MULTIAGE INSTRUCTION: AN OUTDATED STRATEGY, OR A TIMELESS BEST PRACTICE

Valerie Ritland[a]*, Myron Eighmy[b]

[a]*Minnesota State University Moorhead, 1104 7th Ave, S., Moorhead, Minnesota, 56560, USA*
[b]*North Dakota State University, P.O. Box 5057, Fargo, North Dakota, 58103, USA*

Abstract

The purpose of this study was to explore the practices of multiage instruction with experts who have best practice knowledge or practitioner expertise in the multiage classroom. This investigation provided a foundation of knowledge on multiage instruction regarding strategies and challenges, the pros and cons of multiage instruction, and training and resources needed for the successful implementation of multiage instruction. A Delphi methodology was utilized which consisted of three rounds of surveys. The population comprised two panels of experts, multiage theory experts and multiage practitioner experts, based on required criteria for each panel set. A total of 21 experts completed Round One, which consisted of 55 Likert scale statements. A total of 20 experts completed Round Two, which consisted of 31 statements/questions. A total of 20 experts completed Round Three, which consisted of 29 statements. The findings in the study found the panel experts agreed that multiage instruction remains a credible practice today that should be recognized and supported by state boards of education. They also agreed that once oriented to the philosophy and after their child has spent time in the classroom, parents tend to be generally excited about the practice of multiage instruction. The experts further agreed that children of all abilities and needs can be successful in the multiage classroom. In terms of training and preparation, experts agreed that parents, teachers, school boards, principals, and superintendents should all receive training on the philosophy and strategies of multiage instruction in order for it to be a successful practice. There was consensus among the panellists in this study that it is difficult to find regular training and conferences geared for elementary teachers who work in multiage settings. Panel experts identified strategies that multiage teachers use including how the room is arranged, flexible grouping, theme-based learning, collaborative learning, and peer mentoring. Through open-ended questioning, panellists also identified challenges as well as training and resource needs.

Keywords: Multiage instruction; non-graded classroom

*Corresponding author.
E-mail address:* ritland@mnstate.edu

1. Introduction

Small, large, rural, and urban schools all struggle to keep up with the latest trends and developmentally- appropriate practices in education. According to Gutierrez & Slavin (1992), multiage instruction is one strategy that has allowed a school to operate more efficiently in staffing when class sizes cannot support one teacher (or two teachers) per grade. Furthermore, multiage instruction is a practice not impacted by fluctuating enrollment. For example, in schools with a moderately large class size of second and third graders, to be efficient in staffing, administrators might create one second-grade class, one third-grade class, and one combination class of second and third graders, rather than two sections of each class. In a graded structure, teaching the second- and third- grade combination class would be difficult, as with the combination model, the two portions of the class are taught separately. In a multiage system, the various ages are perceived and taught as one class, and therefore the highs and lows of enrollment have less impact on instruction as students would be consistently blended by ages (Gutierrez & Slavin, 1992).

In Canada, Europe, and some parts of Asia, multiage instruction is a more common model, due in part because it is an economical way to educate students in less populated areas or areas with fluctuating enrollment; however, the model is also utilized due to its proven impact on children's performance (Pardini, 2005). Although some studies indicate there is no significant difference or disadvantage to children being taught in a multiage classroom (Gutierrez, & Slavin, 1992; Pavan, 1993; Veenman, 1995), other research studies substantiate that children in multiage classrooms do as well as or better academically than children in graded classrooms (Aina, 2001; Chapman, 1995; Goodlad & Anderson, 1987; Hull, 1958). Proven positive outcomes for children and the economic efficiency of operation, as in Canada, Europe and Asia, have led many schools and states also to consider a transition to multiage instruction.

Even while credible research studies have supported positive social and academic outcomes for students, studies by Chace (1961), Davis (1992), and Hallion (1994), have also identified a lack of administrative and parental support, a lack of planning time, problematic teacher attitudes, and a lack of staff training on multiage instruction as major obstacles to successful implementation of the nongraded classroom. In addition, Gaustad (1992a) acknowledged that there are disadvantages to implementing the non-graded model. According to Abbie Robinson-Armstrong, the former director of the Kentucky Department of Education's Division of Early Childhood where nongraded classrooms were mandated statewide, multiage instruction does require additional supplemental resource materials which can be a financial burden to already struggling districts (Gaustad, 1992a). Furthermore, teachers require initial and ongoing multiage training regarding child development, integrating curriculum and instructional strategies, which Miller (1989) called "critically important" for teacher and student success. Miller (1989) suggested that training should also include opportunities to observe effective multiage models in action. The lack of a multiage training sites and suitable labs or accredited multiage schools available for observation, have consistently been a barrier in being able to effectively establish and measure outcomes for the multiage model. True multiage programs have also proven difficult to measure because teachers tend to teach to all grades, due to a lack of understanding of the theory of nongradedness and inadequate staff development (Pardini, 2005; Slavin, 1987). Unless teachers have proper training in instruction

and are given the time, support, and resources to implement the multiage model, its effectiveness may never be truly quantified. As a result of these expressed concerns, exploring the area of strategies, training, and resources became key elements of this study.

2. Problem Statement

Multiage instruction has been a practice in schools across the world for hundreds of years. Research studies have mixed reviews on student outcomes, but the practice continues, both for philosophical and for economical reasons. It is important therefore, that the key strategies of multiage instruction be clearly indentified, and that adequate training and resources be provided to teachers implementing the practice, in order to accurately measure the student outcomes.

3. Research Questions

The Delphi method is especially suited to a study when there is incomplete knowledge about an issue, and the goal of the research is to find greater clarity of the issue or problem or to investigate what does not yet exist (Skulmoski, Hartman, & Krahn, 2007). The Delphi study was selected, therefore, to investigate those issues, which do not lend themselves to precise analytical techniques but may be more suited to the collective judgments of experts in the field. This Delphi study gathered input from multiage experts to provide clarity to current circumstances regarding multiage instruction. The following research questions guided this study:

RQ1. What are the common practices and strategies used in a multiage classroom?
RQ2. What are the pros and cons for children enrolled in a multiage classroom?

RQ3. What training and resources are necessary to implement and support multiage instruction? RQ4. What are some of the challenges to implementing multiage instruction.

4. Purpose of the Study

Research studies confirm that there are schools who are combining grades but that are not practicing the multiage strategies that are most effective with children. The purpose of this study then, is to survey experts about the common strategies that are used in non-graded classrooms, and to identify the issues and challenges that students and school districts face in implementing this model. The information gleaned from this study may be useful for school settings that are considering a transition to multiage instruction, as well as providing useful information to universities, which have a responsibility to prepare all teachers for all classroom settings. Finally, by identifying current multiage classroom strategies, this study may provide useful information to researchers who are updating their studies on the effectiveness of multiage classrooms.

5. Research Methods

The sample size goal for this study was a pool of 30 experts, ideally 15 of them being practitioner experts and 15 of them being theorist experts. When the group is homogeneous, as in the expert samples, a smaller sample of between 10 to 15 people may yield sufficient results (Delbeq et al., 1975). However, to reduce group error and increase reliability, a sample of 20 experts, 10 in each pool, was the minimal acceptable target sample. The pool of candidates began with 89 potential experts who were invited by email or phone to review the criteria to participate in the study. Twenty-one experts met the criteria and agreed to participate in the study, 10 practitioner experts and 11 theory experts. Experts were sought from different regions of the United States, and potential participants were located by scanning published multiage journal articles and resource books, contacting training centers and universities where multiage training is offered, and through personal referrals. The practitioner and theory experts both had to meet preset training and experience criteria in order to participate in the study. An effort was made to secure experts who spanned a wide geographic area, with experiences that varied in public and private schools as well as smaller and larger communities.

All 21 experts participated in Round One of the study. During Round Two and in Round Three, one of the practitioner experts failed to respond to the survey after numerous reminders, resulting in a 95% response rate for Round Two and Round Three.

A Delphi survey instrument was developed by the researcher, and this provided an opportunity for each panelist to respond to 55 Likert scale statements. The statements in the first round instrument were developed based upon issues identified in the literature review. The survey was sent to two education experts to review for clarity and readability. The experts who reviewed the survey were not included in the research study, but their feedback was utilized to make any needed changes in the Round One questionnaire. The instrument questions fell into three themes or construct areas:

1. Teacher strategies and challenges (26 statements),
2. Student/school pros and cons (14 statements), and
3. Training and resources (15 statements).

In Round One of the study, the five response choices provided for each statement were strongly disagree, disagree, agree, strongly agree, and no judgment. The experts could not move on to the next statement until they had selected an answer. In addition, panelists were asked to defend their responses with comments.

The second survey consisted of 31 statements and questions. There was consensus on 30 statements from Round One. Of the 31 items in Round Two, 18 were Likert scale statements reintroduced from Round One, with a scale of strongly disagree, disagree, agree, strongly agree, and no judgment. Four questions from Round One were changed from a Likert scale question to an open-ended question to obtain qualitative data. Two questions were removed from Round One because they were determined to be difficult to comprehend by the panelists.

Four statements that reached consensus in Round One were reintroduced in an open-ended format to pursue more detailed content on the topic. When the Likert statements were re-introduced, they were followed by all comments posted by the panelists in Round One. Participants were asked to carefully review the other panelist's comments before selecting their

new response. Participants were encouraged to add any further comments if they were not already represented in the summaries.

The third round survey consisted of 18 Likert scale statements, a summary of the 11 open-ended questions, and a summary of the panelists' responses to those open-ended questions. Consensus was reached on two questions in Round Two, and two questions that were new in Round Two were reintroduced to seek possible consensus. In the Likert scale statements, the comments from both Round One and Round Two followed each statement. Participants were asked to review and consider all comments before they selected their final response. Additional comments could be added if the remarks were not yet represented in the summaries listed. Panelists were also free to add any further remarks to the open-ended summaries that were included in the survey.

6. Findings

Because the Delphi process is fluid and flexible, what began as four research areas was reduced to three, primarily because of the direction in which the expert panelists' comments took in the survey. Thus, questions one and four were combined. Results are presented in the following three construct areas: teacher strategies and challenges, school/student pros and cons, and training and resources. Within each construct the results are categorized into statements that reached consensus to agree and consensus to disagree in each round, and statements that after three rounds did not reach consensus.

The responses to statements were converted to numeric data using the following: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, and no judgment = null. The results are presented within each construct as statements that reached consensus to agree, statements that reached consensus to disagree, and statements that did not reach consensus. Statements were determined to reach statistical consensus to agree if the data showed a mean response of > 3.00, and a standard deviation of < 1.00, and an agreement rate of 80% or higher. Statements were determined to reach statistical consensus to disagree if the data showed a mean response of < 2.00, a standard deviation of < 1.00, with a disagreement rate of 80% or higher.

Multiage instruction is seen as a viable practice for those who are seeking a more effective way to meet individual needs, develop leadership and problem-solving skills in children, and instill excitement about learning (Pavan, 1992; Stone, 2004). However, to achieve these outcomes, multiage instruction is best left in the hands of those who truly are willing to learn and implement the strategies. Although some parents may be reluctant to consider the multiage classroom, if given the option, when parents have had time to understand and observe the multiage philosophy, they are generally excited about the practice, and are more likely to become active partners in the education of their child (Davis, 1992; Stone, 2004). This may be attributed to the fact that multiage teachers are more likely to teach to the individual ability level of each child, and therefore children will be happier and more successful as a student (Lloyd, 1999). The process of grouping and regrouping children for instruction according to their performance level ensures that a child's developmental rate is respected, allowing for learning to take place in a supportive and stress- free environment. While educational trends have come and gone over the years, multiage instruction has a history as a proven developmentally-appropriate practice for young children, with the greatest impact seen in children who have had multiple years in the model. According to Elkind (1989) and

Pavan (1992), the longer students experienced the nongraded system, the more positive their school attitudes and academic performance. Research studies have substantiated that multiage children compare academically and are slightly more skilled socially than children in graded classrooms; however, many of these studies acknowledged that the training of staff in the multiage philosophy and the teachers' use of multiage strategies could not always be confirmed. Future research studies on the impact of multiage instruction on children should look to the experts and measure only the outcomes of those multiage programs that truly follow identified practices.

Stone (2004) affirmed the findings of the expert panelists that the multiage philosophy is a child- focused, not a curriculum- or "standards-" focused model. Because the multiage model is child-focused, it calls for specific uses of classroom space as well as instructional strategies that support each child's success in the classroom. Although these multiage strategies should be taught and utilized by teachers in order to fairly measure accurate outcomes for children in a multiage setting, most of the multiage strategies can also be adopted and effectively used by the graded classroom teacher as well. Even though students in the graded system will move on rather than stay with their teacher for two or more years, graded classroom teachers may want to consider utilizing multiage strategies because it is these strategies that tend to contribute to enhanced prosocial behaviors in children, improved attitudes towards school, and more positive and confident students.

Tables rather than desks are often the first difference noted in the nongraded-versus graded- environment. Gaustad (1992c) found that tables are necessary because learning is a "cooperative" process in the multiage setting. Multiage teachers do not teach to the whole class and then ask students to work independently on their assignments, which is more common in graded classrooms. Students are frequently grouped to work on tasks with others who are similar or varied in ability levels. Children are encouraged to help each other in the learning process, which instills leadership and nurturing qualities in children. The groups are flexible and change frequently, according to the students' interests and abilities, not their grade level.

Differentiated instruction is a common practice in classrooms; however, there are distinct differences between the two models. In the graded classroom, differentiation means taking the same lesson and trying to find a way to make it work for each student. In the nongraded classroom, differentiation means that the teacher creates appropriate lessons that suit the needs of each lesson, and does not necessarily teach the same thing to all students. A developmentally-appropriate classroom may plan to offer both variations of differentiation.

Learning centers/project areas are another multiage strategy that can easily be adapted to the graded classroom. Because instruction in the multiage classroom is geared to small groups of children rather than the class as a whole (Davis, 1992), learning centers and project areas are available to students who learn to work independently on tasks and in projects designed to address a wide range of interests and ability levels. Students have the freedom to choose their work stations and are not assigned to activities, which must be completed each day. They approach their options with a natural curiosity and enthusiasm. While students are engaged in the activities that they freely choose, teachers are able to collect authentic representations of their work. The work samples collected from students' centers as well as their instruction time comprises the naturalistic products of their work, which becomes their portfolio. Data from this portfolio assessment become the basis for lesson planning in the classroom, not the grade level curriculum book or state or national standards. That is why the

multiage model is considered "child-" rather than "curriculum-" centered. Stone (2010) described the child-centered approach as fitting the school to the children. Although multiage classrooms must comply with No Child Left Behind assessment mandates, standardized testing is not compatible with the philosophy of child "centeredness" and a stress-free environment, and if it were not for the mandate, standardized tests would serve no purpose in the multiage setting. In spite of the need to assess children, the graded system can find a similar success with the use of learning centers and project areas, empowering children to make choices and construct their own knowledge.

Two other key strategies of multiage instruction that can effectively be used in graded classrooms as well are inquiry-based learning and thematic instruction. Dewey (1916/1966) supported an inquiry- based learning environment, in which students have the freedom to research what they want to learn as opposed to learning what the teacher or the textbook thinks is important. When responding to the interest areas of students, teachers allow students to explore real-life themes of interest that can resonate across all subject areas. This makes learning more relevant to students' lives. A skilled teacher can use these child- centered approaches while not losing sight of the benchmarks that might be assessed in the standardized tests with which most schools must comply. Many graded classrooms remain fixated on quiet individual work within and outside of the classroom which can prove challenging for the hands-on, active learning of young children.

Multiage instruction has proven benefits for students. It can effectively work within the same spatial dimensions as the graded classroom and is widely accepted by parents who have experienced this model. It utilizes strategies that can easily be learned and adapted by all teachers. Nonetheless, there is still unlikely to be a conversion to multi-age instruction in the near future. This may be because of the challenges encountered in the multiage setting. For the child, addressing the possibility of a "misfit" between the teacher and the child may require some administrative intervention. Because of the child-focused philosophy of the multiage philosophy, misfits may be a rare occurrence. However, when the problem arises, counseling through the issues may help to resolve the difficulties. If all else fails, a change in classroom staff may be necessary. The initial challenge common to teachers and administrators is dealing with the bureaucratic issue of promoting and supporting a classroom model that is unfamiliar to the general population, being firmly grounded in the understanding of the multiage philosophy in order to market the practice to others. The next challenge may be finding the teachers willing to work in a system that at first glance appears more complex and labor intensive than the graded system. Standardized testing, a lack of training opportunities, and textbooks that fail to meet the needs of multiage teachers are additional challenges which staff must be willing to address. Perhaps the biggest challenge that schools might face is the State Board of Education's failure to recognize and support the multiage model. Without support for the teachers, parents, and administrations who are interested in or already using multiage models of instruction, federal mandates, assessments, and lack of resources will make it challenging to continue the practice.

7. Conclusions

Since it has been established that multiage instruction is still in practice and the multiage experts in this study perceive it as a credible practice, one area that could be further explored is how the Board of Education in each state could offer support for teachers, parents,

and administrators who are interested in multiage models of instruction. Expert panelists were quick to point out that it is not realistic for the state Board of Education to carry the banner for change regarding this model, but because it is a proven best practice, it would be appropriate and helpful for them to acknowledge multiage instruction as this could provide encouragement to those considering change. The state Board of Education's support could also lead to the establishment of demonstration sites or laboratory schools as well as recognizing the need for training at the university level and on-going training and conference experiences for multiage teachers.

Expert panelists acknowledge that there is no research to substantiate what the ideal number of ages to combine might be. Although any number of possibilities might prove successful, it may be interesting and valuable to examine the student outcomes of children who are in multiage classroom groupings of two versus three and four ages, since those ranges were cited as the most common ones appearing in multiage classrooms. The study could explore if there is an age range that proves to be the most beneficial to student outcomes.

In construct two in which an attempt was made to draw out the pros and cons of the multiage experience on the school and the students enrolled, experts generally reported only positive outcomes in their reflections.

Further study could be devoted to an examination of multiage practice that examines the challenges or negative outcomes for children in such a setting.

Expert panelists acknowledge that initial training and on-going training for multiage teachers is difficult to find, even though multiage instruction is still a current practice across the United States and the world. The experts in this study did identify key multiage strategies that could be taught in university teacher preparation courses that are developmentally-appropriate and could be helpful to both multiage and traditional classroom teachers. Therefore, another area that could be further explored is to gather more information about what universities across the United States are embedding in their coursework in terms of cooperative learning, thematic instruction, differentiated instruction, flexible grouping, and independent learning centers; these are practices that would equally enrich both models of instruction.

Expert panelists raised concerns about textbooks and their failure to meet the needs of multiage teachers; some commented further that they did a poor job of meeting the traditional teachers' needs as well. Another exciting possibility for further research, therefore, would be to work with publishers to explore what currently is available in curriculum resources and to evaluate how resources could be reconstructed to better meet the need of all teachers. Special consideration could be given to differentiated instruction, cooperative learning, flexible grouping, and other current best practices for all children.

Finally, lack of training and resources have been identified as problems for teachers who are training to implement the model (Anderson & Pavan, 1992). Therefore, in order to truly measure the effectiveness of the multiage model, more studies need to be conducted in multiage classrooms in which there is assurance that the teachers have been properly orientated and who have mastered multiage strategies. Only then can the educational community see the true impact of multiage practice on children's social and academic performance.

Acknowledgements

References

Aina, O. E. (2001). Maximizing learning in early childhood multiage classrooms: Child, teacher, and parent perspectives. *Early Childhood Education Journal, 28*(4), 219-224. https://doi.org/10.1023/A:1009590724987

Chace, E. S. (1961). An analysis of some effects of multiple-grade grouping in an elementary school. Unpublished doctoral dissertation, University of Tennessee.

Chapman, M. L. (1995). Designing literacy learning experiences in a multiage classroom. *Language Arts, 72(*6), 416-427.

Davis, R. (1992). The nongraded primary: Making schools fit children. Arlington, VA: American Association of School Administrators.

Delbeq, A., Van de Ven, A., & Gustafson, D. H. (1975). *Group techniques for program planning: A guide to nominal group and Delpi processes*. Glenview, USA: Scott, Foresman and Company.

Elkind, D. (1989). Developmentally appropriate practice: Philosophical and practical implications. *Phi Delta Kappan, 71*(2), 113-117.

Gaustad, J. (1992a). Nongraded primary education. Eugene, OR: ERIC Clearinghouse on Educational Management. (ERIC Document Reproduction Service No. ED347637). http://www.ericdigests.org/1992-2/primary.htm

Gaustad, J. (1992c, April). Making the transition from graded to nongraded primary education. *OSSC Bulletin, 35*(8).

Goodlad, J. I., & Anderson, R. H. (1987). *The nongraded elementary school.* New York: Teachers College Press.

Gutierrez, R., & Slavin, R. (1992). *Achievement effects of the nongraded elementary school: A retrospective review.* (Report No. 33). Baltimore, MD: John Hopkins University.

Hallion, A. M. (1994). *Strategies for developing multiage classrooms.* Washington DC: Education Research Center (ERIC Document Reproduction Service No. ED 373899).

Hull, J. W. (1958). Multigrade teaching. *Education Digest, XXIV,* 5-8.

Lloyd, L. (1999). Multi-age classes and high ability students. *Review of Educational Research, 69*(2), 187-212. https://doi.org/10.3102/00346543069002187

Miller, B. A. (1989). *The multigrade classroom: A resource handbook for small rural schools.* Portland, OR: Northwest Regional Educational Laboratory.

Pardini, P. (2005). The slowdown of the multiage classroom: What was once a popular approach has fallen to NCLB demands. *The School Administrator, 62*(3), 22-EOA.

Pavan, B. (1992). The benefits of nongraded schools. *Educational Leadership, 50*(2), 22-25.

Pavan, B. (1993). Good news: Research on the nongraded elementary school. *The Elementary School Journal, 73*(6), 333-342. https://doi.org/10.1086/460775

Skulmoski, G., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education, 6*, 1-21. https://doi.org/10.28945/199

Slavin, R. (1987). Ability grouping and student achievement in elementary schools: A best evidence synthesis. *Review of Educational Research, 57*(3), 293-336. https://doi.org/10.3102/00346543057003293

Stone, S. (2004). *Creating the multiage classroom.* Glenview, IL: Good Year Books.

Stone, S. (2010). Multiage: A model of educational reform or invention? *Journal of Multiage Education, 4*(1), 13- 18.

Veenman, S. (1995). Cognitive and noncognitive effects of multigrade and multiage classes: A best-evidence systhesis. *Review of Educational Research, 65*(4), 319-381. https://doi.org/10.3102/00346543065004319