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The effects of multiage grouping on primary students

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Abstract

This study analyzes the literature regarding the appropriateness of grouping children in multiage groups. The term multiage groups is defined here as the deliberate assembling of pupils together who are of, at least two or three chronological age groups.

Three issues are discussed in this regard: (1) What are the characteristics of the multiage approach? (2) Why is the multiage grouping approach becoming more popular? (3) What are the standards which would be applied when assigning children to multiage groups?

The history of multiage groups is addressed as well as the characteristics and reasons for the return in popularity of multiage groups. The standards for teachers and students in the multiage setting are indicated. The appropriateness of grouping primary children in multiage groups is presented.

The Effects of Multiage Grouping on Primary Students

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by

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CHAPTER 1

INTRODUCTION

Graded elementary schools are regarded by some educators as having limitations. (Fiske 1992) indicated multiage groupings are once again being discussed as the solution to problems of a graded approach to education. Graded schools have limited options available for students who attended them (Anderson & Pavan, 1993). The narrowness of the graded structure does not always fit individual needs (Anderson & Pavan, 1993). With teachers becoming better educated concerning individual needs of students, these professionals are planning programs which have greater flexibility.

In the past, flexibility was provided with the one room schoolhouse which consisted of several grade levels that were taught by one teacher. There were many benefits for children in these schools. By being in close proximity to the learning of others,

students were able to learn and review skills both directly and indirectly. Flexibility is also observed in homes with children of different ages. Children who are tended by caregivers in home settings profit from this type of contiguous learning. One advantage of multiage grouping is that teachers are permitted to work with students for longer periods of time (Katz, 1991). In the multiage setting, teachers and students continue to work in the same environment for more than one year. Teacher expectations, peers, and the environment are familiar to students. There has been a close relationship between nongraded schools and the multiage grouping approach in schools. In the past the ungraded elementary school, which was also known as a nongraded and continuous progress school, used a multiage grouping approach. Miller (1967) defined the nongraded school as a school which has eliminated formal grade barriers. This elimination implies that the focus of student progress in these schools is on individual student ability and development rather than on the comparison of one student to another.

Multiage groups contain two or more grade levels. Lollie (1993) stated that multiage groupings are purposeful, well planned groupings of children, and they are not combined classes with separate curriculums. These nongraded classes are organized with concern for heterogeneity in gender, ability, interests, and age levels. Elkind (1987) discussed multiage grouping as a way of organizing classrooms to accommodate different levels of maturity. Pavan (1977) has stated that the true philosophy of nongradedness is the belief that individuals are unique and require different treatments to reach their maximum growth potential.

In his discussion of the history of multiage groups, Miller (1990) indicated that the ungraded school was open education in the 1960's and 1970's. The outcome of the innovative efforts in the 1960's and 1970's is that teachers needed to be educated to teach more than one grade level. In doing this teaching, a great deal of work and commitment were involved, and teachers were unprepared thereby leading to the demise of many of the open education schools.

Unfortunately, the tradition of graded schools and the instructional organization as a norm created a handicap for those seeking to operate a multiage school.

According to Pratt (1986), the graded school came into being when Horace Mann, Secretary of the Massachusetts Board of Education, visited schools in Prussia in 1843. Graded schools involved the separation of children by chronological age or the ability of skills. These graded schools were compared favorably with manufacturing practices of the Industrial Revolution. By the 1850's Horace Mann's views were widely accepted. Lollie (1993) has suggested that the influx of immigrants at this time made it more beneficial for the graded structure than the original multiage settings.

The Quincy Grammar School, founded in Boston in 1848, was the first graded school. The building was unusual for its day. Each teacher had a separate room. Students were placed in classrooms by achievement levels (Anderson and Pavan, 1993). Schools prior to this time had multiages in one classroom.

By the mid-twentieth century, classrooms were segregated by age more than ever before, and it was not until 1959 that the first major challenge to this type of grouping occurred (Goodlad and Andersen, 1959). Goodlad and Anderson further stated that by grouping children by one homogeneous criterion (age), one does not get a homogeneous group. "Teachers who proceed as though their class is homogenous are fooling themselves and cheating their pupils" (p. 17).

The multiage grouping approach is not new to the early childhood setting. This type of structure allows children to group themselves the way they do outside of school. They group themselves on the basis of compatibility and common interests (Day 1975). With this understanding, many schools today are coming back to this belief.

Purpose of the Study

The purpose of this study is to analyze the literature to determine if the multiage approach is an appropriate means of

grouping primary children. This purpose will be achieved by addressing the following questions:

1. What are the characteristics of a multiage grouping approach?
2. Why is the multiage grouping approach becoming more popular?
3. What are the standards which would be applied when assigning children to multiage groups?

Limitations

Limitations include the lack of current quantitative and qualitative research as well as the unavailability of longitudinal studies. Another limitation is the limited resources available at the university level.

Definition of Terms

The following terms were used in this study as defined here.

continuous learning or continuous progress: A student's unique progression through skills and development at his/her own rate without comparison to others.

cooperative learning: The instructional use of small groups so that students work together to maximize their own and each other's learning (Johnson, Johnson & Holubec, 1990).

developmentally appropriate education: Children develop and progress at different rates, and skills develop at different times. Because individual learning occurs at different times, individual learning expectations need to vary according to the child.

heterogeneous grouping: The age difference between the oldest and youngest child is not less than two years.

homogeneous grouping: A group of children who spend the majority of their day together in which the youngest child is no more than 18 months younger than the oldest.

integrated curriculum: A curriculum which cuts across subject areas, bringing together subject areas and content areas. It sometimes revolves around a theme.

multiage grouping: Deliberately assembling pupils together who are of, at least, two or three chronological age groups.

nongradedness: A system of organization where grade levels have been removed from a minimum of two grade levels. Children advance through sequenced curriculum at their own rate. (Goodlad & Anderson, 1959).

standards: To bring to a uniform level of quality.

peer tutoring: Students helping each other master academic material.

team teaching: More than one teacher planning, implementing, and evaluating instruction.

whole language: A philosophy of teaching language skills in which speaking, writing, and reading are not isolated from each other. Language is taught as a "whole", and not as isolated skills.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Characteristics of the Multiage Grouping Approach

Multiage groupings adhere to certain characteristics. These characteristics have been discussed by different educators. One group which has given attention to these characteristics is the American Association of School Administrators, in the monograph entitled, The Non Graded Primary: Making Schools Fit Children (1992), this organization has stated that multiage grouping must involve certain elements.

The nongraded primary school includes developmentally appropriate curriculum for primary age children. This curriculum is designed to meet individual needs and for children to help one another learn. Children are grouped heterogeneously in that they are in a class with other children of various abilities and with different age levels. Student's development is a continuous process and not linked to age or grade level. Commitment to the whole child, rather than

sole concentration on academics, is advocated. The children's emotions and social interactions are as critical as academics. When students emotional and social needs are met, successful learning occurs (Hanson, 1989). This successful learning includes student involvement and hands-on activities. The teacher is a facilitator who guides instruction. Curriculum is organized to provide emphasis on the process of learning. How the child arrives at the answer is as important as the answer. Curriculum is integrated; there is a connection among subjects. Traditional instructional structures that inhibit learning, such as fixed ability grouping, grade levels, retention and promotion, are not part of the multiage approach.

Evaluation is also a continuous process. Evaluation involves the use of a variety of gathered data. Portfolios, anecdotal records, samples of student work, as well as formal evaluation measures are the sources of this continuous assessment (Goodman, 1989).

Anderson and Pavan (1993) agreed with the above characteristics, and

in addition, emphasized that the teaming approach to instruction is also a vital part of the philosophy of multiage grouping approach.

Sands & Kerry (1982) indicated specific characteristics of successful teachers of mixed ability groups. The first characteristic they mentioned is flexibility. Effective teachers, they suggested, are prepared, knowledgeable, organized, not too dominant, aware of social interactions and groups, know the standard for achievement for each student, and accept each pupil as an individual.

The characteristics of the multiage grouping approach are noticeably positive. The child has the opportunity to be with familiar people and in familiar settings for an extended period of time (Katz, 1991). Stereotyping of children is reduced. Children are not separated by grade levels, chronological age or ability. Parents and teachers build a strong relationship. Students learn from the positive modeling provided by other students in the group (Anderson & Pavan, 1993).

Reasons for the Return in Popularity of the Multiage Grouping Approach

Education is changing. Multiage groups are surfacing again (Anderson & Pavan, 1993). The teacher's role has changed a great deal over the last ten years. Teachers are no longer teaching from teachers manuals which dictate every word. They are planning lessons based on the interests of students. These interests are closely tied to the standards of curriculum which the school district considers critical. Teachers are no longer lecturing and then testing over lectured material with a paper/pencil tasks (Hanson, 1989). These professionals are spending more time observing and reflecting on individual children and individual skills.

Educators prefer this new flexibility. This flexibility contributes to the popularity of the multiage grouping approach. Teachers facilitate learning by guiding children in activities which are more meaningful (Goodman, 1989). With less emphasis on textbooks, there is less stress on covering what textbook publishers judge to be

important. Teachers feel empowered to make the necessary decisions for students.

A great deal of the change which has occurred within the last ten years is also due to the effect of our adoption of developmentally appropriate educational practices (Bredekamp, 1987). The whole language classroom stresses all aspects of the child. A child's progress is viewed in terms of his/her own goals rather than goals of others (Goodman, 1989). Aulger, Baker, and Copeland (1982) have supported the premise that children do not need to be compared to others for assessment purposes. Also, they have noted that traditional education has become a damaging contest for the student rather than a supportive system.

Lillian G. Katz, Demetra Evangelou, and Jeanette Allison Hartman in the book, The Case for Mixed-Age Grouping (1991) advocated the return to mixed-age grouping. One of the reasons cited for the failures of this type of grouping in the 1960's and 1970's was the negativity of parents (Uphoff & Evans, 1993). They also stated

that it was a mismatch between methods and curricular expectations, such as teaching in this new way, but still pacing through workbooks. They further observed that there is currently a match because of the emphasis on whole language, hands-on activities, and literature-based reading in instruction and activities which were not used in schools in the past (Uphoff & Evans, 1993). Fiske (1992) indicated that the failure of mixed groupings in the past existed because the manner in which the lack of structure in these classes was perceived. Today, we know how children learn best, lack of structure is more acceptable.

Mazzuchi & Brooks (1992) have claimed that time is advantageous to children because they are at varying levels of maturity and skill development in their lives. They further observed that when children are given the opportunity to be placed in a familiar setting with the same teacher and with some familiar children, students will select this setting because it provides comfort, security, and fosters learning.

Pratt (1986) challenged the recent emphasis on the multi-grouping approach by suggesting that small and medium sized schools had combined grades because of smaller class size and enrollments rather than because of a desire to improve the educational opportunities for children. This practice of combining grades is an economic solution as opposed to an educationally sound decision. Teachers who find themselves in this situation may not support multiage grouping philosophy. They may also lack the proper training to make it work.

The popularity of the multiage approach to grouping children is beneficial to teachers and students. Teachers are more willing to try this organizational approach because it is a more natural way of teaching. Teachers using this approach see their students performing successfully in learning tasks. They are thankful the multiage approach gave them the freedom to teach in the way that best met students' needs (Robertson, 1994).

Teachers who use the elements of the multiage grouping approach find they have the freedom to monitor the individual students more closely. Peer tutoring also frees up the teacher to allow for this benefit. Teachers can see the benefits this environment has on children. Children are under less stress and free to follow their interests (Gaustad, 1992).

The return of the multiage group approach is a result of how we look at students today, as well as the utilization of appropriate methods of instruction. In the past, curriculum did not match the needs of multiage groups. Today, individual progress is assessed rather than group comparisons (Goodman, 1989). This philosophy manifests itself in all curriculum areas.

One of the elements which teachers find beneficial is team teaching. Teachers who team teach share and learn from other professionals (Anderson and Pavan 1993). Team teaching can lighten the load in a diverse classroom.

Our culture today views children and adults with more acceptance. The philosophy of trying to do a better job meeting individual needs is more prevalent than in the past (Bredekamp & Rosegrant, 1992). This philosophy, as well as the benefits for teachers and students mentioned above, contributes to the return and popularity of the multiage grouping approach.

CHAPTER 3

STANDARDS WHICH SHOULD APPLY TO THE MULTIAGE GROUPING SETTING

It is apparent that we can learn from our educational mistakes. Historically, there were some problems which caused the failure of multiage grouping in the 1960's and 1970's. A great deal of the failure was due to the mismatch of instruction and assessment. The curriculum needs to match student interests with the appropriate form of assessment (Goodman, 1989).

There is a level of expectation and/or standards for the multiage approach to grouping. It is important to adhere to a uniform level of quality or standards for this approach. This chapter will focus on standards for teachers, standards for the student, and standards for the setting.

Freedman (1981) concluded that decisions concerning the grouping of children depend on the program goals, client population, and building resources. In addition, educators must give attention to

teacher training. She further stated that the support of teachers and administrators is critical if the type of grouping which is chosen is to succeed.

Standards applied to the teacher's role are numerous. Teachers in the multiage grouping setting must prepare for various levels of students (Robertson, 1994). Teachers must meet individual needs rather than group needs, as in the past. There is a greater demand on teachers because of the variety of student achievement levels. Team teaching in the multiage setting helps with this problem (Anderson and Pavan, 1993). Team teaching offers a variety of methods and expertise to children. Working together with other professionals shares the work load, as well. Time for planning is critical for teachers to become effective team members.

Sand & Kerry (1992) noted flexibility as a standard for teachers in the multiage setting. The flexible teacher adapts to academic and social needs of children. This is done with resources, grouping and questioning skills. Anderson & Pavan (1993) suggested teachers

facilitate learning by helping students formulate goals. Educators need to stress process learning with the skills of learning to learn (Gaustad, 1992). Using inquiry, evaluation, interpretation, synthesis, and application helps children with process learning. Also, Gaustad (1992) suggested teaching in thematic units, integrating several subjects rather than isolating subjects. This project type approach uses time more wisely and connects subject matter closely together (Katz, 1991).

Teachers need to provide students with opportunities for cooperative learning. Children who work cooperatively in small groups are more likely to gain confidence and social skills. When older students help younger students, it is a positive experience for all (Johnson & Johnson, 1990). The younger students benefit from the knowledge and language skills of the older students, while the older students internalize the skills by verbalizing them to the younger students (Gaustad, 1992). It is not good enough to merely place two students together as a group. With teacher guidance, students gain a

great deal of academics from each other just as they can from the teachers. (Gaustad, 1992).

A teacher who is meeting standards for an effective multiage setting also provides many concrete and hands-on materials to ensure active involvement by students. When students are actively engaged in activities, the information is more likely to be retained (Freeman and Freeman, 1989). Teachers are responsible for providing a broad range of experience for children. These experiences may go beyond the traditional educational setting because they must be carefully planned to meet student interests (Gaustad, 1992).

The professional in the multiage setting also has high expectations because children are continuously evaluated (Goodman, 1989). The methods used for this on-going evaluation involve multiple data sources such as portfolios, anecdotal records, samples of student work, as well as formal evaluation measures. Goodman (1989) has suggested that the types of assessments stated above cater to all aspects of the child because the hands-on activities which occur

in multiage settings require authentic assessment of real-life abilities. When students are exposed to these educational standards by educators in the multiage setting, purposeful and meaningful learning takes place (Freeman & Freeman, 1989).

The monograph entitled, The Nongraded Primary: Making Schools Fit Children (American Association of School Administrators, 1992), contended that the role of the teacher is one of facilitator. The teacher models, monitors, observes, and guides instruction. The teacher is more actively engaged in the instruction in a direct and indirect fashion.

Standards for students taught by the multiage approach are also important. Anderson & Pavan (1993) noted that each child needs to develop skills for participation in productive and responsible leadership groups. While working cooperatively with others, students are expected to improve performance and to develop to their full potential. Improving themselves is more important than competing with others. Involvement and participation are critical to learning and

assessment. Miller (1991) recognized the need for the learner to be self-directed. Students should be encouraged to aim for a high level of independence and efficiency. Goodlad & Anderson (1959) indicated that standards exist which encourage pupils to move forward in their developments at their own unique rate. In helping others, they help themselves. When students are explaining a task to others, they internalize the skills. This is called peer tutoring; it is an expectation in the multiage setting (Katz, 1991). These standards for children in the multiage setting foster successful learning.

Standards for the setting of the multiage grouped approach are critical. Gaustad (1992) suggested tables and chairs rather than desks in rows because this arrangement is more conducive to small group and large group activities. Supplies are housed for easy access to children. Robertson (1990) advocates colorful, print-rich and visually rich materials and open-ended activities. Also, she noted the open-ended activities allow for the different levels of development. The

physical arrangement of the multiage grouping setting is child-centered and promotes cooperation, autonomy and independence.

CHAPTER 4

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The purpose of this study was achieved by answering the following questions:

1. What are the characteristics of the multiage grouping approach? The multiage grouping approach involves a very child-centered philosophy as well as a very child-centered classroom. Professionals who educate children in this setting focus curriculum and expectations on the child. In the multiage grouping setting, cooperation rather than competition occurs. Teachers prepare lessons with a variety of activities to allow for the diversity of student experiences. The whole child is considered; academic and social needs are addressed. The heterogenous grouping of children creates a community of learners who are accepting of others (Katz, 1991). The integrated curriculum, often used in the multiage setting, provides meaningful learning of concepts for children, as well as hands-on

activities. Team teaching in the multiage grouping setting allows children the opportunity to be taught by teachers who have different levels of expertise. The evaluation process is continual; it provides the teacher with current data about the children's progress.

The organization of the multiage grouping approach provides many options for students' interests and abilities. Children are free of the rigid structures of ability grouping and grade levels which can inhibit learning. Children have the opportunity to experience a wide range of curriculum options in a positive, nonrestrictive atmosphere. Through the use of peer tutoring, skills are internalized and leadership skills are fostered. Older students set, not only the example of leadership skills for younger students, but also, the examples of language skills.

2. Why is the multiage grouping approach becoming so popular? Today the philosophy of our culture is one that stresses serving others and meeting individual needs. We also are more accepting of individual differences. Recently, education has also

produced some good models for cooperative learning and peer tutoring. These structures were non-existent in the past. We now know what type of organizational structures are more conducive for better learning (Fiske, 1992). Technology, today, is better able to provide the instructional materials needed in the multiage grouping setting. Because whole language and developmentally appropriate educational practices are more evident in classrooms, there is a better match between curriculum, expectations, and assessment. Today, these instructional processes compliment each other. In the past, the curriculum and assessment in the multiage grouping setting worked against each other. Teachers view the multiage grouping approach as beneficial to students and teachers. The community of learners is a positive setting for all.

3. What are the standards which should be applied to multiage grouped settings? The standards which need to be applied to the multiage grouping setting involve teacher standards, student standards, and standards for the setting.

Teachers in the multiaged grouping setting experience many demands. Team teaching and integrating the curriculum not only help the teacher with the work load, but provide varied learning experiences for children as well as more meaningful curriculum for students. The professional must be able to meet student needs and to be flexible with programming.

A wide variety of experiences for children in this setting is necessary. This requires planning time to be used wisely. Teachers need to provide a variety of hands-on activities for children. The learning which occurs in these activities must correlate with school district expectations. As teachers are facilitating learning by meeting these standards, they are also continuously evaluating students. Evaluation is no longer done at the end of a unit; children are evaluated as they learn. In this way, remediation can occur immediately. Teachers pull data from multiple sources; portfolios, anecdotal records, samples of student work, formal evaluation measures.

Students in the multiage grouping setting must also meet standards. They must meet their own expectations and goals, but also need to learn how to cooperate with others, thus improving their performance. By taking ownership of their learning and of their classroom environment, students become autonomous. Students need to become independent learners who, through the utilization of their environment, meet their potential.

The multiage grouping setting has specific standards to meet the needs of students. This setting must be child-centered and inviting to students. The materials and property in the room belong to the children. When these materials are within easy reach of the children, the classroom becomes theirs. The arrangement of furniture in the multiage grouping setting promotes a cooperative, child-centered atmosphere.

Conclusions

There are many benefits of the multiage grouping approach. Education appears to be more ready today for this approach than in the past. The philosophy of our culture today matches with the advantages this type of grouping provides. Society today wants to serve and meet the needs of others. Academic and affective needs are met with the multiage grouping approach. In the past, academic needs took precedence over emotional needs. Today educators believe that if emotional needs of children are met first, then the academic needs are much easier to meet.

Recommendations

In order to keep from making the same errors of the past in utilizing multiage grouping practices, we need to proceed with caution. Recommendations include the philosophical support of the teaching staff. If teachers do not believe in this approach to learning then this approach will not be a successful way for grouping students. This multiage grouping approach could be detrimental to students if it is not

understood and supported by staff members. Educators need to be trained in order to successfully implement this approach. The needs of both the staff and students must be considered in order to make this program successful.

Teacher training must take place; there should be district in-service activities as well as college classes. Future teachers need to be prepared to teach a variety of ages and ability levels at the same time. All teachers need to be trained in developmentally appropriate practices and authentic evaluation techniques.

Teachers need to be provided with plenty of planning time. The teacher's manual is no longer telling teachers what to plan. Teachers need to collaborate on all aspects of the implementation of the multiage grouping approach. This collaboration will lead to a more successful program for teachers and children who are involved in the multiage grouping approach to learning.

An eclectic approach is compatible with multiaged grouping. The needs of children, teachers and buildings are different. The needs

of all of these people need to be carefully analyzed and addressed.

The process of change needs to be approached carefully to ensure success. Children can be exposed to the opportunities of the multiage grouping approach with structured guidance from the teachers.

Teachers can help children guide their own instruction with careful regard to student needs. An eclectic balance is essential to the survival of the multiage grouping approach to learning.

References

- American Association of school Administration, (1992). The nongraded primary: Making Schools fit children. (Monograph.)
- Anderson, R.H. & Pavan, B.N. (1993). Preface, Nongradedness-helping it to happen Lancaster, PA: Tecnominc Publishing Company
- Aulger, L., Baker, L., & Copeland, K. (1993). Multiage classrooms; Option to an outdated system. In D. Sumner(Ed.), Multiage classrooms: The ungrading of America's schools-Multiage resource book (pp. 32-33). Peterborough, NH: Society for Developmental Education.
- Bredenkamp, S. (Ed.). (1987). Developmentally appropriate practice in early childhood programs serving children from birth through age 8. Washington, DC: National Association for the Education of Young Children
- Day. B. (1975). Organizing for effective learning. Open learning in early childhood (pp. 8-9). New York, NY: Macmillan.
- Elkind, D. (1993). Multiage grouping. In D. Sumner (Ed.), Multiage classrooms: The ungrading of America's schools-Multiage resource book (p. 11). Petersborough, NH: Society for Developmental Education.
- Fiske, E. (1992). Smart schools, smart kids. New York, NY: Touchstone.

- Freedman, P. (1981). A comparison of multiage and homogenous age groupings in early childhood centers. Washington, DC: National Institute of Education. (ERIC Document reproduction Service No. ED 207 673)
- Gaustad, J. (1992). Nongraded education: Mixed-age, integrated, and developmentally appropriate education for primary children. Eugene OR: Oregon School Study Council, University of Oregon. (ERIC Document Reproduction Service No. ED 343 227)
- Goodlad, J.I., & Anderson, R H. (1959). The child and procrustean standards. In W. B. Spaulding (Ed.), The nongraded elementary school (p. 17). Burlingame, NY: Harcourt Brace & World.
- Goodman, Y.M. (1989). Evaluation of students. In K.S. Goodman, & W.J. Hood (Eds.). The whole language evaluation book (pp. 3-14). Portsmouth, NH: Heinemann.
- Goodman, Y.M. Goodman, & W. J. Hood (1989). (Eds.) The whole language evaluation book (pp. 263-272). Portsmouth, NH:Heinemann.
- Hanson, G. R., (1989). Evaluation of students. In K. S. Goodman, & W. J. (Eds.). The whole language evaluation book.(pp.263-272). Portsmouth, NH: Heinemann.
- Johnson, D.W., Johnson, R.T., & Holubec E.J., (1990). Cooperation in the classroom. Edina, MN: Interaction Book Company.
- Katz, L.G., Evangelou, D & Hartman, J.A., (1991). The case for mixed-age grouping in early childhood education. (2nd ed.) Washington DC: National Association for the Education of Young Children.

- Lollie, E. (1993). Multiage: Why it's needed. in D. Sumner (Ed.), Multiage classrooms: The ungrading of Americas's schools-Multiage resource book (pp. 15-16). Petersburg, NH: Society for Developmental Education.
- Mazzuchi, D. & Brooks, N. (1992 February). The Gift of Time. Teaching Pre-K-8, pp.60-62.
- Miller, B.A. (1990). A review of the quantitative research on multigrade instruction. In D. Sumner (Ed.), Multiage classrooms: The ungrading of America's schools-Multiage resource book (pp. 65-72). Petersburg, NH: Society for Developmental Education.
- Miller, B.A. (1991). Teaching and learning in the multigrade classroom: Student performance and instructional routines. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. (ERIC Document No. ED 335 178)
- Miller, R.I. (1967). Commentaries. In R.I. Miller (Ed.), The nongraded school analysis and study. New York, NY: Harper and Row.
- Pavan, B.N. (1977). The nongraded elementary school: Research on academic achievement and mental health. Texas Tech Journal of Education, 4 (2), (91-107).
- Pratt, D. (1993). On the merits of multiage classrooms. In D. Sumner (Ed.), Multiage classrooms: The ungrading of America's schools-Multiage resource book (pp. 83-87).
- Robertson, M. (1944). Non-graded primary classrooms. Orbit, Primary Education, 25 (1), (7-9).

- Sands, M. & Kerry, T. (1982). Teaching methods: Myths and reality. In M. Sands and T. Kerry (Ed.), Mixed-ability teaching, (p. 55). London: Crook Helm Ltd.
- Uphoff, J.K. & Evans, D.A. (1993), The country school comes to town: A case study of multiage grouping and teaching. In D. Sumner (Ed.), Multiage classrooms: The ungrading of America's schools-Multiage resource book (pp. 36-38). Petersborough, NH: Society for Developmental Education.