MULTI-AGE SCHOOLING:
AN INFORMATION PACKAGE FOR
PARENTS AND EDUCATORS

TONY R. NORMAN

Canadä

Multi-Age Schooling:

An Information Package for Parents and Educators

Tony R. Norman ©

Acknowledgements

Dr. Dennis Mulcahy Associate Professor (Memorial University of Newfoundland) has been an inspiration from the beginning and has been instrumental to the refining and ultimate development of this project. His knowledge about small schools and his interest in the potential of multi-age education for all schools has been invaluable.

Table of Contents

Introduction

Newfoundland and Labrador is, and has always been a province of small schools. The average enrolment in our schools is 229 pupils for our urban schools and only 136 for our rural schools (Department of Education Government of Newfoundland and Labrador, 2000). With the exception of a few larger schools situated in a few urban areas, the overwhelming majority of our schools by North American standards are quite small.

Because of the scale of schooling in the province, there has always been a need, especially in rural areas, to group students of different ages and grade levels together in a single classroom. Depending on the enrolment of the school this combined classroom may have two, three or more grade levels.

More recently, because of a continuing decline in enrolment in most areas of the province, the need to combine age and grade levels has increased and spread to more urban areas of the province. This has meant that some schools have to consider for the first time the creation of Multi-Age classrooms.[1]

This situation has created a great deal of concern and even anxiety among many parents and teachers who are unfamiliar with Multi-Age classrooms. They are concerned about the quality of the education that will be available to children in such classrooms. Many are unaware of the potential and possibilities that a Multi-Age organizational structure and teaching methods have for improving the quality of education in our schools. Consequently, they come to informational sessions organized by districts and

---

[1] In this project, Multi-Age will be understood to refer to any and all classroom situations where students of more than one age or grade level are grouped for instruction. For a discussion of the differences between the terms "Multi-Age" and "Multi-Grade" see Mulcahy (2000) "Multiage and Multi-grade: similarities and differences." http://www.ucs.mun.ca/~dmulcahy/

schools with many questions about what this "new" approach will mean for them and the children.

Origin of this Project

The impetus for this project came from my attendance at several Multi-Age informational sessions. Following these sessions, I found that I was still uncomfortable with my understanding of Multi-Age pedagogy. After speaking with various parents and educators from these sessions, I began to see that I was not alone when it came to my bewilderment regarding the Multi-Age model. As Mulcahy (2000) posits "Making sense of multiage is no easy task. Helping others make sense of it is equally difficult" (p.1).

Given the continuing consolidation of schools and increasing occurrences of Multi-Age models in our schools, there is a growing necessity for parents and educators to make sense of Multi-Age pedagogy. However Multi-Age schooling is not distinctively a Newfoundland and Labrador educational experience. Thus, I feel that a better understanding of it can occur by also looking at it from a National and International perspective. Given the wealth of information that is available concerning this topic, sifting through it has been a formidable task. It follows that part of the problem with gaining a good understanding of the Multi-Age model can be found in the fact that parents and teachers are dealing with "information overload". It is my hope that this project will assist parents and educators in their understanding of Multi-Age primarily by peering down the information so that it is more manageable and secondly providing a tool to peruse the information in an efficient manner.

Purpose of Project

The need for a Multi-Age Information Resource (MAIR) for parents and educators became evident after I attended four Multi-Age information sessions over a three-year period. It was clear that (brief) information sessions did not meet the needs of a majority of parents and educators regarding the concept of Multi-Age schooling. There were simply too many variables, too many questions that needed to be answered and too much information to deal with constructively. This was further compounded by inadequate time to explore the subject matter. Chase and Doan (1996) note that many parents even after attending information sessions still have "lingering questions" (p.102). Grant and Johnson (1995) also support the premise that information sessions may not be enough, "...one flyer or one information meeting is not enough. Information about a new concept or program needs to be ongoing. It takes time to build understanding" (P. 74). Schrenko (1993) in Fogarty (1993) notes, " in order for any system to work parents must first understand it" (p. 125).

MAIR will enable parents and educators to peruse a selected number of quality resources that are available on Multi-Age education without having to spend a great deal of time gathering or searching for materials. In essence the gathering and presenting of Multi-Age resources in an easily accessible non-biased format is the goal of this project.

MAIR will also give parents and educators the tools to deal with the topic of Multi-Aged schooling in a constructive manner so that they can make informed decisions. Specifically MAIR will give the user the ability to rapidly access and search entire documents or web sites for data specific to Multi-Age schooling.

MAIR will help to define and provide answers to the most common questions that parents ask when first introduced to the concept of Multi-Age schooling. Attendance at Multi-Age information sessions confirmed that there are a group of questions that parents and educators commonly ask when first introduced to the concept of Multi-Age schooling.

MAIR will allow a user the time to explore the various positions surrounding the concept of Multi-Age schooling from a variety of sources, ranging from expert to layperson. Once this is achieved, the user can then make an informed decision regarding the worth of Multi-Age schooling and the role it plays in an educational system. It should be noted that MAIR is not meant to support one side or the other in the debate surrounding Multi-Aged schooling, but merely to provide a cross-section of the best information that is available.

> "Choosing the educational program we want [for our children] is our responsibility. It's not the school's. We choose their doctor, their dentist, why not their educational program." (Chase and Doan, 1996, p.102)

Determining the Relevant Questions

The first step in the production of this resource was a determination of the kinds of questions parents and educators have when first confronted with the prospect of a Multi-Age classroom in their school. The first indication that there may be a group of common questions specific to Multi-Age grouping emerged from attendance at a number of information sessions that were held at local schools.

The questions that inform the production of this resource were generated from four sources:

1. Local information sessions held by district schools and district office for parents and teachers. Notes were kept on the questions that were being asked.

2. A review of the Multi-Age Literature.

3. An informal survey, conducted by the school district, of parents who faced the prospect of Multi-Age schooling for their children. The data was made available by the school district for use in this project.

4. On-line Multi-Age Chat Groups and E-mail contact.

Local Information Sessions

I was able to attend four Multi-Age information sessions held by two schools over a three-year period in the Lewisporte/Gander School District. Three of these sessions were school sponsored; the school council at Gander Academy sponsored the fourth. All sessions ranged from one to just over 2 hours in length. Speakers at the school-sponsored sessions were trained in Multi-Age pedagogy. They were either recently assigned to teach a Muli-Age class or they were veteran Multi-Age teachers at the school. The Gander Academy school council session was structured somewhat differently in that not only did staff members from the school present, but two outside speakers did as well. The two outside speakers were Ms. Eileen Chatman, Elementary / Multi-Age program specialist with the Lewisporte/Gander School District and Dr. Dennis Mulcahy Associate Professor, Memorial University of Newfoundland. All sessions followed a question and answer type of format with the first half of the session being committed to presentations and the last half dedicated to questions and answers. One of the most common questions that emerged from these sessions was, "How can a teacher deal with the various grade levels that she has in a Multi-Age setting?" The sessions at Gander Academy rose what

appeared to be a localized question, as the question was not encountered in the other information session nor any of the other sources. The question asked: "What does the research say about French Immersion and Multi-Age?" Given the fact that Gander Academy is a French Immersion school the question is not surprising.

Literature Review

A literature review confirmed the premise that there were a group of common questions concerning Multi-Age programs. Chase and Doan (1994) also note "there are many unanswered questions related to multiage grouping" (p. 160). MacDonald and Lundrigan[2] (1994) produced a booklet that identified and attempted to answer seven questions concerning Multi-Age schooling.

- What is Multi-Age grouping?
- How is a Multi-Age class different from the Multi-Grade classes that are common to one-room small schools?
- How is a Multi-Age class different from a Single-Age class?
- Why choose Multi-Age grouping?
- What are the benefits of Multi-Age grouping?
- How can children in Multi-Age classes be evaluated fairly?
- What does the research on Multi-Age grouping reveal?

Ostrow (1995) noted that there were eight questions that she was commonly asked regarding her Multi-Age practices.

- How do you prepare your students for the fourth-grade teacher?

---

[2] Presently MacDonald is Vice Principal at C.C. Loughlin in Corner Brook and Sherstobetosf, nee Lundrigan, is program specialist Multi Age Continuous Progress K-4. Both individuals work with District 3 - Corner Brook / Deer Lake / St. Barbe, Newfoundland and Labrador.

- Since you don't do math fact worksheets or seem to have the kids memorize their facts, how will they know them when they leave your class?
- How do your kids do on standardized tests?
- What about all the slow kids and the kids who need to go to chapter one? How do they do in your room?
- Your kids seem to have such long attention spans! My kids could never sit still that long and listen.
- What happens when a substitute comes into your room?
- My school wants to start blended (Multi-Aged) classrooms, but parents are scared that the older kids won't be challenged.
- Which professional books have you found particularly helpful? (pp. 133-138)

Hart-Hewins and Villiers (1997) note ten key questions that parents often ask about Multi-Age groupings.

- Are there advantages to putting children of different ages together?
- Don't the older children suffer academically because the younger children hold them back?
- Don't the younger children feel pressured by the presence of the older children?
- Is it possible to provide quality instruction to children of different levels of ability?
- Is it more difficult to teach?
- Do certain conditions determine whether Multi-Age grouping is beneficial for all children?

- Can teachers deliver different grade-specific curriculum for each grade/age group?

- Is there duplication for the older children?

- Is it difficult for grade one children to cope with two different sets of kindergarten children (morning and afternoon) and the possible repetition of learning experiences?

- Do the children have to stay in the MAG (Multi-Age Group) classroom if a personality conflict arises between the teacher and the child or other children? (pp. 119-125)

Kasten and Clarke (1993) make reference to six questions that they feel both teachers and parents most frequently ask.

- How do you deal with students on so many different levels, requiring so many different content areas?

- In a Multi-Age classroom model won't there be gaps in the curriculum and in the children's learning?

- Aren't the oldest or brightest children bored or held back?

- Don't the youngest children in a Multi-Age classroom feel overwhelmed or inferior?

- How do you accommodate the successful social development/progress of children who are mixed in one class?

- What happens when these children go on to other, more traditional classrooms? (pp. 51-64)

Grant, Johnson and Richardson (1996) documented eight core questions that educators ask in relation to Multi-Age education.

- What is Multi-Age education?

- Do students really benefit from Multi-Age education?

- What is my role as teacher?

- How do I know my students are learning anything?

- How do I explain Multi-Age education to the parents?

- How do we implement Multi-Age education?

- Outside the school walls: how does the "real world" affect Multi-Age education?

- Where can I get more information on Multi-Age education?

Katz, Evangelou, and Hartman (1990) note that there are several questions, which need to be addressed.

- What is the optimum age range?

- What about curriculum and mixed age groups?

- What is the best proportion of older to younger children in a classroom?

- What proportion of time ought to be spent in mixed age groups? (pp. 41-47)

They recommend that "parents receive information and guidance" when exploring Multi-Age (mixed age) education (p. 50).

Bozzone (1995) posits that educators need to "Anticipate questions about assessment, curriculum, social issues, and so on" (p.10). Politano and Davies (1994) dedicate an entire chapter to questions that arise when Multi-Age schooling is explored. They note fifteen questions that they feel teachers and parents most often ask.

- Can't I do all this great stuff in a single-age classroom?

- What is the difference between family grouping or multi-age classes and split grades?
- What are the advantages of multi-age classes?
- How long do children stay with one teacher?
- Don't older children get bored or end up spending their time helping the younger children instead of learning?
- How do multi-age classes fit with state or provincial requirements?
- How do you handle the range from children who are barely reading to children who are able to read anything and everything?
- What about younger children who are more able than older children?
- What about when children move to classrooms that are organized as single grades?
- How do you handle curriculum requirements for two or three grade levels in one classroom?
- Have there been difficulties when students have transferred in from programs that are different?
- What about students with special needs?
- What happens to children who haven't been successful with their learning?
- Parents have expressed concern that having different age groups in a room means their child has fewer same-age playmates to choose from. Is this a problem? How do you deal with it?
- Do children who stay for more than one year in a multi-age class repeat material? How do they benefit? (pp. 119-124)

Bingham, Dorta, McClaskey and O'Keefe (1995) make reference to twelve questions surrounding the implementation of a Multi-Age program.

- What is a multiage classroom?

- Why multiage?

- But what about research?

- What is your definition of a multiage classroom and how is it going to be different from a single-grade classroom I'm familiar with?

- What will look different in a multiage classroom?

- How are decisions about student placement made?

- What about report cards?

- Are multiage classrooms less teacher directed?

- Do you use formal peer tutoring?

- What are some of the advantages for the older students in a multiage classroom?

- What if the "chemistry" is not right between student and teacher or between student and student? They will be together for more than one year.

- Do all multiage teachers work in teams? (pp. 6-11; 200-202)

McClay (1996) points out three questions.

- What is a Multi-Age Classroom?

- What does the Research say?

- Why Multi-Age, then? (pp. 3-8)

John Tapper (1996) addressed the question "What is Multiage?". McCann-Miletta (1996) alludes to the question of how a teacher is able to challenge the older student in a

Multi-Age classroom (p. 81). The Regional Laboratory for Educational Improvement of the Northeast and Islands (1994) addressed sixteen questions.

- What is multiage grouping?
- What is the philosophical basis for a multiage classroom?
- What are the benefits of a multiage classroom?
- What patterns of age grouping are there?
- What is the optimal age spread within a multiage classroom?
- How is learning in a multiage classroom managed?
- What does the curriculum look like in a multiage classroom?
- Who should teach in a multiage classroom?
- Do teacher teams teach multiage classrooms best?
- Will teachers need additional planning time?
- What kinds of resources are needed?
- What kinds of instructional strategies work best in a multiage classroom?
- How can parents and the community get involved with a multiage classroom?
- How long does it take to fully implement a multiage classroom?
- Where can we read more about multiage classrooms?
- Where can we see multiage grouping?

Bacharach, Hasslen, and Anderson (1995) in noting questions and concerns surrounding the implementation of Multi-Age programs state that educators need to "educate and inform parents" (p. 65). They raise the following questions.

- What impact does multiage grouping have on students with identified special needs?

12

- How can we best inform all players (parents, administrators, students, other

    teachers)? (p. 65)

They further comment that "parental involvement is a crucial aspect of multiage classes because it is an absolute necessity for parents to understand and support the concept" (pp. 62-63). They conclude that it is vital for educators to "facilitate communication and answer questions about multiage schooling.... this will alleviate the spread of myths and misconceptions" (p. 63).

Davis (1992) when looking at the concept of Multi-Age schooling notes, "parents need to be informed at all levels" (p. 10). Davis goes on to state, "many educators and parents still have questions" (p. 3). She cites five main areas that are the source for potential questions.

- Teacher training.

- Discipline with an older and younger mix.

- Covering a specific grades outcomes.

- Challenges for the older child.

- What about the potential for stigmatization of the older child as being seen as

    slow because they are in with younger children?

Fogarty (1993) devotes several sections to questions and answers relating to Multi-Age schooling. Connell (1987) in Fogarty (1993) observes that in order "to get support from parents, alternate educational programs must be fully explained to them" (p. 12). Connell then goes on to posit that the following questions need to be addressed.

- Is it any harder to teach an ungraded group?

- How can you teach an ungraded group when the textbooks are based on a graded structure?

- Does the ungraded structure work better?

- Is it harder to teach a 3-year span, such as K-1-2?

Woelfel (1992) cited in Fogarty (1993) notes that it is "important to give the whys and wherefores of dual-age instruction to students as well as parents and staff" (p. 20). Woelfel sees eight questions as worthy of note.

- What is a dual-age class?

- How is the teacher selected?

- How are students selected?

- What kind of instructional program is offered?

- How do parents react?

- How do students react?

- Are dual-age classes as successful as single-age classes?

- How can a principal know if a dual-age class is successful? (pp. 19-21)

District Level Questions

During the months of April, May and June 2001 informal local surveys were designed and conducted by the local school district. It is important to note that the genesis of these surveys did not stem from MAIR. The surveys were informal in nature and the data was offered as a resource for MAIR. The surveys came about because of a Multi-Age parent / educator session that Dr. D. Mulcahy (Memorial University of Newfoundland) and Ms. Eileen Chatman (Elementary/Multi-Age program specialist with the Lewisporte/Gander School District) conducted in March 2001. After this session a discussion was held and it

was suggested by Ms. Chatman that she would like to conduct two informal surveys at the district office level. The first of these surveys solely involved seasoned Multi-Age classes at Gander Academy. This sample consisted of three Multi-Age classrooms. The three Multi-Age classes were comprised of the following: a K-2 English classroom with 32 students, a grade 2-3 French Immersion classroom with 18 students and a grade 3-4 English classroom with 19 students. There was a 28.9% return rate on these surveys. The purpose of this first informal survey was to gain a better understanding of questions from seasoned Multi-Age parents.

The second survey was a broader based one involving a random sampling of five Multi-Age parents in each of sixteen schools. The sample was limited to K-6 classes. There was a 67.5% return rate on these surveys. The purpose of this second informal survey was to gain a better understanding of the questions both seasoned and non-seasoned parents had with regard to Multi-Age schooling.

The school district provided access to the data from the surveys for this project. The surveys generated a number of questions, however, as expected, there were no new questions coming from the survey data. The data confirmed that there were indeed common questions. Questions noted on the surveys were:

- How would Multi-Age deal with special needs children? Will they find the work harder?

- Will my child benefit from Multi-Age schooling?

- How does the teacher(s) teach two or three grades at once?

- Will the open atmosphere of the Multi-Age class suit my child?

- Where will teachers get teaching materials?

- Would too much be expected of my child who is in Kindergarten in a K-2 Multi-Age classroom?

- What is the long term plans for Multi-Age at the school?

- Is it a good idea to have siblings together in the same Multi-Age classroom?

- Is there support within the school for this approach?

- Will the teacher(s) have adequate time to prepare/evaluate my child as well as time in his/her day to monitor my child's progress?

- How do I know that this is the best decision for my child?

- Will the open structure of the Multi-Age classroom have a negative effect on children who learn differently or slower?

- My child will be in the oldest group, won't he be held back because of the needs of the younger children?

- What is the best grade structure? Two or three grade levels in a Multi-Age classroom?

- How will the teacher deal with personality conflict between the older and younger children, or the slower and faster learners?

- Will having the same teacher for more than one year be helpful or harmful to my child?

- Will the Multi-Age teacher cover all aspects (i.e. outcomes and objectives) of the regular single grade curriculum?

- What about when my child has to rejoin a traditional classroom, will my child be ahead in some areas and behind in others?

- What is Multi-Ageing? How will the class be physically structured? What ideology is it based upon?

- How large will the class be?

- Will the size of the class be capped?

- How many teachers will be in the classroom?

- What types of training will the teacher have?

- Will teachers be given time to go to all Multi-Age training sessions offered by the school district?

- Is it good for my child to be in the oldest group for more then one year? Would being in the youngest group next year challenge my child more?

On-line Multi-Age Chat Groups and E-mail Contact

On-line Multi-Age chat groups and e-mail were utilize to get a better understanding of the National and International picture related to questions that parents and educators may ask when first exposed to the idea of Multi-Age pedagogy. Messages were posted on two on-line (Internet based) discussion boards. These were respectively "Teachers Net Multi-Age Classroom Chatboard" and "Highlights TeacherNet Multi-Age Classrooms Bulletin Board". Links to both of these sites can be found on the web site module of MAIR at http://home.thezone.net/~tnorman/. The posting entitled "Multi age parental questions" on the Highlights' site was viewed 260 times between March 17, 2001 and December 31, 2001. Responses to these two postings were in the form of e-mails directly to the author. The e-mails varied from requests from educators requesting information on Multi-Age to educators suggesting questions that they felt were number one in importance. The questions that were suggested were previously identified from the literature review. There

were also some enquires from parents as to what would be the best decision to make involving their unique situation with regard to a Multi-Age option they were faced with.

Several individuals were e-mailed directly and asked if they would be willing to suggest / discuss questions that Multi-Age parents might have. Questions suggested from these e-mail contacts had also previously been identified in the literature review and the informal surveys. Dr. Wendy Kasten, Kent State University and Dr. Kitty Clarke, University of South Florida / Sarasota and Manatee Campus agreed as a result of these direct e-mails to help assist with the narrowing down and refining of the top questions that parents appear to have.

Merging the Questions

Twelve core questions emerged from the local information sessions, literature review, informal survey data, on-line chat groups and e-mail contacts. The core questions were selected on the basis of the frequency that they were posed or identified. Therefore, the following questions form the core of MAIR.

1. What is Multi-Age?

2. How do you evaluate student achievement in a Multi-Age classroom?

3. Will my child, who is in the younger group, be frustrated because he/she finds the work too hard? Will my older child be unchallenged because the work is too easy?

4. How do I know if the school is ready to implement a Multi-Age program?

5. What criteria would be used to set-up a Multi-Age program?

6. How will the teacher(s) manage the range of abilities and grades in a Multi-Age environment?

7. What skills/qualities will a teacher need in order to work successfully in a Multi-Age environment?

8. How might the teacher deal with the various maturity levels and the chronological ages of the children?

9. How are the needs of students with Learning Disabilities addressed in a Multi-Age environment?

10. What kind of effect would being in a Multi-Age environment have on a child who then moves back to a more traditional classroom?

11. How would schools prepare parents for the Multi-Age experiences of their children?

12. What does the research say?

It is important to note that this Multi-Age information resource, while focusing primarily on twelve core questions, contains answers to (or leads to) most, if not all, of the previously stated questions. As such this resource is dynamic, it is designed so that the user can explore as deeply as they have the desire or ability to do so.

Sources of Information

Materials for MAIR were assembled over a period of three years from a multitude of sources. The compilation of the information for MAIR employed the use of a variety of information gathering techniques and methodologies.

Telephone contact as well as meetings with a number of individuals from the publishing and professional educational organizations were employed initially to get a sense as to what was currently available on the topic of Multi-Age education and the format of these materials. It is from these early telephone contacts and meetings that the

type and use of other information gathering techniques would be decided. As a result of direct telephone contacts and subsequent e-mail interactions, book publishers supplied a large number of materials on Multi-Age Education. Some of the results garnered by the use of telephone and e-mail communications were:

> The assistance and materials provided by Mr. Jim Grant, Crystal Spring Books.

> The support of Dr. Barbara Kitty Clarke, University of South Florida / Sarasota and Manatee Campus.

> The cooperation of Dr. Wendy Kasten, Kent State University.

Dr. Wendy Kasten also granted the author access to her education course materials found under her courses at http://www.kent.edu/. The assistance and guidance of Dr. Dennis Mulcahy (Memorial University of Newfoundland) and Eileen Chatman, Elementary / Multi-Age program specialist with the Lewisporte / Gander School District was also achieved through e-mail, telephone and face to face meetings. Diane Curtis who is involved with the **Multi-Age Online Professional Development Project** and who has also completed a project related to Multi-Age education was also conferred with by way of telephone.

Publishers and organizations that were directly involved via e-mail, telephone conversations and meetings regarding MAIR and supplied materials were Crystal Springs Books, Stenhouse Publishers, Society for Developmental Education (SDE), Kevin Gamble with Portage & Main Press (Formerly Peguis Publishers), TK McDonald at ERIC Clearinghouse on Educational Management, Sheri Ellenberger, National Council of Teachers of English (NCTE), Betty Bradbury, Phi Delta Kappan (CEDR), Sue Canavan, Christopher-Gordon Publishers, Laura Varlas, Association for Supervision and

Curriculum Development (ASCD), and Dr. Phil McCullum, Director Oregon School Study Council. Dr. McCullum also granted the author access to full text articles achieved at the Oregon School Study Councils educational database, which can be found at http://interact.uoregon.edu/ossc/Index.html.

Susan Kearsey, Queen Elizabeth II Library Memorial University of Newfoundland, has been invaluable in the compilation of some of the materials for MAIR by way of Memorial University of Newfoundland's Libline service http://info.library.mun.ca/. Three full days were also spent on site at the Queen Elizabeth II Library Memorial University of Newfoundland. During this time the majority of the journal articles and books that are in the libraries holdings were reviewed and secured for later perusal. A further one half day was spent at NLTA's professional library (St. John's) with Joann Russell.

The data from Eileen Chatman (Elementary / Multi-Age program specialist with the Lewisporte / Gander School District) and the author's informal surveys were also used as well as information from parent information sessions held by local schools.

The Internet and its informational resources have been vital to the development of MAIR. The most efficient method to employ Internet resources was determined by perusing any and all references to Multi-Age education that were encountered via Internet based topic specific chat sites, search engines, URL lookup, and educational databases access and search. The following search engines were primarily employed on a routine bases over a one to two year period. It should be noted that for efficiency, only MAIR's core search engines are noted here. The reader should note that other search engines were employed during the duration of the research phase of MAIR.

Northern Light: (Power Search)[3]

http://www.northernlight.com/power.html

Hotbot: (Advanced Search)

http://hotbot.lycos.com/?query=&cobrand=&matchmode=all&datedelta=0&language=an
y&recordcount=10&descriptiontype=2&modsign1=MC&dateoption=within&placeselect
ion=georegion&act.super.x=95&act.super.y=9

Google: (Advanced Search)

http://www.google.com/advanced_search

Organizing and Evaluating Sources

Only Internet sites that possessed topic significant content were selected for inclusion
in MAIR, i.e. not all sites were acceptable. The acceptability of a site was determined
through site content, i.e. its relevance to the MAIR's topic and in the case of the web
page component of MAIR its anticipated longevity on the Internet.

Furthermore, the practicality of information source inclusion was also a determinant
factor in the organization of MAIR. For example some sources are on microfiche and
therefore the process of converting these to a digital format was both cost and time
ineffective. In addition, other sources that are in non-digital format have not been
included but have been incorporated in the reference section of this paper or in the
bibliography. It is important to note that all relevant sources encountered during the
development of MAIR are either included in digital format or are listed in the
bibliography.

---

[3] An account was set-up with this search site and ongoing search data was sent to the author whenever
relevant new information was found. The author defined the search parameters that were used to evaluate
whether the new information should be included in Northern Lights e-mail "Search Alert Service".

Product

MAIR is structured around twelve core questions concerning Multi-Age education. Forty-eight sources, which deal with the twelve core questions, have also been selected to assist the user in getting to some initial answers. The twelve core questions were selected based on research in the area of Multi-Age education from the perspective of parents and educators who either are new to the concept of Multi-Age or require additional information. MAIR also provides a myriad of additional links and Portable Document Format files (PDF's) for individuals who want to delve deeper into the area of Multi-Age schooling for research and detailed analysis. The rationale and purpose of MAIR has been met in that the creation of a resource for parents and educators has been achieved. Partial confirmation of this is supported by an ongoing statistical analysis of hits at MAIR's web site: http://home.thezone.net/~tnorman/ (See Appendix A).

MAIR is organized in such a manner as to let the user explore the resources at whatever depth he/she wants or needs. For example, the user can simply explore MAIR in a non-specific manner or use the included resources to research and study the concept of Multi-Age schooling to a much greater depth. MAIR's format is based on searchability (both in the stand alone software and the Internet components), multi-platform usage, consistence in paper and digital reproduction, ease of transport (mobility), ease of transmission to others (e-mail attachments or Internet access) and utility for education presentations using a projection unit in conjunction with a computer system. Furthermore, MAIR's configuration dictates that it is partially CD-ROM based and partially web based http://home.thezone.net/~tnorman/ (i.e. hybrid). In essence, MAIR's information is organized into two main components: a web site and a Windows based

software component. Either of which is designed to be a stand-alone resource or to work in tandem.

MAIR's file system uses the PDF file format, which results in a very compressed data file. As such MAIR's files can be circulated and published almost anywhere. For example, they can be printed quickly, sent as e-mail attachments, uploaded and stored on web servers for later viewing, or written to CD-ROM. All the user needs to open a PDF file is a copy of the Acrobat Reader (included on the CD-ROM) that is written for his / her particular computer platform. Anyone, anywhere should be able to open a PDF file on his / her computer. Files in the PDF format should always print as the author intended, using any printing device, i.e. the files should retain their initial formatting information. Furthermore, PDF documents can be reformatted to fit a variety of screen sizes. This means that not only can visually challenged individuals view the documents but users with different screen resolutions can also view the documents as the author intended.

Significance of Project

The terms Multi-Grade and Multi-Age have always been a part of the Newfoundland and Labrador Educational System in one form or another. Currently there are more classes being established and there appears to be a trend towards Multi-Ageing as our student population declines. MAIR should better enable both parents and educators to deal with the huge amount of information on the concept of Multi-Age education as opposed to Multi-Grade and Single Grade structures. Furthermore, MAIR itself has created a method through which the user can better deal with the topic of Multi-Age education in a more efficient and focused manner. In essence, MAIR has resulted in the

creation of something new, this type of resource has not existed before in this area of study.

Gutloff (1995) notes a "strong parental education program" is very important when establishing a Multi-Age program (p.6). It is hoped that MAIR will help address Gutloff's concerns by promoting easier and more convenient access for parents and educators to Multi-Age resources. Once accessed, the Multi-Age information can then be evaluated by employing the various perspectives found in MAIR. MAIR will also give users the ability to make hard copies (paper) of many of the resources. Additionally, given that MAIR is in digital format the sharing of information can be accomplished rapidly i.e. e-mail attachments or by accessing MAIR's web site. As such, MAIR makes it possible to discuss issues with educators or parents in a timely manner.

How to Use the Resource

The files on the CD module of this resource are in PDF format. To read PDF documents Adobe Acrobat Reader 5 must be installed. This software is included on the CD, but you must install it to your computer's hard drive. Basic help regarding the use of Adobe Acrobat can be found in Appendix B as well as in various places within the program.

The CD module of MAIR requires a Windows based computer equipped with a CD-ROM drive, a web browser, and a video display capable of 640 x 480 or above resolution (800 x 600 is recommended) and a minimum color depth of 256 colours (High Colour 16 bit is recommended). The computer system should be able to access a quality printer and be configured for Internet connection with e-mail capability. The complete installation of Adobe Acrobat Reader 5 will require approximately 15.4 MB of hard disk space. The

Acrobat Reader file, which is approximately 10 MB, can be found on the CD using the path *D:\acrobat reader*. If your CD-ROM is set-up as a drive other then *D:* you will have to substitute the correct drive letter for *D:*. Once you are in the folder *D:\acrobat reader* you will see a file named *rp500enu.exe*. Double-click on this file to begin the installation process. When you start Acrobat Reader for the first time you will be asked to accept a standard end user agreement, once accepted, Acrobat Reader is ready to go.

It is recommend at this point, that you use Windows "explore" to open the *readme.txt* file which is located on the MAIR CD in *D:*. Once again, if your CD-ROM is set-up as a drive other then *D:* you will have to substitute the correct drive letter for *D:*.

Now that you have Acrobat Reader installed, and have read the *readme.txt* file all that is required to start MAIR is to open the file *main.pdf*. To do this click the "open" button, or choose "file > open" from within Acrobat Reader. The open dialog box will now be on the screen. Click the down arrow on the right end of the "look in:" field. From the drop down list, select the CD-ROM drive that contains MAIR. The CD-ROM drive letter should be the same drive letter that you used above to install the Acrobat Reader software. The drive letter should also have "multiage" in front of it. Once you have selected the CD-ROM drive that contains MAIR you should see a list of files. Select the file named, *main* and click the open button. After the two automated splash screens are displayed, you will be at the main menu for MAIR. From the main menu you can start to use MAIR.

If for some reason you encounter problems with the installation or running of the Acrobat Reader 5 software included on the CD-ROM it is recommended that you go to

http://www.adobe.com/products/acrobat/readstep.html and download the latest version of the free Acrobat Reader.

Although this CD has been developed for a Windows environment, the documents on the CD are formatted for cross platform use. Thus, the Adobe Acrobat PDF files on the CD can also be accessed through the following platforms: Macintosh, Unix and OS/2. Please visit www.adobe.com for information specific to your specific platform.

System Requirements

Windows Platform:

Intel® Pentium® processor

Microsoft® Windows® 95 OSR 2.0, Windows 98, Windows Millennium, Windows NT®* 4.0 with Service Pack 5 or 6, or Windows 2000

32 MB of RAM (64 MB recommended)

115 MB of available hard-disk space

CD-ROM drive

Internet Explorer 4.0.1 or later required for Windows NT users

Disclaimer

The fluidity of the Internet and the electronic resources found on the Internet make it impossible for all materials and links to these materials to remain active or unchanged over time. With this in mind, all external links for MAIR were working as of December 2001. It is important to note that the links are provided "as is". I do not control the content on these external web sites nor any editorial control over the information the user may find at these locations. The external web site module of MAIR is an educational service whose primary mandate is to raise awareness of Multi-Age schooling among

parents and educators. As such, all links as of December 2001 were supportive of MAIR's academic mission. Due to the nature of the Internet, from time to time broken links will be encountered. If this occurs, please make several attempts over a period of time (e.g. a 24-hour period). If the link is still broken, you may contact me,

t.norman@roadrunner.nf.net.

References

Bacharach, N., Hasslen, R. C., & Anderson, J. (1995). Learning together: A manual for multiage grouping. Thousand Oaks, CA: Corwin Press. (ERIC Document Reproduction Service No. ED 387 451)

Bingham, A.A., Dorta, P., McClaskey, M., & O'Keefe, J. (1995). Exploring the multiage classroom. York, ME: Stenhouse Publishers.

Bozzone, M. A. (1995). Straight talk from multi-age classrooms. In J. Grant & I. Richardson (Eds.), The multiage handbook: A comprehensive resource for multiage practices. (pp. 8-11). Peterborough, NH: Crystal Springs Books.

Chase, P., & Doan, J. (1994). Full circle: A new look at multiage education. Portsmouth, NH: Heinemann.

Chase, P., & Doan, J. (1996). Choosing to learn: Ownership and responsibility in a primary multiage classroom. Portsmouth, NH: Heinemann.

Cotton, K. (1993). Nongraded primary education. Portland, OR: Northwest Regional Educational Laboratory.

Davis, R. (1992). The nongraded primary: Making schools fit children. Arlington, VA: American Association of School Administrators. (ERIC Document Reproduction Service No. ED 363 939)

Department of Education Government of Newfoundland and Labrador. (2000). Education Statistics 1999-00: Elementary-Secondary. St. John's, NF: Author.

Fogarty, R. (Ed.). (1993). The multiage classroom: A collection. Palatine, IL: IRI/Skylight Pub. (ERIC Document Reproduction Service No. ED 369 574)

Grant, J., Johnson, B., & Richardson, I. (1996). <u>Multiage Q&A: 101 practical answers to your</u> <u>most pressing questions</u> (2nd ed.). Peterborough, NH: Crystal Springs Books.

Grant, J., & Johnson, B. (1995). <u>A common sense guide to multiage practices: Primary level.</u> Columbus, OH: Teachers' Publishing Group.

Gutloff, K. (Ed.). (1995). <u>Multi-age classrooms.</u> Washington, DC: National Education Association.

Hart-Hewins, L., & Villiers, U. (1997). <u>Multi-age groupings in the early years.</u> Markham, ON: Pembroke Pub.

Kasten, W.C., & Clarke, B. K. (1993). <u>The multi-age classroom: A family of learners.</u> Katonah, NY: Richard C. Owen Publishers Inc.

Katz, L. G., Evangelou, D., & Hartman, J. A. (1990). <u>The case for mixed-age grouping in early</u> <u>education.</u> Washington, DC: National Association for the Education of Young Children. (ERIC Document Reproduction Service No. ED 326 302)

MacDonald, D., & Lundrigan, R. (1994). <u>Multi-age classrooms: Where differences are the norm.</u> Western Integrated School Board.

McClay, J. L. (1996). <u>The multi-age classroom.</u> Westminster, CA: Teacher Created Materials Inc.

Miletta, M. M. (1996). <u>A multiage classroom: Choice and possibility.</u> Portsmouth, NH: Heinemann.

Mulcahy, D. (2001) Implementing Multiage Pedagogy. In K.Stevens (Ed.), <u>Small Rural Schools</u> <u>in the Global Community: An International Symposium on Rural Edcuation and</u> <u>TeleLearning.</u> St. Anthony, NF. Canada. (Conference Proceedings)

Mulcahy, D. (2001) Multiage at Gander Collegiate (revised and updated). *The Morning Watch*, 28(3&4).

Mulcahy, D. (1999) Small Schools and Multiage Pedagogy. Free to Learn: The Journal of the Multiage Association of Queensland. 5(11) 9-12.

Mulcahy, D. (2000). Multi age and multi-grade: Similarities and differences. The Morning Watch, 27 (3&4), 7 pages. Retrieved February 9, 2001 from the World Wide Web: http://www.mun.ca/educ/faculty/mwatch/win2000/mulcahy.html.

Mulcahy, D. (1993). Learning and Teaching in Multi-grade Classrooms. (Monograph) St. John's, NF: Faculty of Education Publications Committee, Memorial University.

Mulcahy, D. (1993) Towards a Distinctive Approach to Multi-grade Classrooms. Education Canada. (Spring).

Ostrow, J. (1995). A room with a different view: First through third grades build community and create curriculum. Markham, ON: Pembroke Pub.

Politano, C., & Davies, A. (1994). Multi-age and more: Building connections. Winnipeg, MB: Peguis Pub.

Regional Laboratory for Educational Improvement of the Northeast and Islands. Occasional Paper Series: Volume. IX, Number 1. (1994). Multiage grouping. Andover, MA: Author. (ERIC Document Reproduction Service No. ED 383 079)

Tapper, J. (1996). One page explanation of multiage education. [On-line] Retrieved February 8, 2001 from the World Wide Web: http://www.geocities.com:0080/EnchantedForest/Glade/2990/explanation.html.

Appendix A

MAIR Web Site 30-Day Traffic Analysis[*]

---

[*] As gathered from MAIR's web site traffic analysis account. Hosted by *Web-Stat Hit Counters - 1035 B West DeKalb Street - Suite #270 - Camden, SC 29020 – USA. http://www.web-stat.com* MAIR's web site data from September to October 18 was lost due to a server error with Web-Stat Hit Counters. Thus the graphs in this section show a total counter value of 429. This figure is arrived at by adding the total hits from Oct 18 to January 11 (number = 282) and the total hits from September to October 18 (number =147).

total traffic over the last 30 days

user name : tnorman - log started Oct 18 2001 - counter value : 429
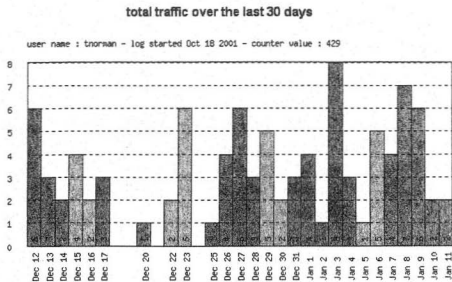
Figure A1.

first time traffic over the last 30 days

user name : tnorman - log started Oct 18 2001 - counter value : 429
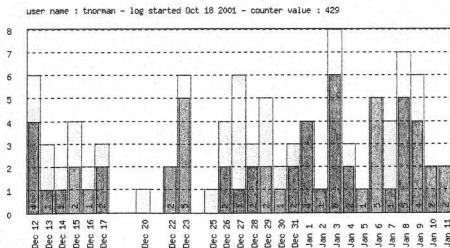
Figure A2.

The background of this graph (light grey) shows the total daily traffic on the MAIR

web site. Superimposed in darker grey is the daily first time traffic.

returning traffic over the last 30 days

user name : tnorman – log started Oct 18 2001 – counter value : 429
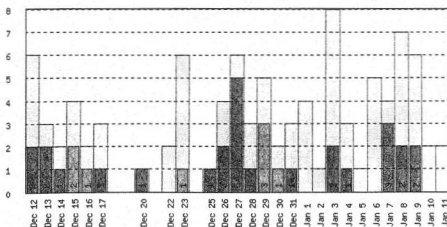
Figure A3.

The background of this graph (light grey) shows the total daily traffic on the MAIR

web site. Superimposed in darker grey is the daily returning traffic.

country of origin
(cumulative - 48 most prevalent countries)

user name : tnorman - log started Oct 18 2001 - counter value : 429
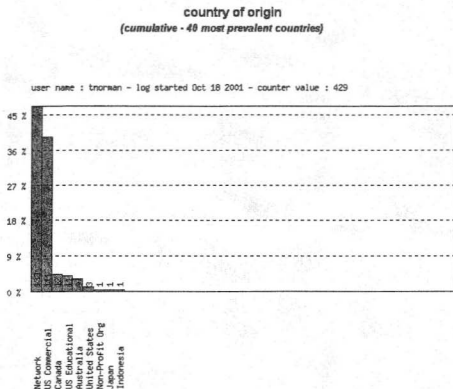
Figure A4.

MAIR's web site data from September to October 18 was lost due to a server error with Web-Stat Hit Counters. There was one hit from France and Indonesia respectively during this period. The other 145 hits were from Network, US Commercial or Canada. The numbers for these hits are not included in the above Web-Stat graph. The number of hits from September to October 18 was approximately 147.

Appendix B

Adobe Acrobat Reader 5 Help (Amended)

Adobe Acrobat Reader Help (Amended)

This help file contains the basic information you need to open, navigate, and print PDF files using Adobe Acrobat Reader. You can access the full version of this help file by starting Acrobat Reader and opening the file *MiniReader.pdf* found in the folder *C:\Program Files\Adobe\Acrobat 5.0\Help\ENU*. If more extensive help is needed there is an Internet link in *MiniReader.pdf* that you can click to download and install the complete Acrobat Reader Help file. Alternately, you can also open another help file that was installed to your hard drive when you installed Acrobat Reader. Using the path *C:\Program Files\Adobe\Acrobat 5.0\Help\ENU* from within Acrobat Reader you can select a file named *Reader.pdf*.

Opening PDF Documents:

Adobe Acrobat Reader allows opening and viewing of Portable Document Format (PDF) files.

To Open a PDF Document:

Click the Open button, or choose File > Open. In the Open dialog box, select one or more file names, and click Open. PDF documents usually have the extension .pdf. Choose the document's file name from the File menu. The menu lists the four PDF documents you last opened. Double-click the file icon in your file system.

Note: On Mac OS, you may not be able to open a PDF document created in Windows by double-clicking the icon. If double-clicking the icon on Mac OS does not open the document, use File > Open in Acrobat to open the document.

Adjusting the View of PDF Documents:

You can change the magnification of a PDF document and set the page layout so that you can see one page at a time or a continuous flow of pages.

To Increase Magnification:

Select the zoom-in tool, and click the page, or drag to draw a rectangle around the area to magnify. You can also click the Zoom In button in the viewing toolbar.

To Decrease Magnification:

Select the zoom-out tool, and click the page, or drag to draw a rectangle the size you want the reduced page to be. You can also click the Zoom Out button in the viewing toolbar.

Note: When the zoom-in tool is selected, you can press Ctrl (Windows) or Option (Mac OS) while clicking or dragging to zoom out instead of in. When the zoom-out tool is selected, press Ctrl or Option to zoom in.

To Resize a Page to Fit the Window:

Do one of the following:

- ✓ To resize the page to fit entirely in the window, click the Fit In Window button, or choose View > Fit in Window.
- ✓ To resize the page to fit the width of the window, click the Fit Width button, or choose View > Fit Width. Part of the page may be out of view.
- ✓ To resize the page so that its text and graphics fit the width of the window, choose View > Fit Visible. Part of the page may be out of view.

To Return a Page to Its Actual Size:

Click the Actual Size button, or choose View > Actual Size. The actual size for a PDF page is typically 100%, but the document may have been set to another magnification

level when it was created.

Setting the Page Layout and Orientation:

You can use three page layouts when viewing PDF documents: Single Page, (one page at a time); Continuous, (continuous vertical column); or Continuous - Facing, (side by side).

To Set Page Layout:

Click the Single Page button, the Continuous button, or the Continuous – Facing button in the status bar, or choose Single Page, Continuous, or Continuous - Facing from the View menu.

To Rotate a Page:

Click the Rotate View Clockwise button or the Rotate View Counter-Clockwise button in the status bar, or choose Rotate View Clockwise or Rotate View Counter-Clockwise from the View menu.

Reading Documents in Full Screen View:

In Full Screen view, PDF pages fill the entire screen; the menu bar, command bar, toolbar, status bar, and window controls are hidden.

To Read a Document in Full Screen View:

Choose View > Full Screen. Press Return or the Down Arrow or Right Arrow key to page through the document. Press Shift-Return or the Up Arrow or Left Arrow key to page backward through the document.

Note: If you're using Windows 98, Windows 2000, or Mac OS and have two monitors installed, the Full Screen view of a page appears on only one screen. To page through the document, click the screen displaying the page in Full Screen mode.

To Exit Full Screen View:

Press Escape, if your Full Screen preferences are defined this way, or press Ctrl+L (Windows) or Command+L (Mac OS). For more information on setting preferences for Full Screen view, download the full version of Acrobat Reader Help.

Paging Through Documents:

Acrobat provides buttons, keyboard shortcuts, and menu commands for paging through a PDF document.

Note: If you use the number keys on your keyboard's number pad, make sure Num Lock is off.

To Go to Another Page:

Do one of the following:

✓ To go to the next page, click the Next Page button in the navigation toolbar or status bar, or press the Right Arrow key, press Ctrl (Windows) or Option (Mac OS) and the Down Arrow key. Or choose Document > Next Page.

✓ To go to the previous page, click the Previous Page button in the navigation toolbar or status bar, or press the Left Arrow key, press Ctrl (Windows) or Option (Mac OS) and the Up Arrow key. You can also choose Document > Previous Page.

✓ To move up or down one line, press the Up or Down Arrow key.

Note: The Down and Up Arrow keys move you one line at a time when you are not in Fit in Window view. In Fit in Window view, these keys move you one page at a time.

To move down one screen, press Page Down or Return.

To move up one screen, press Page Up or Shift+Return.

To go to the first page, click the First Page button in the navigation toolbar or status bar, press the Home key, or choose Document > First Page.

To go to the last page, click the Last Page button in the navigation toolbar or the status bar, press the End key, or choose Document > Last Page.

To Jump to a Page By It's Number:

Drag the vertical scroll bar until the number of the page you want to jump to is displayed, or select the current page number in the status bar, type the page number to jump to, and press Return. You can also choose Document > Go To Page, type the page number, and click OK.

Note: If the Use Logical Page Numbers option is selected in General preferences, and if your document's page numbers are different from the page position in the PDF file, the page position appears in parentheses in the status bar.

Browsing With Bookmarks, Thumbnails, Links, and Articles:

Acrobat Reader allows you to move to specific places in PDF documents using Bookmarks, Thumbnails, Links (that take you to specific pre-defined locations), and Articles, (electronic threads that lead you through a document):

To Browse Using a Bookmark:

1. Show the Bookmark's palette. You may need to choose Window > Show Bookmark's to open the palette or click the Bookmark's tab to bring the palette to the front of its group.

2. To jump to a topic using its bookmark, click the bookmark's icon or text in the palette.

Note: Clicking a bookmark might perform an action, such as playing a movie, instead of taking you to another location. It depends on how the bookmark was defined.

The bookmark for the part of the document currently showing is boldfaced. If the navigation pane disappears when you click a bookmark, click the Show/Hide Navigation Pane button on the command bar. Deselect Hide After Use in the navigation pane's palette menu (the triangle next to the name Bookmarks at the top of the palette) if you want the navigation pane to remain open after you click a bookmark.

When a parent bookmark is collapsed, it has a plus sign (Windows) or a right pointing triangle (Mac OS) next to it. If the bookmark you want to click is hidden in a collapsed parent, click the plus sign or triangle next to the parent to show it.

To Browse Using a Thumbnail:

1. Show the Thumbnail's palette. You may need to choose Window > Show Thumbnail's to open the palette or click the Thumbnail's tab to bring the palette to the front of its group.

2. Do one of the following:

    ✓ To jump to another page, click the page's thumbnail.

    ✓ To display another part of the current page, position the pointer over the edge of the page-view box in the page's thumbnail until the pointer changes to the hand tool . Then drag the box to move the view area.

To Follow a Link:

1. Select the hand tool, a zoom tool, or a selection tool.

2. Position the pointer over the linked area on the page until the pointer changes to the hand with a pointing finger. (The hand has a plus sign in it if the links point to the

Web.) Then click the link.

Note: Clicking a link might perform an action, such as playing a movie, instead of taking you to another location, depending on how the link was defined.

To Read an Article:

1. Do one of the following:

    ✓ Show the Article's palette. Then double-click the article's icon in the palette to start reading at the beginning of the article.

    ✓ Select the hand tool. Then click in the article to start reading it at that point, or press Ctrl (Windows) or Option (Mac OS) and click anywhere in the article to start reading at the beginning.

2. The pointer changes to the follow article pointer. Do one of the following to navigate through the article:

    ✓ To go to the next page in the article, press Return or click.

    ✓ To go to the previous page, press Shift-Return, or press Shift and click.

    ✓ To go to the beginning of the article, press Ctrl (Windows) or Option (Mac OS) and click.

    ✓ To exit the article before reaching the end, press Shift-Ctrl (Windows) or Shift-Option (Mac OS) and click.

3. When you reach the end of the article, the pointer changes to the end article pointer. Press Return or click to return to the view displayed before you started reading the article.

Retracing Your Viewing Path:

After you page through one or more documents, you can retrace your path back to

where you started. You can go 64 steps back in Acrobat, or 32 steps back for documents in external browser windows.

To Retrace Your Viewing Path:

Do one or more of the following:

- ✓ To retrace your path within a PDF document, click the Go To Previous View button in the navigation toolbar, or choose Document > Previous Page for each step back. Or click the Go To Next View button, or choose Document > Next Page for each step forward.

- ✓ To retrace your viewing path through other PDF documents, choose Document > Go To Previous Document for each step back or Document > Go To Next Document for each step forward. Or hold down Shift, and click the Go Back or Go Forward button. This command opens the other PDF documents if the documents are closed.

Printing PDF Documents:

1. You can print the entire document; specify a range of pages, noncontiguous pages, or a particular page area to print before opening the dialog box.

To Print a PDF Document:

If you don't need to print the entire document, do one of the following:

- ✓ To select pages to print, click thumbnails in the Thumbnails palette. You can Ctrl click (Windows) or Command-click (Mac OS) thumbnails to select non-contiguous pages, or Shift-click to select a contiguous range of pages. You can also select a contiguous page range in the Print dialog box.

- ✓ To select an area on a page to print, select the graphic select tool , and

drag on the page to draw the area you want.

2. Choose File > Page Setup to set general printing options. The available options will vary with different printers and drivers. See your printer driver documentation for details.

3. Click the Print button, or choose File > Print. Specify the printer, page range, number of copies, and other options, and click OK. Most of the options are the same as they are for other applications, but note the following:

   ✓ Selected Pages Or Selected Graphic (Windows) or Selected Thumbnails / Graphic (Mac OS) prints only the pages or page area you selected before opening the Print dialog box.

   ✓ Page From/To prints a range of pages. In Windows, if the Use Logical Page Numbers option is selected in General preferences, you can enter page-position numbers in parentheses to print those pages. For example, if the first page of a document is numbered "iii", you can enter (1) to print that page.

   ✓ Comments print Acrobat comment graphics on the pages.

   ✓ Shrink oversized pages to paper size reduces the PDF file to fit the paper size specified in the printer properties.

   ✓ Expand small pages to paper size enlarges the PDF file to fit the paper size specified in the printer properties.

   ✓ Auto-rotate and center pages adjusts the PDF file's orientation to match that specified in the printer properties.

   ✓ Print As Image (Windows) prints the pages as bitmap images. (In Mac OS,

this is set in the Print Method pop-up menu.) You may want to print pages as images if normal printing does not produce the desired results.

✓ Print Method, in Windows, specifies which level of PostScript to generate for the pages. Choose the level of PostScript appropriate for your printer. In Mac OS, this specifies whether to print using PostScript (without selecting a level) or to print pages as bitmap images.

✓ Optimize for Speed downloads fonts to the printer, as they are needed. With this option checked, the pages must be printed in the order in which Acrobat emits them.

✓ Save Printer Memory downloads all the fonts for a given page to the printer before the page is printed. When unchecked, print jobs may be smaller but require more printer memory.

Note: Some fonts cannot be downloaded to a printer, either because the font is a bitmap or because embedding of the font is restricted in that document. In these cases, a substitute font is used for printing, and the printed output may not match the screen display exactly.

The PDF document prints correctly only if the referenced fonts are installed on the printer. If the fonts are not on the printer but the printer has similar fonts, the printer substitutes the similar fonts. If there are no suitable fonts on the printer, Courier is used for the text.

If you have a PostScript Level 1 printer that does not support Type 0 font extensions, print the PDF document as a bitmap image. Printing a document as an image may take longer than using a substituted printer font.

Appendix C

Bibliography

Bibliography

Anderson, R. H., & Pavan, B. N. (1993). Nongradedness: Helping it to happen. Lancaster, PA:

  Technomic Publishing. (ERIC Document Reproduction Service No. ED 355 005)

Anderson, R. H. (1993). The return of the nongraded classroom. Principal, 72, 9-12.

Arnold, S. B., Kidwell, B., & Rossman, D. (1998). Multiage assessment: One school's plan.

  Primary Voices K-6, 6 (2), 36-43.

Association for Supervision and Curriculum Development-ASCD. (1995). Creating an inclusive

  school (R. A. Villa & J. S. Thousand Eds.). Alexandria, VA: Author. Retrieved February

  26, 2001 from the World Wide Web:

  http://www.ascd.org/readingroom/books/villa95book.html.

Bacharach, N., Hasslen, R. C., & Anderson, J. (1995). Learning together: A manual for multiage

  grouping. Thousand Oaks, CA: Corwin Press. (ERIC Document Reproduction Service

  No. ED 387 451)

Banks, J. C. (1997). Student success, and self-image in a multi-age classroom. [On-line].

  Retrieved January 10, 2001 from the World Wide Web: http://www.multiagen-

  education.com/multiagen-b/stsuccess.html.

Bergen, D. (1994). Research into practice. Journal of Research in Childhood Education, 9 (1),

  75-79.

Bingham, A.A., Dorta, P., McClaskey, M., & O'Keefe, J. (1995). Exploring the multiage

  classroom. York, ME: Stenhouse Publishers.

Bouchard, L. L. (1991). Mixed age grouping for gifted students. The Gifted Child Today, 14 (5),

  30-35.

Bozzone, M. A. (1995). Straight talk from multi-age classrooms. Instructor, 104, 64-70.

Bracey, G. W. (1999). Going loopy for looping. Phi Delta Kappan, 81 (2), 169-170.

Brown, K. G., & Martin, A. B. (1989). Student achievement in multi-grade and single grade

classes. Education Canada, 29 (2), 10-13, 47.

Burke D. L. (1997). Looping: Adding time, strengthening relationships. ERIC Digest, Eugene,

OR: ERIC Clearinghouse on Educational Management. Retrieved March 3, 2000 from

the World Wide Web: http://www.ed.gov/databases/ERIC_Digests/ed414098.html.

(ERIC Document Reproduction Service No. ED 414 098)

Burke, D. L. (1996). Multi-year teacher / student relationships are a long-overdue arrangement.

Phi Delta Kappan, 77 (5), 360-361.

Byrnes, D. A., Shuster, T., & Jones, M. (1994). Parent and student views of multiage classrooms.

Journal of Research in Childhood Education, 9 (1), 15-23.

Caine, R. N., & Caine, G. (1991). Making connections: Teaching and the human brain.

Alexandria, VA: Association for Supervision and Curriculum Development- ASCD.

(ERIC Document Reproduction Service No. ED 335 141)

Campbell, G. (1993). Assessing the impact of multigrade classes: An annotated bibliography.

The Canadian Modern Language Review, 49 (2), 345-364.

Canning, P., & Strong, E. (1994). A new look at the multi-grade classroom: Two schools work to

improve learning opportunities in the multi-grade classroom. Prospects, 1 (3), 3 pages.

Retrieved March 19, 2001 from the World Wide Web:

http://www.stemnet.nf.ca/Community/Prospects/v1n3/multgrad.htm.

Carleton Board of Education. (1994). Review of the literature regarding multigrade classes.

Nepean, ON : Author.

Cesarone, B. (1995, Spring). Mixed age grouping. Childhood Education, 182-184.

Chase, P., & Doan, J. (1996). Choosing to learn: Ownership and responsibility in a primary multiage classroom. Portsmouth, NH: Heinemann.

Chase, P., & Doan, J. (1994). Full circle: A new look at multiage education. Portsmouth, NH: Heinemann.

Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. Child Development, 59 (3), 815-829. (ERIC Document Reproduction Service No. EJ 372 532)

Coleman, J. S. (1987). Families and schools. Educational Researcher, 16 (6), 32-38. (ERIC Document Reproduction Service No. EJ 363 043)

Copeland, K. (1998). Reflections. Primary Voices K-6, 6 (2), 44-46.

Cotton, K. (1996). Affective and social benefits of small-scale schooling. ERIC Digest, Eugene, OR: ERIC Clearinghouse on Educational Management. Retrieved March 03, 2000 from the World Wide Web: http://www.ed.gov/databases/ERIC_Digests/ed401088.html. (ERIC Document Reproduction Service No. ED 401 088)

Cotton, K. (1993). Implementing a nongraded elementary program (Snapshot No. 29). Portland, OR: Northwest Regional Educational Laboratory. Retrieved March 3, 2000, from the World Wide Web: http://www.nwrel.org/scpd/sirs/8/s029.html.

Cotton, K. (1993). Nongraded primary education (Close-up No.14). Portland, OR: Northwest Regional Educational Laboratory. Retrieved February 22, 2001, from the World Wide Web: www.nwrel.org/scpd/sirs/7/cu14.html.

Cotton K., & Conklin, N. F. (1989). Research on early childhood education (Topic Synthesis No. 3). Portland, OR: Northwest Regional Educational Laboratory. Retrieved February 22, 2001, from the World Wide Web: http://www.nwrel.org/scpd/sirs/3/topsyn3.html.

Craig, C., & McLellan, J. (1987). Split grade classrooms: An educational dilemma. Education Canada, 27, 4-9.

Davenport, M. R. (1998). A legacy of learning and love: a multiage classroom. Primary Voices K-6, 6 (2), 19-35.

Daniel, T. C., & Terry, K. W. (1995). Multiage classrooms by design: Beyond the one-room school. Thousand Oaks, CA: Corwin Press, Inc.

Davis, R. (1992). The nongraded primary: Making schools fit children. Arlington, VA: American Association of School Administrators. (ERIC Document Reproduction Service No. ED 363 939)

Davis, A., Cameron, C., Politano, C., & Gregory, K. (1993). Together is better. Winnipeg, MB: Peguis Pub.

Department of Education Government of Newfoundland and Labrador. (2000). Education Statistics 1999-00: Elementary-Secondary. St. John's, NF: Author.

DeRosa, A. (1998, September). New multi-age classes eliminate grade structure. The Digital Kent Stater, 7 pages. Retrieved January 26, 2001 from the World Wide Web: http://www.stater.kent.edu/stories_old/98fall/092498/f6a.html.

Derscheid, L.E. (1997). Mixed-age grouped preschoolers' moral behavior and understanding. Journal of Research in Childhood Education, 11 (2), 147-151.

Dever, M. T., Zila, R., & Manzano, N. N. (1994). Multiage classrooms: A new way to learn math. Principal, 73, 22-26.

Feldman, J., & Gray, P. (1999). Some educational benefits of freely chosen age mixing among children and adolescents. Phi Delta Kappan, 80 (7), 507-512.

Fogarty, R. (Ed.). (1993). The multiage classroom: A collection. Palatine, IL: IRI/Skylight Pub. (ERIC Document Reproduction Service No. ED 369 574)

Forsten, C., Grant, J., & Richardson, I. (1999, March). Multiage Looping: Borrowing from the Past. NAESP Principal Magazine, 3 pages. Retrieved January 26, 2001 from the World Wide Web: http://www.naesp.org/comm/p0399a.htm.

Forsten, C., Grant, J., & Richardson, I. (1999). The looping evaluation book. Peterborough, NH: Crystal Springs Books.

Forsten, C., Grant, J., & Richardson, I. (1999). The multiage evaluation book. Peterborough, NH: Crystal Springs Books.

Forsten, C., Grant, J., Johnson, B., & Richardson, I. (1997). Looping Q&A: 72 practical answers to your most pressing questions. Peterborough, NH: Crystal Springs Books.

Forsten, C. (1996). The multiyear lesson plan book. Peterborough, NH: Crystal Springs Books.

French, D. C., Waas, G. A., Straight, A. L., & Baker, J. A. (1986). Leadership asymmetries in mixed-age children's groups. Child Development, 57 (5), 1277-1283.

Gajadharsingh, J. L. (1991). The multi-grade classroom : myth and reality: A Canadian study (M. Gayfer, Ed.). Toronto, ON: Canadian Education Association - CEA. (ERIC Document Reproduction Service No. ED 333 532)

Gaustad, J. (1998). Implementing looping. ERIC Digest, Eugene, OR: ERIC Clearinghouse on Educational Management. Retrieved February 14, 2001 from the World Wide Web: http://www.ed.gov/databases/ERIC_Digests/ed429330.html. (ERIC Document Reproduction Service No. ED 429 330)

Gaustad, J. (1997). Building support for multiage education. ERIC Digest, Eugene, OR: ERIC

  Clearinghouse on Educational Management. Retrieved February 14, 2001 from the World

  Wide Web: http://eric.uoregon.edu/publications/digests/digest114.html.

Gaustad, J. (1996). Implementing multiage education. NAESP Research Roundup, 13, (1), 1.

  Eugene, OR: Eric Clearinghouse on Educational Management.

Gaustad, J. (1995). Implementing the multiage classroom. ERIC Digest, Eugene, OR: ERIC

  Clearinghouse on Educational Management. Retrieved February 15, 2001 from the World

  Wide Web: http://www.ed.gov/databases/ERIC_Digests/ed381869.html. (ERIC

  Document Reproduction Service No. ED 381 869)

Gaustad, J. (1994). Nongraded education: Overcoming obstacles to implementing the multigrade

  classroom [Special issue]. OSSC Bulletin, 38 (3 & 4), 84 pages.

Gaustad, J. (1992). Nongraded primary education. ERIC Digest, Eugene, OR: ERIC

  Clearinghouse on Educational Management. Retrieved January 26, 2001 from the World

  Wide Web: http://www.ed.gov/databases/ERIC_Digests/ed347637.html. (ERIC

  Document Reproduction Service No. ED 347 637)

Gaustad, J. (1992). Making the transition from graded to nongraded primary education. OSSC

  Bulletin, 35 (8), 41 pages.

Gaustad, J. (1992). Nongraded education: Mixed-age, integrated, and developmentally

  appropriate education for primary children. OSSC Bulletin, 35 (7), 38 pages. (ERIC

  Document Reproduction Service No. ED 343 227)

Goldman, J. A. (1981). Social participation of preschool children in same- versus mixed-age

  groups. Child Development, 52 (2), 644-650. (ERIC Document Reproduction Service

  No. EJ 251 361)

Gomulchuk, S.L., & Piland, W.E. (1995). Teacher attitudes towards multi-age classes. Education Canada, 35 (4), 28-32.

Goodlad, J. I., & Anderson, R. H. (1987). The nongraded elementary school. New York, NY: Teachers College Press. (ERIC Document Reproduction Service No. ED 279 084)

Gorrell, J.L. (1998). A study comparing the effects of multiage education practices versus traditional education practices on academic achievement. Unpublished master's thesis, Salem-Teikyo University, Salem, WV. (ERIC Document Reproduction Service No. ED 424 008)

Grant, J., Johnson, B., & Richardson, I. (1996). Our best advice: The multiage problem solving handbook. Peterborough, NH: Crystal Springs Books.

Grant, J., Johnson, B., & Richardson, I. (1996). Multiage Q&A: 101 practical answers to your most pressing questions (2nd ed.). Peterborough, NH: Crystal Springs Books.

Grant, J., & Johnson, B. (1995). A common sense guide to multiage practices: Primary level. Columbus, OH: Teachers' Publishing Group.

Grant, J., Johnson, B., & Richardson, I. (1996). The looping handbook: Teachers and students progressing together (A. Fredenburg, Ed.). Peterborough, NH: Crystal Springs Books.

Grant, J., & Richardson, I. (1996). The multiage handbook: A comprehensive resource for multiage practices (A. Fredenburg, Ed.). Peterborough, NH: Crystal Springs Books.

Gutierrez, R., & Slavin, R. E. (1992). Achievement effects of non-graded elementary schools: A best evidence synthesis. Review of Educational Research, 62 (4), 333-376.

Gutloff, K. (Ed.). (1995). Multi-age classrooms. Washington, DC: National Education Association.

Hallion, A. M. (1994, March). Strategies for developing multi-age classrooms. Paper presented at the annual convention of the National Association of Elementary School Principals Association, Orlando, FL. (ERIC Document Reproduction Service No. ED 373 899)

Hansen, B. J. (1995). Getting to know you: Multiyear teaching. Educational Leadership, 53, 42-43. (ERIC Document Reproduction Service No. EJ 514 699)

Hart-Hewins, L., & Villiers, U. (1997). Multi-age groupings in the early years. Markham, ON: Pembroke Pub.

Henson, A., & Ward, K. (1997). Meeting individual student needs in the multi-age classroom. Alexandria, VA: Association for Supervision and Curriculum Development-ASCD.

Hopping, L. (2000). Multi-age teaming: A real-life approach to the middle school. Phi Delta Kappan, 82 (4), 270-292.

Howes, C., & Farver, J. (1987). Social pretend play in 2 year olds: Effects of age of partner. Early Childhood Research Quarterly, 2 (4), 305-314. (ERIC Document Reproduction Service No. EJ 363 991)

Johnson, D. W., & Johnson, R. T. (1991). Learning together and alone: Cooperative, competitive, and individualistic learning. Englewood Cliffs, NJ: Prentice Hall.

Kalkowski, P. (1995). Peer and cross-age tutoring (Close-up No.18). Portland, OR: Northwest Regional Educational Laboratory. Retrieved February 22, 2001, from the World Wide Web: http://www.nwrel.org/scpd/sirs/9/c018.html.

Kandel, E. R., & Hawkins, R. D. (1992). The biological basis of learning and individuality. Scientific American, 267 (3), 79-86. (ERIC Document Reproduction Service No. EJ 458 266)

Kasten, W. C. (1998). Learning is noisy: The myth of silence in the reading-writing classroom. In J. R. Paratore, & R. L. McCormack (Eds.), Peer talk in the classroom: Learning from research (pp. 88-101). Newark, DE: International Reading Association.

Kasten, W. C. (1998). One learner, two paradigms: A case study of a special education student in a multiage primary classroom. Reading & Writing Quarterly, 14, 1-19.

Kasten, W. C., & Lolli, E. M. (1998). Implementing multiage education : A practical guide to a promising future. Norwood, MA: Christopher-Gordon Publishers.

Kasten, W.C. (1998). Why does multiage make sense? Compelling arguments for educational change. Primary Voices K-6, 6 (2), 2-9.

Kasten, W. C. (1995). Literature circles for the teaching of literature-based reading. In M. C. Radencich, Flexible grouping for literacy in the elementary grades (pp. 66-81). Boston, MA: Allyn and Bacon.

Kasten, W.C., & Clarke, B. K. (1993). The multi-age classroom: A family of learners. Katonah, NY: Richard C. Owen Publishers Inc.

Kasten, W. C., Lolli, E. M., & Vanderwilt, J. (n.d.). Common roots and threads: Developmentally appropriate practice, whole language, and continuous progress. Unpublished manuscript.

Katz, L. G. (1995). The benefits of mixed-age grouping. Syracuse, NY: ERIC Clearinghouse on Information & Technology. (ERIC Document Reproduction Service No. ED 382 411)

Katz, L. G. (1992). Nongraded and mixed-age grouping in early childhood programs. ERIC Digest, Eugene, OR: ERIC Clearinghouse on Educational Management. Retrieved January 26, 2001 from the World Wide Web:

http://www.ed.gov/databases/ERIC_Digests/ed351148.html. (ERIC Document
Reproduction Service No. ED 351 148)

Katz, L. G., Evangelou, D., & Hartman, J. A. (1990). The case for mixed-age grouping in early
education. Washington, DC: National Association for the Education of Young Children.
(ERIC Document Reproduction Service No. ED 326 302)

Learning in a multi-age class. (1999). Communicating with Parents, 2 (1), 27.

Lincoln, R. D. (1997). Multi-year instruction: Establishing student teacher relationships. Schools
in the Middle, 6 (3) 50-52.

Liu, J. (1997). The emotional bond between teachers and students: Multi-year relationships. Phi
Delta Kappan, 79 (2), 156-157.

Lloyd, L. (1999). Multi-age classes and high ability students. Review of Educational Research,
69 (2), 187-212.

Lolli, E. M. (1998). Multiage magic. Primary Voices K-6, 6 (2), 10-18.

Lolli, E. M. (1997). Multiage misconceptions: Suggestions from practice. ERS Spectrum, 15 (3),
4-19. (ERIC Document Reproduction Service No. EJ 549 495)

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical
overview. Developmental Psychology, 28 (6), 1006-1017. (ERIC Document
Reproduction Service No. EJ 454 900)

MacDonald, D., & Lundrigan, R. (1994). Multi-age classrooms: Where differences are the norm.
Western Integrated School Board.

Mackay, B., Johnson, R. J., & Wood, T. (1995). Cognitive and affective outcomes in a multi-age
language arts program. Journal of Research in Childhood Education, 10 (1), 49-61.

Marshak, D. (1994, March). From teachers' perspectives: The social and psychological benefits of multiage elementary classrooms. Paper presented at the annual Conference and exhibit show, "Emerging Images of Learning: World Perspectives for the New Millennium," Chicago, IL. (ERIC Document Reproduction Service No. ED 376 966)

Mason, D.A., & Burns, R.B. (1999). Assignment of teachers to combination classes. School Leardership, 9, 51-78.

Mason, D.A., & Doepner, R. W. (1998). Principals' views of combination classes. The Journal of Educational Research, 91 (3), 160-172.

Mason, D.A., & Burns, R.B. (1996). "Simply no worse and no better" may simply be wrong: A critique of veenman's conclusions about multi-grade classes. Review of Educational Research, 66 (3), 307-322.

Mason, D.A., & Burns, R. B. (1995). Teachers' views of combination classes. The Journal of Educational Research, 89 (1), 36-45.

McClay, J. L. (1996). The multi-age classroom. Westminster, CA: Teacher Created Materials Inc.

McClellan, D. E., & Kinsey, S. J. (1999). Children's social behavior in relation to participation in mixed-age or same-age classrooms. Early Childhood Research & Practice, 1 (1), 20 pages. Retrieved March 3, 2001 from the World Wide Web: http://ecrp.uiuc.edu/v1n1/mcclellan.html.

McClellan, D. (1996). Multiage Grouping: Lifeline to Children at-Risk. [On-line]. Retrieved March 2, 2001 from the World Wide Web: http://www.earlychildhood.com/Articles/index.cfm?FuseAction=Article&A=12.

McLaughlin, J. H., & Doda, N. M. (1997). Teaching with time on your side: Developing long-term relationships in schools. In J. Irvin (Ed.), What current research says to the middle level practitioner (pp. 57-71). Columbus, OH: National Middle School Association.

Metropolitan Omaha Educational Consortium, University of Nebraska at Omaha. (1999). The multiage classroom. Retrieved January 10, 2001 from the World Wide Web: http://www.unocoe.unomaha.edu/multiage.htm.

Miceli, R. (n.d.). All mixed up. Today's Smart Parent, 2 pages. Retrieved January 26, 2001 from the World Wide Web: http://www.medill.nwu.edu/journalism/magazine/tsp/trends.htm.

Miletta, M. M. (1996). A multiage classroom : choice and possibility. Portsmouth, NH: Heinemann.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools: Book 1: Review of the research on multigrade instruction (S. Vincent, Ed.). [On-line] Retrieved February 20, 2001 from the World Wide Web: http://www.nwrel.org/ruraled/publications/multig1.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools: Book 2: Classroom organization (S. Vincent, Ed.). [On-line] Retrieved February 20, 2001 from the World Wide Web: http://www.nwrel.org/ruraled/publications/multig2.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools: Book 3: Classroom management and discipline (S. Vincent, Ed.). [On-line] Retrieved February 23, 2001 from the World Wide Web: http://www.nwrel.org/ruraled/publications/multig3.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools: Book 4: Instructional organization, curriculum, and evaluation (S. Vincent, Ed.). [On-

line] Retrieved February 24, 2001 from the World Wide Web:

http://www.nwrel.org/ruraled/publications/multig4.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools:

Book 5: Instructional delivery and grouping (S. Vincent, Ed.). [On-line] Retrieved

February 27, 2001 from the World Wide Web:

http://www.nwrel.org/ruraled/publications/multig5.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools:

Book 6: Self-Directed learning (S. Vincent, Ed.). [On-line]. Retrieved February 27, 2001

from the World Wide Web: http://www.nwrel.org/ruraled/publications/multig6.pdf.

Miller, B. A. (1999). The multigrade classroom: A resource handbook for small, rural schools:

Book 7: Planning and using peer tutoring (S. Vincent, Ed.). [On-line]. Retrieved February

28, 2001 from the World Wide Web:

http://www.nwrel.org/ruraled/publications/multig7.pdf.

Miller, B. A. (1996). A basic understanding of multi-age grouping. The School Administrator, 53

(1), 12-17.

Miller, B. A. (1996). What Works in Multiage Instruction. Education Digest, 61, 4-8.

Miller, B. A. (1994). Children at the center: Implementing the multiage classroom. Portland, OR:

Northwest Regional Educational Laboratory.

Miller, B. A. (1991). A review of the qualitative research on multigrade instruction. Journal of

Research in Rural Education, 7 (2), 3-12.

Miller, B. A. (1990). A review of quantitative research on multi-grade instruction. Journal of

Research in Rural Education, 7 (1), 1-8.

Miller, B. A. (1991, May). Teaching and learning in the multigrade classroom: Student performance and instructional routines. ERIC Digest, Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. Retrieved January 19, 2001 from the World Wide Web: http://r3cc.ceee.gwu.edu/teaching_learning/key_grouping_1.htm. (ERIC Document Reproduction Service No. ED 335 178)

Miller, W. (1995). Are multi-age grouping practices a missing link in the educational reform debate? NASSP Bulletin, 79 (568), 27-32. (ERIC Document Reproduction Service No. EJ 499 127)

Moen, B. R. (n.d.). Multi-age education: Time for a change. [On-line]. Retrieved February 17, 2001 from the World Wide Web: http://wsd.waupaca.k12.wi.us/wlc/primary/multi/multigrad.html.

Moss, S., & Fuller, M. (2000). Implementing Effective practices: Teachers' perspective. Phi Delta Kappan, 82 (4), 273-276.

Mounts, N., & Roopnarine, J. (1987). The social individual model: Mixed-age socialization. In J. L. Roopnarine, & J. E. Johnson (Eds.), Approaches to early childhood education (pp. 143-162). Columbus, OH: Merrill Publishing.

Mulcahy, D. (2001). Multiage at Gander Academy. The Morning Watch, 28 (3&4), 13 pages. Retrieved April 20, 2001 from the World Wide Web: http://www.mun.ca/educ/faculty/mwatch/win21/mulcahy.htm.

Mulcahy, D. (2001) Implementing Multiage Pedagogy. In K.Stevens (Ed.), Small Rural Schools in the Global Community: An International Symposium on Rural Edcuation and TeleLearning. St. Anthony, NF. Canada. (Conference Proceedings)

Mulcahy, D. (2000). Multi age and multi-grade: Similarities and differences. The Morning Watch, 27 (3&4), 7 pages. Retrieved February 9, 2001 from the World Wide Web: http://www.mun.ca/educ/faculty/mwatch/win2000/mulcahy.html.

Mulcahy, D. (1999) Small Schools and Multiage Pedagogy. Free to Learn: The Journal of the Multiage Association of Queensland. 5(11) 9-12.

Mulcahy, D. (1993). Learning and Teaching in Multi-grade Classrooms. (Monograph) St. John's, NF: Faculty of Education Publications Committee, Memorial University.

Mulcahy, D. (1993) Towards a Distinctive Approach to Multi-grade Classrooms. Education Canada. (Spring).

Naylor, C. (2000). Split-grade and multi-age classes: A review of the research and a consideration of the B.C. context. Vancouver, BC: BCTF Research Reports, British Columbia Teachers' Federation.

Nye, B. A., Cain, V. A., Zaharias, J. B., Tollett, D. A., & Fulton, B. D. (1995, April). Are multiage/nongraded programs providing students with a quality education? Some answers from the school success study. Paper presented at the annual conference on Creating Quality Schools, Oklahoma City, OK. (ERIC Document Reproduction Service No. ED 384 998)

Oden, S., & Ramsey, P. (1993). Implementing research on children's social competence: What do teachers and researchers need to learn? Exceptionality Education Canada, 3 (1 & 2), 209-232.

Oesterreich, L. (1995). Caring for multi-age groups. [On-line]. Retrieved January 29, 2001 from the World Wide Web: http://www.nncc.org/Curriculum/care.multi.age.html.

Ong, W., Allison, J., & Haladyna, T. M. (2000). Student achievement of 3rd-graders in comparable single-age and multiage classrooms. Journal of Research in Childhood Education, 14 (2), 205-215.

Ostrow, J. (1999). The multiage challenge. Scholastic Instructor, 109, 40-42.

Ostrow, J. (1995). A room with a different view: First through third grades build community and create curriculum. Markham, ON: Pembroke Pub.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? Psychological Bulletin, 102 (3), 357-389.

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

Pancoe, M. (n.d.). Multiage education thesis. [On-line]. Retrieved January 26, 2001 from the World Wide Web: http://zepcom.com/multiage/thesis.htm.

Politano, C., & Paquin, J. (1999). What's the brain got to do with it? Communicating with Parents, 2 (1), 7-8.

Politano, C., & Davies, A. (1994). Multi-age and more: Building connections. Winnipeg, MB: Peguis Pub.

Pratt, D. (1986). On the merits of multiage classrooms. Research in Rural Education, 3 (3), 111-116. (ERIC Document Reproduction Service No. EJ 352 966)

Pratt, D. (1983). Age segregation in schools. Paper presented at Annual Meeting of the American Educational Research Association, Montreal, QC. (ERIC Document Reproduction Service No. ED 231 033)

Reese, D. (1998). Mixed age grouping: What does the research say, and how can parents use this information? [On-line]. Retrieved April 8, 2001 from the World Wide Web: http://ericps.ed.uiuc.edu/npin/pnews/1998/pnew598/pnew598b.html.

Regional Laboratory for Educational Improvement of the Northeast and Islands. Occasional
    Paper Series: Volume. IX, Number 1. (1994). Multiage grouping. Andover, MA: Author.
    (ERIC Document Reproduction Service No. ED 383 079)

Riggs, F. (1987). The small schools study project: Final report. St. John's, NF: Faculty of
    Education, Memorial University.

Rogne, P. O. (1993). Reflections on the research. The Gifted Child Today, 16 (1), 8-14.

Russell, V.J., Rowe, K.J., & Hill, P.W. (1998). Effects of multi-grade classes on student progress
    in literacy and numeracy: Quantitative evidence and perceptions of teachers and school
    leaders. Melbourne, Australia: University of Melbourne.

Schrier, D., & Mercado, B. (1994). A center moves toward multiage grouping: What have we
    learned? Day Care & Early Education, 21 (3), 9-12.

Schweinhart, L. J., Weikart, D., & Larner, M. (1986). Consequences of three preschool
    curriculum models through age 15. Early Childhood Research Quarterly, 1 (1), 15-45.
    (ERIC Document Reproduction Service No. EJ 334 891)

Shaeffer, M. B., & Hook, J. G. (1996). Multi-age grouping: The one room school revisited?
    Rural Educator, 18 (1), 10-12.

Slavin, R. E. (1988). Synthesis of research on grouping in elementary and secondary schools.
    Educational Leadership, 46, 67-77.

Smith, K. A. (n.d.). Attitudes toward multiple aged classrooms of third, fourth, fifth and sixth
    grade students. Unpublished manuscript. (ERIC Document Reproduction Service No. ED
    361 088)

Stone, S. J. (1996). Creating the multiage classroom. Glenview, IL: Good Year Books.

Stone, S. J. (1995, Winter). Strategies for teaching children in multiage classrooms. <u>Childhood Education,</u> 102-105.

Stone, S. J., & Christie, J. F. (1996). Collaborative literacy learning during sociodramatic play in a multiage (K-2) primary classroom. <u>Journal of Research in Childhood Education, 10</u> (2), 123-133.

Sundell, K. (1994). Mixed-age groups in Swedish nursery and compulsory schools. <u>School Effectiveness and School Improvement, 5</u> (4), 376-393. (ERIC Document Reproduction Service No. <u>EJ 494 671</u>)

Surbeck, E. (1992, Fall). Multiage programs in primary grades: Are they educationally appropriate? <u>Childhood Education,</u> 3-4. (ERIC Document Reproduction Service No. EJ 454 862)

Sycamore Elementary School. (n.d.). <u>Advantages of multi-age developmental classrooms.</u> [On-line]. Retrieved January 10, 2001 from the World Wide Web: http://www.cusd.claremont.edu/~sycamore/developmental.html.

Szatanski, B., & Taaffe, C. (1999). <u>Classroom of choice: A teachers guide to creating a dynamic classroom.</u> Ottawa, Ont: Cebra Pub.

Tanner, C. K., & Decotis, J. D. (1995). The effects of continuous-progress nongraded primary school programs on student performance and attitudes toward learning. <u>Journal of Research and Development in Education, 28</u> (3), 135-144. (ERIC Document Reproduction Service No. <u>EJ 505 827</u>)

Tapper, J. (1996). One page explanation of multiage education. [On-line]. Retrieved February 8, 2001 from the World Wide Web: http://www.geocities.com:0080/EnchantedForest/Glade/2990/explanation.html.

Theilheimer, R. (1993). Something for everyone: Benefits of mixed-age grouping for children, parents, and teachers. Young Children, 48 (5), 82-87. (ERIC Document Reproduction Service No. EJ 465 926)

Trusty, E.M., & Beckenstein, S. (1996). A comparative study of single-graded versus multi-graded classrooms. Virginia. (ERIC Document Reproduction Service No. ED 417 014)

Unrath, K., Robertson, T., & Valentine, J. (2001). Is multi-age grouping beneficial to middle school students? [On-line]. Retrieved May 12, 2001 from the World Wide Web: http://www.nmsa.org/services/ressum15.htm.

Veenman, S. (1996). Effects of multigrade and multi-age classes reconsidered. Review of Educational Research, 66 (3), 323-340.

Veenman, S. (1995). Cognitive and noncognitive effects of multigrade and multi-age classes: A best-evidence synthesis. Review of Educational Research, 65 (4), 319-381. (ERIC Document Reproduction Service No. EJ 522 378)

Veenman, S., & Raemaekers, J. (1995). Long-term effects of a staff development programme on effective instruction and classroom management for teachers in multigrade classes. Educational Studies, 21 (2), 167-185.

Veenman, S., Piet, L., & Winkelmolen, B. (1985). Active learning time in mixed age classes. Educational Studies, 11 (3), 171-180.

Viadero, D. (1996). Ideas & findings: Mixed-age classrooms. Teacher Magazine, 8, 1 page. Retrieved January 18, 2001 from the World Wide Web: http://www.edweek.org/tm/tmstory.cfm?slug=08find.h07&keywords=mixed%2Dage.

Viadero, D. (1996). Mixed bag. Teacher Magazine, 8, 4 pages. Retrieved January 18, 2001 from the World Wide Web: http://www.edweek.org/tm/vol-08/01ages.h08.

Walser, N. (1998, January/February). Multi-age classrooms: An age-old grouping method is still evolving. Harvard Educational Letter, 5 pages. Retrieved January 14, 2001 from the World Wide Web: http://www.edletter.org/past/issues/1998-jf/multiage.shtml.

Way, J. (1981). Achievement and self-concept in multiage classrooms. Educational Research Quarterly, 6 (2), 69-75.

Way, J. (1979). The effect of multi-age grouping on achievement and self-concept. Cortland, NY: Institute for Experimentation in Teacher Education. (ERIC Document Reproduction Service No. ED 174 593)

Winsler, A. (1993, March). The social interactions and task activities of young children in mixed-age and same-age classrooms: An observational study. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, LA. (ERIC Document Reproduction Service No. ED 356 074)

Appendix D

Adobe Acrobat Reader 5

End User License Agreement Supplement To Permit Distribution

Adobe Acrobat Reader 5

ADOBE SYSTEMS INCORPORATED

END USER LICENSE AGREEMENT SUPPLEMENT TO PERMIT DISTRIBUTION

FOR ADOBE® ACROBAT® READER®, ADOBE ACROBAT EBOOK READER™ AND ADOBE

SVG VIEWER SOFTWARE (the "Software")

NOTICE TO USER:

THIS IS A CONTRACT. PLEASE READ IT CAREFULLY. THIS END USER LICENSE AGREEMENT

SUPPLEMENT TO PERMIT DISTRIBUTION (THIS "SUPPLEMENT") AMENDS THE TERMS OF THE END

USER LICENSE AGREEMENT DISPLAYED UPON INSTALLATION AND/OR FIRST USE OF THE

SOFTWARE (THE "AGREEMENT"). BY INDICATING YOUR ACCEPTANCE BELOW, YOU ACCEPT ALL

THE TERMS AND CONDITIONS OF THE AGREEMENT AND THIS SUPPLEMENT. IF YOU DO NOT

AGREE WITH THE TERMS AND CONDITIONS OF THE AGREEMENT AND THIS SUPPLEMENT, DECLINE

WHERE INSTRUCTED, AND YOU WILL NOT BE ABLE TO DISTRIBUTE THE SOFTWARE.

THE TERMS AND CONDITIONS OF THIS SUPPLEMENT APPLY ONLY TO THE VERSION(S) OF THE

SOFTWARE AVAILABLE FROM ADOBE AS OF THE DATE OF YOUR ACCEPTANCE OF THE FOLLOWING.

THE TERMS AND CONDITIONS OF THIS SUPPLEMENT DO NOT APPLY TO ANY PRE-RELEASE (e.g.,

BETA) SOFTWARE.

SUPPLEMENT TERMS AND CONDITIONS:

DISTRIBUTION. The Agreement is hereby amended to include the following.

A. Internal Network Distribution. You may install one copy of the Software on your computer file

server for the purpose of downloading and installing the Software onto computers within your

internal network. If you install the Software on a computer file server in accordance with the

foregoing, such installed Software must be the version of the Software currently available at

www.adobe.com.

B. Other Distribution. Subject to the limitations set forth below, you may reproduce and

distribute unlimited copies of the Software (a) as bundled with other software or Scalable Vector

Graphic (SVG) content through electronic means (including, without limitation, electronic software

download), (b) as bundled with other software, Portable Document Format (PDF) content or SVG

format content on tangible media and (c) on a standalone basis solely on tangible media; provided,

however, that you are not authorized to bundle the Software with any other software, plug-in or

enhancement which uses or relies upon the Software when converting or transforming SVG or PDF

files into other file formats (e.g., a PDF file into a JPEG, SVG or TIFF file, or an SVG file into a JPEG, PDF, PNG or SWF file). Further, you are not authorized to bundle the Adobe Acrobat Reader Software with any (i) PDF creation software not licensed from Adobe Systems Incorporated, (ii) Adobe Acrobat Reader plug-in software not developed in accordance with the Adobe Integration Key License Agreement or (iii) other software or enhancement that uses Inter Application Communication (IAC) to programmatically interface with Adobe Acrobat Reader for the purpose of (A) creating a file that contains data (e.g., an XML or comments file), (B) saving modifications to a PDF file or (C) rendering a PDF file in such other software's application window.

C. Limitations. For the purpose of directing end users to obtain the Software through electronic means on a standalone basis (other than over an internal network), you must link to the official Adobe web site. Permission to use Adobe logo web-buttons may be obtained at www.adobe.com. Any software distributed with the Software and any web site containing a link to an Adobe web site must not contain any (a) Adobe logos, product signatures, or trademarks in stylized form unless under separate prior written license, (b) materials that are illegal, pornographic, defamatory, infringing, threatening, invasive of another's privacy, or racially, ethnically or otherwise objectionable or (c) viruses, Trojan horses, worms, time bombs, cancelbots or other computer programming routines with which you intend to damage, detrimentally interfere with, surreptitiously intercept or expropriate any system, data or personal information. You agree to distribute the Software without modification, including, without limitation, removal of the installer program, Electronic End User License Agreement, About Screen or any copyright or other proprietary notice that appears in the Software.

D. New Versions. If Adobe notifies you that a new version of the Software is available, you will cease all reproduction and distribution (other than over an internal network) of all prior versions of the Software upon the earlier of (a) the next release of any software you bundle with the Software or (b) the first anniversary of the date of such notice.

E. Indemnification. You agree to indemnify, hold harmless and defend Adobe from and against any claims, lawsuits and costs, including attorneys' fees, that arise or result from your Use, reproduction or distribution of the Software, provided, however, that your indemnification obligation will not apply to claims or lawsuits arising out of a claim that the Software by itself or in combination with software or hardware not provided by you infringes any third party patent, copyright, trademark or other intellectual property right. The foregoing exception will not apply to

claims arising out of the combination of the Software with other software provided by you. Adobe will give you prompt written notice of any claim or lawsuit to which your indemnification obligation applies and cooperate with you, at your expense, in defending or settling such claim or lawsuit.

F. Term. This Agreement is effective until terminated. Adobe has the right to terminate this Agreement immediately if you fail to comply with any term of this Agreement. Upon any such termination, you must cease all Use, reproduction and distribution of the Software and destroy all copies of the Software, with certification of such destruction.

G. Notice. All requests and notices given under this Agreement will be in writing and will be by personal delivery, facsimile transmission, or by certified or registered mail, return receipt requested (or in the case of notices from Adobe to you, by e-mail) and will be deemed given upon personal delivery, five (5) days after deposit in the mail, or upon acknowledgment of delivery of electronic transmission. Notices from you to Adobe will be sent to the following address: Adobe Systems Incorporated, 345 Park Avenue, San Jose, California 95110, Attention: General Counsel. Notices from Adobe to you will be sent to the address you provide to Adobe with this Agreement.

ALL OTHER TERMS AND CONDITIONS OF THE AGREEMENT REMAIN UNCHANGED AND HAVE FULL FORCE AND EFFECT.