually Guided Education programs in grades K-6” (p. 341) that utilized standardized measurements, random or matched assignment of students, and programs which were in place for a minimum of one semester. Studies meeting the researcher’s criteria were then placed into categories based on their instructional methods: nongrading of one subject, nongrading of multiple subjects (comprehensive), nongrading with individualized instruction, individually guided education, and studies lacking instructional descriptions.

According to Gutierrez and Slavin (1992) 14 of the studies were considered comprehensive nongraded programs. In all 14 studies not one found, “significant differences in favor of the graded plan” while “almost all of its (nongraded plan’s) positive results were significant” (p. 352). Yet in the nongrading with individualized instruction, which included one-on-one programmed instruction and student activity packages, no significant differences in academic achievement were found. The researchers noted, however, that the longer the duration of the individual instruction program, the more positive the effect on academic achievement.

Due to the mixed results found by Gutierrez and Slavin (1992) based on teaching method, their analysis of nongraded programs emphasized the need for researchers to categorize studies by instruction type. One major critique of the Gutierrez and Slavin (1992) review is its exclusion of qualitative studies (Lloyd, 1999). However, it remains unclear how academic achievement can be measured without numeric assessment.

Veenman in 1995 completed the most highly cited study in the field, a meta-analysis of both “cognitive and noncognitive effects of multigrade and multi-age classes” (p. 319). The purpose of the study was to answer the question, “What are the actual effects of multigrade or multi-age teaching on student learning?” (p. 324). Veenman utilized the review method established by Gutierrez and Slavin (1992), which entailed collecting all research on the topic and applying specific methodological criteria to each study. As a result Veenman included studies that evaluated the effects of the independent variables multi-age and multigrade groupings, on the dependent variables including cognitive and noncognitive achievement. In order to narrow the range of the study to match the scope of the current project, only Veenman’s portion involving the cognitive effects of multi-age classrooms are discussed.

Using effect size which measures the strength of a relationship between the independent (multi-age) and dependent (cognition) variables, Veenman (1995) determined that no significant differences were present in academic achievement between multi-age and single-age classes. The strength of his results were in the application of strict methodological criteria as well as his inclusion of world wide studies. However, according to a major critique of his article by Mason and Burns in 1996, Veenman’s

“simply no worse and simply no better” (p. 307) conclusion is fraught with uncertainty because it does not account for the formation or instruction involved in each classroom. Mason and Burns argued that when class formation is taken into account, multi-age classes have a slightly negative effect on cognition. Within months of their article Veenman (1996) responded to their claim and acknowledged the need for future studies to review classroom instruction. However, he refuted the negative association between multi-age and academic achievement by showing an effect size of essentially zero and a high interval of confidence which eliminated any negative conclusion.

Veenman’s (1996) statistical defense of his results is valid and this study cannot be ignored in a review of the literature. However, Veenman’s conclusion of no achievement differences between multi-age and graded classrooms are inapplicable to the current study, as he does not include nongraded classrooms in his study stating, “nongradedness was generally excluded” because it represented a “philosophy of education that permeates the entire school organization and program” (p.325).

Since the last meta-analysis by Veenman in 1995, few primary research studies have been published in journals on multi-age classrooms. Three of these studies (Burns & Mason, 2002; Mariano & Kirby, 2009; Wilkinson & Hamilton, 2003) reviewed combination/multigrade classrooms, which were created out of an economic necessity, rather than an impetus that was philosophical or pedagogical. These classrooms were not similar to nongraded or even multi-age education. Two more studies, one by Aina (2001) and the other by Logue (2006), included nongraded classrooms but employed a qualitative observational lens in the analysis. Two studies by Ong, Allison and Haladyna

(2000) and Fosco, Schleser, and Andal (2004) provided a quantitative assessment of reading achievement in both the nongraded and single grade classrooms.

The Ong et al. (2000) study investigated achievement of Title I students in third grade in reading, writing, and mathematics in a multiage versus single-age setting. This study is similar to the current study in many ways. Schools were selected that contained both multiage and single-age classrooms, reading achievement was measured through state standardized testing, and test data was obtained without student identification in a quasi experimental ex post facto design. The results of the study showed that multiage students performed higher than single-age students in reading, writing, and math. In terms of Title I no significant difference was apparent between the performances of Title I students in multiage versus single-age classrooms.

Overall the Ong et al. (2000) study was well designed and implemented. However, their measure for the state standardized assessments in reading and writing included integrated performance which required the use of a general rubric. As a result the alpha reliability for their assessments of reading and writing were .74 and .68 respectively. The researchers acknowledged the low reliability of the measures, but anticipated with statistically significance results, the low reliability would be overridden.

In the second quantitative study cited earlier by Fosco et al. (2004) differences in cognition were examined in multiage versus traditional kindergarten through second grade classrooms. The main focus of this study was to identify the cognitive developmental level differences of each child in multiage and traditional classrooms and view “the effects of their cognitive developmental level on reading ability” (p. 4). Fosco

et al. developed their study in light of a previous study by Cromey in 1999 which produced significant results showing that multiage students performed at higher cognitive developmental levels when compared to their traditional peers. The Fosco et al. study also contained similarities to this current research study. The students in multiage and traditional classrooms were matched based on age and gender, the study included a longitudinal scope (3 years), and students in each group only had experiences of one type of classroom.

The results of the Fosco et al. (2004) study indicated that children in the multiage settings achieved cognition at a faster rate and were functioning at higher cognitive levels when compared to their traditional classroom peers. Also, students at higher levels of cognition scored significantly higher on the Wide Range of Achievement Test-3 (WRAT-3) a measure of reading achievement, while at the same time no achievement difference was evident between multiage and single-age students. Fosco et al. explained the lack of variation in reading ability by the fact the WRAT-3 only measured word recognition, which can be memorized and not “sounded out” using phonics (p. 15). Therefore, true reading ability beyond memorization could not be accurately assessed, and a new reading measurement was recommended for future studies.

CONCLUSION

Due to the historical graded educational structures, individuals for the past hundred years in the United States have progressed through age-segregated schools, making the graded system appear appropriate and universal to the point that mainstream society no longer questions its legitimacy (Gramsci, 1971). Yet, graded education is not

universal, even though many educators cannot envision schools without grade levels (Connell, 1987; Pratt, 1986). Multiage schooling is on the decline in the United States due to the grade level restrictions of No Child Left Behind, while in Europe, Canada, and parts of Asia it is on the rise (Pardini, 2005). In Ireland, multiage educators were able to eliminate standardized testing and instead assess students based on individual curriculum not linked to a grade level benchmark (Mulryan-Kyne, 2005). In both England and New Zealand nongraded teachers have individual academic plans for each child and students progress at their own pace, unaware of retention and promotion practices. Children proceed to new levels of learning by achievement rather than by age (Connell, 1987). In nations such as Australia, New Zealand, Netherlands, Finland, and Canada with the highest literacy rates in the world, nongraded classrooms are common and even mandated (New Zealand and Netherlands Antilles) educational practice (Aina, 2001; Song et al., 2009). According to the most current 2009 study by the global Organisation for Economic Co-operation and Development (OCED), Australia, New Zealand, Netherlands, Finland, and Canada significantly outperformed the United States on reading, math, and science (“PISA 2009 Results: Executive Summary,” 2009)

Since there can be no magic formula or one size fits all standardized education, nongraded education is a socially just alternative to the graded school system. The goal of this presentation has been to shed light on an alternative, utilizing research to determine which educational structure leads to the highest level of student success.

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