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The Grouping Practices of Teachers in Small Two-Teacher Primary Schools in the Republic of Ireland

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Research shows that educational outcomes are no different for pupils in single-grade and multigrade classes. However, little is known about the instructional practices of multigrade teachers. What is known suggests that multigrade teachers tend to employ instructional practices that are not likely to facilitate effective teaching and learning. The present study explored the grouping practices of primary teachers in the Republic of Ireland in small two-teacher multigrade schools. These teachers taught four grade levels together. Results showed that teachers used a wider range of grouping approaches across and within subject areas than has been suggested in previous research. Also, unlike teachers in previous studies, teachers in the present study used cross-age and peer tutoring and across-grade grouping. Results supported previous research regarding the amount of independent seatwork engaged in by pupils in multigrade classrooms. However, pupils in study classrooms also engaged in paired/group seatwork. Further research on teaching practices in multigrade classes, across a range of contexts, is recommended in order to provide a basis for the preparation and support of multigrade teachers.

Traditionally, the most favoured option in primary school systems throughout the world has been the single-grade or monograde class structure where children are grouped into classes according to a narrow age band. The bringing together of large groups of same-age children for instruction by one teacher in the one classroom was generally held to be the most administratively and economically expedient way of providing education for the maximum number of children. Today, the single-grade class structure still remains dominant at the primary level in most countries throughout the world. Teaching resources, including curriculum statements and textbooks, tend to reflect this (Little, 2001). In some primary schools, single-grade structuring of classes is not an option. In many rural areas, for example, small pupil numbers make single-grade teaching unfeasible. Fluctuating pupil numbers in large schools may also result in the need to consider other options besides the single-grade one. The option usually considered in each of the above cases is the combination of two or more grade levels in one classroom with one teacher. Classes that are formed in this way are commonly referred to as "multigrade" classes. Multigrade classes are embedded in the graded system. Children in multigrade classes retain their grade designation and their grade-specific textbooks and curricula. It is the adherence to gradedness that makes multigrade classes "multigrade" and not "multilevel," "multiskill," or "multipersonality" (Hargreaves, 2001).

The terms "multilevel," "multiple class," "family class," and "unitary school" (Little, 1995) are also used to describe classes with more than one grade level. Other terms include "composite" or "combination" classes, "double" classes, "split" classes, "vertically grouped" classes (Russell, Row, & Hill, 1998; Veenman, 1995), and "blended" classes (Katz, 1992). "Multigrade" and "multiage" teaching are often confused (Mason & Burns, 1996; Veenman, 1995). Multiage classes are ungraded mixed age classes. Multiage teaching is perceived by its proponents to be more developmentally appropriate than single-grade or multigrade teaching (American Association of School Administrators, 1992; Bredekamp, 1990; Privett, 1996) and therefore more preferable (Hargreaves, 2001). In many developing countries, where access to education is restrained or where children enter school for the first time at different ages, the term "multiage" takes on a special meaning. Classes of different aged pupils (i.e., multiage) who start school at the same time may be taught together as if they were a single grade group. In such instances, they are multiage but single-grade.

Multigrade teaching is prevalent in most educational systems throughout the world. However, information on the extent of its usage in many countries is difficult to find or is out of date. In many countries, data on multigrade teaching are not systematically collected (Little, 1996).

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Multigrade classes are most prevalent in areas of sparse population—mainly in rural locations. They are also to be found in schools with fluctuating enrolment rates in more densely populated areas (Veenman, 1995). In developing countries, multigrade teaching plays a significant part in efforts to improve the quality of educational provision in rural communities (Little, 2001).

In Europe, the incidence of multigrade teaching is quite high. The incidence of multigrade teaching in Europe is quite high. For example, available data indicate that 53% of primary school teachers in the Netherlands teach multigrade classes (Commissie Evaluatie Basisonderwijs, 1994), over 25% of primary classes in England are "mixed year" (Pridmore, 2004), 26.86% of all Scottish primary school classes are multigrade (*Scottish Executive*, 2002), and over 40% of primary school classes in the Republic of Ireland are multigrade (Department of Education and Science, 2004). One third of primary schools in Finland have 50 pupils or less, necessitating multigrade teaching (M. Armi, personal communication, May 2002); during the 2000-2001 school year, 42% of Norwegian primary schools had multigrade classes (Eurydice, Norway, personal communication, October 2002). About 25% of the primary schools in Austria are one-, two-, or three-room schools (Eurydice, Austria, personal communication, October 2002; Nösterer, 1991), 31% of Greek primary school classes are multigrade classes with three or more grades (A. Faragoulataki, personal communication, December 2002), and 35% of primary schools in the Czech Republic are multigrade (S. Brozove, personal communication, December 2002). Multigrade teaching appears to be quite prevalent also in primary schools in Switzerland, Germany, and Sweden. Poglia and Strittmatter (1983) reported that 23% of all classes in Swiss schools were multigrade classes, and Knörzer (1985) reported that about 80,000 pupils in Germany attend schools with multigrade classes. Roughly one third of Swedish schools had multigrade classes during the school year 1987-1988 (Little, 1996; Malmros & Sahlin, 1992).

Multigrade classes exist in many parts of Australia and Canada as well. In 1990, 34% of schools in Australia had fewer than 100 pupils, creating the need for multigrade classes (King & Young, 1996). In Canada, approximately one in seven classrooms is a multigrade classroom with one fifth of pupils enrolled in a multigrade class (Gayfer, 1991). Multigrade classes are prevalent in many parts of Asia, Latin America (Aikman & Pridmore, 2001; Hargreaves, Montero, Chau, Sibli, & Thanh, 2001) and Africa, and their numbers are likely to increase as efforts are made by international agencies to provide primary education on a wider scale especially in remote rural areas. Multigrade classes appear to be less common in the USA (as little as 3% in some states) than in most other parts of the world (Mason & Stimson, 1996).

Given the range of contexts in which multigrade teaching occurs, it is likely that multigrade organisation and teaching practices will vary both within or among countries. Comparison across contexts is difficult because of the lack of relevant information and the apparent "invisibility" of this organisational format in many countries at the administrative level (Little, 1996). What we do know is that a large proportion of primary school teachers worldwide is involved in teaching several grade levels in one classroom throughout the school year.

Relevant Literature on Multigrade Teaching

There is general agreement in the literature that multigrade teaching places greater demands on teachers than single-grade teaching (e.g., Mason & Burns, 1996; Veenman, 1995; Veenman & Raemaekers, 1995). However, there is no general agreement regarding how this affects the quality of teaching and learning (Russell et al., 1998). Several literature reviews on multigrade teaching have been conducted. Pratt (1986) and Miller (1990) reviewed studies that compared the outcomes of multiage and multigrade teaching with single-grade teaching. Both reviewers concluded that multiage and multigrade teaching did not negatively affect pupil academic outcomes and noncognitive outcomes such as social and emotional development (Pratt,1986) and social relationships and attitudes (Miller, 1990). Although making an important contribution to knowledge in this area, both reviews have significant limitations. For example, they do not differentiate multigrade classes from multiage classes, nor do they indicate the specific kinds of multigrade/multiage classes that were studied. Further, neither review provides criteria for the inclusion of studies, nor was information provided about the methodological quality of the studies reviewed. Only studies that were conducted in English-speaking countries were reviewed, and statistically significant findings in favour of multigrade/multiage classes or single-grade classes were simply counted.

The reviews by Mason and Burns (1997a) and Veenman (1995) avoided the pitfalls of these earlier reviews. A clear differentiation was made in both cases between multigrade and multiage classes and stringent methodological criteria were employed. Veenman conducted a "best evidence synthesis," which

> requires locating all research on a given topic, establishing well-specified criteria of methodological adequacy and germaneness to the topic, and then reviewing this best evidence with attention to the substantive and methodological contributions of each study. (p. 324)

Only studies involving an explicit comparison of multigrade and multiage classes with single-grade and single-age classes

were selected for inclusion. Mason and Burns (1997a) included findings from observational, survey, and interview studies in their review in addition to studies that compared cognitive and affective outcomes in multigrade and single-grade classes.

The studies reviewed by Veenman (1995) were conducted in 12 different countries, including the USA, Germany, the Netherlands, England, Canada, Finland, Sweden, Togo, Columbia, Burkino Faso, Pakistan, and Western Australia. The studies reviewed by Mason and Burns (1997a) were conducted in the USA, Canada, Australia, Netherlands and Germany. Much of the research reviewed by both Veenman (1995) and Mason and Burns (1997a) was carried out in two-grade multigrade classes in predominantly single-grade schools. Although Mason and Burns (1997a) and Veenman (1995) disagree about the specific inclusion criteria for studies in their reviews and critique aspects of each other's work in some detail (Mason & Burns, 1996, 1997b; Veenman, 1996), their overall findings from the available research in this area are similar.

Instructional Processes

Most of the available research on multigrade teaching focuses on cognitive and noncognitive outcomes in this setting. What is especially lacking in the research literature is a focus on instructional processes: the strategies that teachers use and the ways that teachers cope with the complexities and challenges of this instructional setting (Russell et al., 1998). On the basis of the research that he reviewed, however, Veenman (1995) has been able to provide some insights into aspects of classroom process in the multigrade setting. This research shows that multigrade teachers teach each grade in their class separately—one group being instructed while the other groups work on individual seatwork tasks (Veenman, 1995). Findings show that the school experience for pupils in multigrade classes is little different from that of pupils in single-grade settings except that they have to share their teacher with one or more other grade levels. In multigrade classes, according to Veenman (1995), collaborative work is not a feature of these classrooms. In multigrade classes children get less direct instruction from their teacher, time-on-task is lower, and peer tutoring or across-grade grouping by ability are not used to any significant degree. Pupils in multigrade classes generally spend more time on individual seatwork than pupils in single-grade classes and their levels of time-on-task are lower.

Veenman (1995) suggests that the multigrade teaching setting provides teachers with an opportunity to use teaching approaches and grouping strategies, including across-grade teaching, cross-grade tutoring, and peer tutoring, that are associated with enhanced pupil achievement (Gutiérrez & Slavin, 1992; Slavin, 1987). Unfortunately, he suggests, most teachers do not take advantage of this opportunity. Research on effective teaching has shown that pupils learn more effectively from active interaction with their teacher and/or peers on instructional content than from written materials during independent seatwork (e.g., Rosenshine & Stevens, 1986), and that pupils have lower time-on-task during independent seatwork than during direct teacher instruction (Evertson, 1989). Veenman argues that multigrade teachers lack appropriate training for the multigrade setting, appropriate resources are lacking, and time for individualised work, including remediation, is severely limited. All this would suggest an impoverished teaching situation.

Mason and Burns (1997a) concur with Veenman on the teaching practices of teachers in the multigrade setting. In their examination of the findings of nine naturalistic studies, Mason and Burns found that teachers teaching in two-grade multigrade classes generally teach two separate curricula in the basic subjects and all grades together for other subjects. In particular, they suggest that most multigrade teachers teach separate grades for mathematics and reading and a single curriculum in science and social studies.

A variety of approaches is likely to be used in every teaching setting—multigrade, single-grade, or multiage. For example, teachers in single-grade classes may use textbooks, which are appropriate to other grades for part of the programme with some or all children. In this setting also, different grouping formats (e.g., mixed ability and same ability) may be used for different instructional purposes. In multigrade class settings, teachers may use whole-class teaching approaches and single textbooks as well as providing grade-specific instruction. Mason and Burns (1997a) suggest that these variations are relatively rare without considerable support from administrators.

Cognitive and Noncognitive Outcomes

From his review and his later meta-analysis of international research on cognitive and noncognitive outcomes in the multigrade setting, Veenman (1995, 1996) reported no differences between the single-grade and multigrade settings. Mason and Burns (1996, 1997a) concur with Veenman (1995) in concluding that comparisons between multigrade classes and single-grade classes consistently show no differences in cognitive or affective outcomes between the two types of classes. In spite of this, however, Mason and Burns (1997a) argue that there is at least a small negative effect for multigrade classes as compared with single-grade classes. They base this conclusion on their division of studies into the categories of "purposeful assignment" and "nonpurposeful assignment." Purposeful assignment involves the selection of better able pupils for multigrade classes and, in some cases, better teachers. If teachers and pupils were deliberately selected for multigrade classes, then a finding of no

difference would indicate that the multigrade setting worked against the academic advancement of pupils. Therefore, the quality of instruction in multigrade classes must be low.

Veenman (1997) disputes the division of studies into those that involve purposeful or nonpurposeful assignment, arguing that there is little evidence that students were purposefully assigned to multigrade classes in most of the studies designated as such by Mason and Burns. Veenman (1997) further points out that although random assignment allocation of pupils to classes rarely occurs in practice, the deliberate selection of pupils and teachers for multigrade classes would be possible only in larger schools that have both multigrade and single-grade classes. Purposeful selection would not be possible in small rural schools, where there are relatively few pupils at each grade level.

Mason and Burns (1997b, p. 298) suggest that the combined (multigrade) instructional environment is "difficult, complex, and generally disadvantageous." However, teachers may avoid negative achievement effects by the extra effort they put into planning and adapting instruction and, further, by taking time from those subjects considered to be less essential. Veenman (1995) explains his finding of "no difference" in the cognitive and noncognitive effects of multigrade versus single-grade teaching settings by arguing that (a) teachers of multigrade classes tend to be poorly prepared to teach two or more grades at the one time, (b) these teachers tend to use teaching approaches more suited to the single-grade context, and (c) teaching resources suited to multigrade teaching are not made available to them. He also notes that multigrade classes place a greater workload on teachers, more preparation time is necessary, and better classroom management skills are required. Veenman suggests that outcomes of the multigrade setting most likely would be more positive than those in the single-grade setting if these matters were addressed. In Veenman's view, the multigrade setting can potentially provide a richer learning environment for children than the single-grade setting. In the view of Mason and Burns (1997b), the multigrade setting is inherently inferior to the single-grade setting and, unless interventions are made, pupils will do less well in this setting.

Undoubtedly multigrade classes of any kind are more difficult to teach than single-grade classes. That is not to say that instruction and consequent learning outcomes must be necessarily inferior in this setting. Successful learning is likely to be more dependent on the quality of instructional practices than on organizational strategies.

Context of the Present Study

Research on multigrade teaching raises important questions about the quality of teaching and learning in multigrade classes and points to the need for further research in this area. The findings of the studies reviewed by Veenman (1995) and Mason and Burns (1997a) show that multigrade teaching is both different from and more difficult than single-grade teaching. Most of this research has focused on cognitive and noncognitive outcomes of multigrade teaching and has ignored the instructional practices of teachers in multigrade classes. As a result, this area is poorly understood (Veenman, 1995). Also, much of the available research on multigrade teaching has been carried out in two-grade multigrade classes, which are frequently found in predominantly single-grade schools. As a result, the applicability of many of the findings to multigrade classes in small rural schools with three or more grade levels is not known. There is a tendency in some of the literature to generalize findings from the two-grade multigrade setting to multigrade classes with three or more grades. However, this generalization is unhelpful and leads to a failure to recognize that important differences may exist between the two settings. For example, teaching each grade level separately for all of any subject area would not appear to be an option open to teachers teaching three or more grade levels together. Time constraints alone would prohibit this.

The instructional practices of multigrade teachers need to be investigated further. In this research, particular attention needs to be paid to context to avoid the generalizations across contexts that have been made in earlier research. Knowledge about how multigrade teachers in different types of multigrade classes organize their pupils for instruction is likely to be of value to administrators and teacher educators in the work of preparing and supporting multigrade teachers. Particular attention needs to be paid to the instructional practices of teachers in multiple (three or more grade levels) multigrade classes, which have been neglected in previous research. Research also needs to focus on the cognitive and noncognitive outcomes of pupils in the multigrade classes with three or more grade levels.

The present study focuses on one aspect of the instructional practices of primary school teachers in the Republic of Ireland who teach four grade levels together in small two-teacher schools: how teachers group their students for instruction. It is not claimed that these teachers are representative of multigrade teachers in other places teaching in similar grade combinations. However, it does represent an initial attempt to throw light on a neglected area in research on teaching.

Multigrade classes are an important feature of primary schooling in the Republic of Ireland. Irish primary school classes are divided into three categories: single grade, consecutive grade, and multigrade. Consecutive-grade classes are classes in which pupils from two separate grade levels are taught by one teacher for the full school year. Multigrade classes are classes in small schools in which three or more grade levels are taught together by one teacher for the full school year. Consecutive-grade classes are usually found within large schools, which are predominantly single-grade and are formed for administrative reasons (e.g., fluctuating

pupil numbers). Multigrade classes are found in one-, two-, and three-teacher schools, and most of these schools are located in rural areas. In the 2002-2003 school year, 59% of primary school pupils were in single-grade classes, 27% were in consecutive-grade classes, and 14% were in multigrade classes. Irish children spend 8 years in primary school: two infant grades followed by grades 1 to 6.

The Primary School Curriculum in Ireland is a national curriculum that includes seven subject areas: Gaeilge (i.e., the native Irish language); English; mathematics; social, environmental, and science education (SESE) (including history, geography, and science); arts education (including visual arts, music, and drama); physical education; and social personal and health education (SPHE). With the exception of SPHE, all of these subject areas were part of the primary programme before 1999 when a revised curriculum was introduced. Inservice provision for the new programme is taking place on a phased basis across the country.

In a centralized national education system such as Ireland's, in which formal testing is not mandatory and teachers are somewhat autonomous with respect to instructional practices, the nature of instruction in the multigrade setting and evidence related to educational outcomes in this setting are not available. This exploratory study represents an initial step in investigating multigrade teaching in the Republic of Ireland. The study sets out to examine the grouping approaches used by teachers in multiple multigrade classes in small two-teacher schools in the Republic of Ireland using a survey approach. In the context of previous research in this area, the study set out to address the following questions:

1. For what subjects and aspects of subjects do multigrade teachers use the following grouping approaches?
    a. Teaching the whole class together (whole-class approach)
    b. Teaching two grade levels together (two-grade teaching)
    c. Teaching pupils across grades (across-grade teaching)
2. For what subjects, and aspects of subjects, is peer tutoring and/or cross-age tutoring used by multigrade teachers?
3. What proportion of time do pupils in multigrade classes spend on independent seatwork and paired/group seatwork?
4. What so teachers perceive as the role of seatwork in multigrade classes?

Method

Sample

Multigrade classes with three or more grade levels are found in one-, two-, and three-teacher schools in the Republic of Ireland. The present study focused on two-teacher multigrade schools for several reasons. First, two-teacher multigrade schools are more common than one- or three-teacher schools in the Republic of Ireland. Second, two-teacher schools provided a context in which the similarity between grade configurations within classes across schools could facilitate useful comparisons and make generalisations more valid. Third, since teachers in one-teacher schools generally teach eight grade levels and three teacher schools generally have a combination of two- and three-grade classes, collection and interpretation of data at this exploratory stage would be difficult.

As described below, an invitation to participate in the present study was sent to a 10% random sample (76 schools or 152 teachers) of all two-teacher multigrade schools in the Republic of Ireland.

Procedure

An introductory letter was sent to the random sample of 76 schools 1 month prior to the circulation of a questionnaire. In this letter, teachers were given information about the purpose and context of the study and their cooperation was sought. Both teachers, the principal and class teacher, were requested to fill out a questionnaire. Three school principals contacted me to inform me that their schools had recently become three-teacher schools. These schools were removed from the sample (but not replaced). Responses were obtained from 56% of the schools. In the case of seven schools, only the school principal responded. Overall, 56% (41) of principals and 47% (34) of class teachers responded.

Most (86%) of the principals and class teachers who participated in the survey were between 31 and 60 years of age. Principals were generally older than their teacher counterparts: 5% of principals, but no class teachers, were over the age of 60. Seventy-three percent of principals and 94% of class teachers were female. Most teachers and principals (73%) had been teaching from 11 to 35 years, 14% had been teaching less than 11 years, and 8% had been teaching from 36 to 40 years. Most principals and class teachers had substantial teaching experience in the multigrade setting. However, whereas 29% of principals had taught in a multigrade class for over 31 years, 35% of class teachers had less than 6 years teaching experience in this setting. Fifty-seven percent of the sample had some single-grade teaching experience. Most school principals (81%) taught at the senior end of the multigrade school, usually taking grades 3 through 6. Most class teachers (79%) taught at the

junior end of the school, usually taking the two "infant" grades and grades 1 and 2.

Sixty-one percent of the two-teacher multigrade schools had between 31 and 45 pupils. Twelve percent of schools had between 12 and 20 pupils, 22% had between 21 and 30 pupils, and 5% had between 46 and 56 pupils. Classes at senior-level were generally larger than classes at junior-level. Within individual classes, the number of pupils at each grade showed considerable variation. Most grade-level groups (74%) comprised 2-6 pupils. Five percent of grade level groups had one pupil only, and 14% had 7-11 pupils.

Instrumentation

A 29-item postal questionnaire was used to collect data. Questions focused on the grouping practices of teachers across all subject areas. The first part of the questionnaire (10 questions) sought personal information from respondents and information about their schools and classes. Respondents were then asked, in four separate questions, to indicate whether they regularly taught any part of the seven curriculum areas and/or their subsections to all grade levels together (e.g., 3rd, 4th, 5th, & 6th grade), to two grade groups together (e.g., 1st & 2nd grade or 5th & 6th grade), to each grade level separately, and to across-grade groups (i.e., ignoring grade boundaries and teaching mixed groups according to need/ability/interest, etc.). If their answer was "yes" to a question, respondents were asked to indicate what aspect(s) of the subject or subject subsection they taught in that particular way. Preliminary discussion with School Inspectors and a sample of 10 multigrade teachers on an inservice programme revealed that these four grouping approaches were those most commonly used by multigrade teachers.

Two questions focused on the frequency with which teachers used cross-grade tutoring (older children assisting younger children) and/or peer tutoring (children within the same grade level assisting one another). Teachers were asked if they used each type of tutoring "frequently" (i.e., more than three times a week), "sometimes" (i.e., up to three times a week) or "never." They were also asked to indicate the purposes for which these forms of tutoring were used.

Respondents were asked to indicate what proportion of class time pupils in their class spent on independent seatwork (working on their own on seatwork tasks) and paired or group seatwork (working with others in pairs or groups without the direct assistance of the teacher). Teachers were also asked to rank subject areas in terms of the amount of independent and paired/group seatwork usually assigned, and the resources used by pupils with most frequency during seatwork time.

Further questions focused on the ways teachers provided remediation for low-achieving pupils, the frequency of their use of class retention in grade, and the amount of time they spent on administrative work during and after school hours. Teachers were also asked to list what they perceived as the advantages and special opportunities provided by the multigrade setting as well as the disadvantages and difficulties. Only findings relating to the grouping and seatwork practices are reported here.

Findings

Table 1 shows the number of teachers who provided information about their grouping practices in each subject area. Several of the teachers in our study, mostly those teaching junior-level classes, did not include information about grouping practices in Social, Environmental, and Science Education (SESE)—most likely because this subject is being gradually introduced in schools in its present form, as part of the revised curriculum. For similar reasons, some teachers did not provide information on their teaching of Social, Personal, and Health Education (SPHE) and Drama.

Teaching All Grade Levels Together

Most teachers taught all grades together for the visual arts, music, drama, and physical education (Table 2). All-grades teaching was also used by a large proportion of teachers for the teaching of Gaeilge, English, and SPHE, and by a smaller proportion of teachers for the teaching of mathematics, history, and geography. Teachers who taught all grades together for Gaeilge used this approach primarily for oral language work. All-grades teaching was used by teachers for all aspects of English with the exception of reading instruction. The relatively small proportion of teachers who taught all grades together for mathematics used it mainly for the teaching of number facts, geometry, mental arithmetic, measurement, and for the introduction to strands or topics. All-grades teaching was used mainly for introductory work, physical geography, map work, local history, and project work by the relatively small number of teachers who used this approach for the teaching of history and/or geography. More senior-level than junior-level teachers taught science with all grade levels together. Teachers who taught all grades together for this subject did so for most science topics and especially for practical work (e.g., experimentation). Most teachers taught all grades together for all aspects of visual arts, music, drama, and physical education and for the teaching of SPHE, except when dealing with "sensitive issues" (e.g., sexuality).

Teaching Two Grades Together

Most teachers taught two grade levels together for Gaeilge and English, and a significant number of teachers used this grouping approach for the teaching of history, geography, science, and SPHE. Many teachers taught two

Table 1
The Number of Teachers Who Indicated Their Grouping Practices in Each Subject Area

Subject area	All Teachers (n = 75)	Junior Grades (n = 35)	Senior Grades (n = 40)
Gaeilge	75 (100%)	35 (100%)	40 (100%)
English	75 (100%)	35 (100%)	40 (100%)
Math	75 (100%)	35 (100%)	40 (100%)
Social, Environmental, and Science Education			
History	55 (73%)	15 (43%)	40 (100%)
Geography	58 (77%)	18 (51%)	40 (100%)
Science	61 (81%)	22 (63%)	39 (98%)
Arts Education			
Visual Arts	75 (100%)	35 (100%)	40 (100%)
Music	75 (100%)	35 (100%)	40 (100%)
Drama	72 (93%)	34 (97%)	38 (95%)
Physical Education	75 (100%)	35 (100%)	40 (100%)
Social, Personal and Health Education	67 (89%)	28 (80%)	39 (98%)

grades together for aspects of the other subject areas as well. Senior-level teachers who taught two grades together for Gaeilge did so for all aspects of this subject, whereas junior-level teachers used it mainly for oral language work. Teachers who taught two grades together for English did so for some reading instruction, writing, oral language work, and poetry. More senior-level teachers than junior-level teachers taught two grades together in this subject area. Teachers taught mathematics with two grades together for the introduction to some topics, for revision, and for the teaching of aspects of the program that were considered by them to overlap between grade levels. One senior-level teacher taught two grades together for all aspects of the mathematics program.

Two-grade grouping for teaching was the most common approach used by senior-level teachers for the teaching of history and geography. Only a small proportion of the junior teachers who provided information for these subject areas taught two grades together. Teachers who taught two grades together for history and geography did so for most aspects of the programmes, particularly for work that involved the use of textbooks. Almost half of the senior-level teachers taught science with two grades together and one in four junior-level teachers did so. Teachers did not give specific details in relation to the areas of science for which they taught two grades together.

More junior-level teachers than senior-level teachers used two-grade grouping for the teaching of the visual arts and music. Teachers who taught two grades together for the visual arts indicated that they used it for most strands (i.e., areas) of the visual arts curriculum. In the case of music, senior-level teachers took two grades together for the teaching of songs and for instrumental instruction, and junior-level teachers did so mainly for song singing and rhythm work. Significantly more junior- than senior-level class teachers taught two grades together for drama and physical education. Two-grade grouping was used by senior-level teachers mainly for drama work in the context of other subject areas, especially Gaeilge and English. Junior-level teachers reported using this grouping approach for drama work based on poems, songs, and stories. Senior-level teachers who used two-grade grouping for physical education mentioned teach-

Table 2
Grouping Practices of Teachers in Two-Teacher Multigrade Classes

	All-Grades Teaching			Two-Grade Teaching			Separate-Grade Teaching			Across-Grade Teaching		
	All Teachers	Junior Level	Senior Level	All Teachers	Junior Level	Senior Level	All Teachers	Junior Level	Senior Level	All Teachers	Junior Level	Senior Level
	N (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)
Gaeilge	50 (67)	20 (57)	30 (75)	62 (83)	27 (77)	35 (88)	40 (53)	24 (69)	16 (40)	18(24)	8 (23)	10 (25)
English	45(60)	17 (49)	28 (70)	55 (73)	22 (63)	33 (83)	48 (64)	31 (89)	17 (43)	27 (36)	9 (26)	18 (45)
Math	19 (25)	6 (17)	13 (33)	31 (41)	16 (46)	15 (38)	70 (93)	33 (94)	37 (93)	17 (23)	5 (14)	12 (30)
Social, Environmental, and Science Education												
History	17 (23)	5 (14)	12 (30)	38 (51)	6 (17)	32 (80)	6 (8)	2 (6)	4 (10)	4 (5)	2 (6)	2 (5)
Geography	20 (27)	6 (17)	14 (35)	37 (49)	7 (20)	30 (75)	9 (12)	3 (9)	6 (15)	5 (7)	2 (6)	3 (8)
Science	34 (45)	10 (29)	24 (60)	28 (37)	9 (26)	19 (48)	8 (11)	3 (9)	5 (13)	6 (8)	4 (11)	2 (5)
Arts Education												
Visual Arts	67 (89)	29 (83)	38 (95)	25 (33)	15 (43)	10 (25)	4 (5)	2 (6)	2 (5)	3 (4)	0 (0)	3 (8)
Music	70 (93)	31 (89)	39 (98)	22 (29)	14 (40)	8 (20)	3 (4)	2 (6)	1 (3)	4 (5)	0 (0)	4 (10)
Drama	62 (83)	28 (80)	34 (85)	21 (28)	14 (40)	7 (18)	2 (3)	1 (3)	1 (3)	2 (3)	0 (0)	2 (5)
Physical Education	70 (93)	32 (91)	38 (95)	19 (25)	14 (40)	5 (13)	2 (3)	1 (3)	1 (3)	2 (3)	0 (0)	2 (5)
SPHE*	44 (59)	19 (54)	25 (63)	29 (39)	13 (37)	16 (40)	9 (12)	2 (6)	7 (18)	4 (5)	0 (0)	4 (10)

*Social , Personal and Health Education

ing by a specialist teacher as the main reason for this. Junior teachers reported that they used a two-grade approach for the teaching of all aspects of physical education, especially games. Teachers who used two-grade grouping for the teaching of SPHE did so because they did not consider SPHE to be "age appropriate" for the whole class.

Teaching Each Grade Level Separately

Almost all teachers taught each grade separately for mathematics. Separate grades teaching was also used by a large proportion of teachers for the teaching of English and Gaeilge. A small number of teachers taught grade levels separately in the other subject areas. A significantly higher proportion of junior-level teachers than senior-levels teachers taught each grade separately for Gaeilge and English. At junior level, teachers taught grades separately (mainly first and second grade) for reading, writing, spelling, and grammar in Gaeilge. At senior level, separate-grade teaching was used mainly for reading instruction. For English instruction, teachers reported teaching grades separately for reading and for some aspects of writing and spelling. Most teachers at both junior and senior level taught mathematics to each grade separately. The number area was singled out for particular mention in this regard. Teachers indicated that each grade level used a separate mathematics textbook and were taught a separate mathematics programme for the most part. The few teachers who reported using separate-grade grouping for history, geography and science used it in the context of textbook and/or workbook usage. In the visual arts, grades were taught separately mainly for crafts such as knitting, sewing, and weaving. In music, grades were taught separately for instrumental instruction. Only two teachers, one at junior level and one at senior level, reported teaching drama and physical education to separate grades. Neither teacher indicated for what aspect(s) of these subjects they used this grouping approach. Separate-grade teaching was used by a small number of teachers for the teaching of topics related to sexuality and personal relationships in SPHE.

Teaching Across Grades

A relatively small proportion of teachers used across-grade grouping. This was done most extensively in English and to a lesser extent in Gaeilge and mathematics. A few senior-level teachers combined pupils from different grade levels for visual arts, music, drama, physical education, and SPHE. Junior-level teachers did not teach across grades for these subject areas.

Junior-level teachers reported regrouping pupils across grades in Gaeilge for "dramaí beaga" (i.e., short dramas), and senior-level teachers reported using this approach for oral work, drama, reading, and spelling. A much smaller proportion of junior-level teachers than senior-level teachers grouped pupils across grades for the teaching of English and mathematics. This was done, most frequently, for reading instruction in English. Other areas in English for which teachers reported teaching across grades include discussion, collaborative reading, and phonological awareness. Areas of mathematics for which senior-level teachers reported grouping across grades included computation and problem solving. The small number of junior-level teachers, who reported using this grouping approach for mathematics, reported mixing children across grades for activities (e.g., playing shop) and to facilitate the more effective meeting of individual needs.

Few teachers reported regrouping pupils across grades for history, geography, and/or science. Senior-level teachers who reported grouping children across grades for history and geography did so mainly in the context of project work. Junior-level teachers did not specify the aspect(s) of these subjects that they dealt with in this way. Senior-level teachers cited group experiments and investigations as areas in which they used an across-grade approach to teaching science. This grouping approach was used for projects and displays in the visual arts and for band, preparing for the school concert, instrumental instruction, and composing in the case of music. Senior-level teachers who reported using across-grade grouping for drama indicated that they used it for role plays and preparing for the school concert. A few senior-level teachers indicated they used across-grade grouping for the teaching of physical education for team games. Ten percent of senior-level teachers reported using an across-grade grouping approach for the teaching of SPHE.

Cross-Age Tutoring and Peer Tutoring in Multigrade Classes

Sixty-seven percent of teachers reported that they used cross-age tutoring "sometimes" (i.e., up to three times a week), and 53% of teachers reported that they used peer tutoring with this frequency (Table 3). No teacher reported using peer tutoring "frequently" (i.e., more than three times a week), and only 3 (4%) teachers (one junior level and two senior level) used cross-age tutoring "frequently."

Most teachers used cross-age tutoring and peer tutoring for "helping weaker children" and for helping with "routines and procedures." Approximately one in four junior and senior teachers used cross-age tutoring for "supervision of work." More senior than junior teachers used cross-age tutoring for "marking children's work." Peer tutoring was not used by junior-level teachers for "supervision of work," and only three senior-level teachers used it for this purpose. Considerably more senior-level than junior-level teachers used peer tutoring for "teaching curriculum content," "helping weaker children," and for "marking children's work."

Table 3
The Number of Teachers Who Reported Using Cross-Grade and Peer Tutoring "Sometimes" and the Purposes for Which They Used These Forms of Tutoring

	Cross-Grade Tutoring			Peer Tutoring		
Purposes for which tutoring was used	All Classes (N = 75)	Junior Classes (n = 35)	Senior Classes (n = 40)	All Classes (N = 75)	Junior Classes (n = 35)	Senior Classes (n = 40)
Overall usage	50 (67%)	25 (71%)	25 (63%)	40 (53%)	17 (49%)	23 (58%)
Supervision of work	18 (24%)	8 (24%)	10 (26%)	3 (4%)	0 (0%)	3 (8%)
Teaching curriculum/content	10 (13%)	3 (9%)	7 (18%)	17 (23%)	5 (15%)	12 (31%)
Helping weaker children	45 (60%)	23 (65%)	22 (56%)	34 (45%)	14 (41%)	20 (51%)
Routines and procedures	45 (60%)	23 (65%)	22 (56%)	34 (45%)	18 (50%)	16 (41%)
Marking child's work	15 (20%)	3 (9%)	12 (31%)	15 (20%)	3 (9%)	12 (31%)

Seatwork in Multigrade Classrooms

Table 4 shows that pupils in the multigrade classes spent a significant proportion of their classroom time working on seatwork tasks, alone or with others, without the direct attention of the teacher. Ninety-seven percent of teachers reported that their pupils spent over 20% of class time on independent seatwork, and 39% of teachers reported that pupils in their classes worked on independent seatwork tasks for more than half of all class time. Three teachers reported that their pupils spent more than 65% of their time on independent seatwork. Pupils engaged in paired/group seatwork less often than independent seatwork. Most teachers (87%) reported that their pupils spent less than 40% of their time on paired/group seatwork.

Findings for junior and senior class levels reflect the pattern apparent in the case of "all teachers." The number of teachers reporting that their pupils worked on independent seatwork for more than half of all class time was roughly the same for junior and senior levels. However, more senior-level than junior-level teachers reported that their pupils worked on independent seatwork for less than one third of all class time. Whereas most junior- and senior-level teachers reported that their pupils spent less than 40% of their class time on paired seatwork, more junior-level (20%) than senior-level teachers (8%) reported that their pupils spent over 40% of their time in this way.

Teachers reported that most seatwork engaged in by pupils in class was in the areas of mathematics (55%) and English (30%). Both subjects were far ahead of all other subjects in this regard, with no other subject being mentioned by more than 6% of teachers. This pattern held for both junior and senior classes. More junior than senior teachers placed English ahead of mathematics with regard to the proportion of seatwork assigned.

Discussion

The present study focused on the grouping practices of teachers in multigrade classes (up to four grade levels in each class) in two-teacher schools in the Republic of Ireland. The findings revealed that teachers used a range of grouping approaches both within and across subject areas. Most teachers used more than one approach for the teaching of each subject area. Teachers taught all grades together, two grades together, or each grade separately within subject areas. Across-grade teaching was also used by some teachers, especially for the teaching of aspects of Gaeilge, English, and mathematics. Cross-age tutoring and peer tutoring was also used by a significant number of teachers. Pupils also were found to spend a significant proportion of class time on seatwork.

These findings are consistent with some of the research findings reported by Veenman (1995) and Mason and Burns (1997a). However, other findings from the earlier literature are not supported by the present study. Veenman (1995) reported that, in the basic skill areas of reading, mathematics, and language, teachers in multigrade classes generally taught separate grade levels with the remainder of the class working on individual seatwork. Mason and Burns (1997a) reported that teachers in multigrade classes (mainly two-grade multigrade classes) taught separate curricula to the different grade

Table 4
The Proportion of Class Time Spent by Pupils in Multigrade Classes on Independent and Paired Seatwork

Percent of time spent on seatwork	All Teachers ($N = 75$)		Junior Level ($n = 35$)		Senior Level ($n = 40$)	
	Independent	Paired/group	Independent	Paired/group	Independent	Paired/group
1-10%	1 (1.3%)	16 (21.3%)	1 (2.9%)	7 (20.0%)	0 (0.0%)	9 (22.5%)
11-20%	2 (2.6%)	21 (28.0%)	1 (2.9%)	9 (25.7%)	1 (2.5%)	12 (30.0%)
21-30%	15 (20.0%)	18 (24.0%)	3 (8.6%)	10 (28.6%)	12 (30.0%)	8 (20.0%)
31-40%	14 (18.7%)	10 (13.3%)	8 (22.8%)	2 (5.7%)	6 (15.0%)	8 (20.0%)
41-50%	14 (18.7%)	4 (5.3%)	8 (22.8%)	2 (5.7%)	6 (15.0%)	2 (5.0%)
51-55%	9 (12.0%)	5 (6.7%)	7 (20.0%)	5 (14.3%)	2 (5.0%)	0 (0.0%)
56-60%	8 (10.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (20.0%)	0 (0.0%)
61-65%	9 (12.0%)	1 (1.3%)	6 (17.1%)	0 (0.0%)	3 (7.5%)	1 (2.5%)
Other	3 (4.0%)	0 (0.0%)	1 (2.9%)	0 (0.0%)	2 (5.0%)	0 (0.0%)

levels in the basic subjects of mathematics and reading, and all grades together for science. The findings of the present study showed that separate-grade grouping for instruction was used by most teachers for the teaching of aspects of the basic subjects: mathematics, Gaeilge and English. However, it was not used exclusively for these subject areas but in conjunction with other grouping approaches. Separate grades grouping was used, by a small number of teachers, for the teaching of some aspects of other subject areas.

Previous research indicates that grades were not combined for instruction in the basic subjects, although they were in the case of other subject areas. The combination of grade levels for aspects of some basic subjects by teachers in the present study may be more a reflection of the time constraints inherent in this setting than a reflection of deliberative pedagogical judgements. Clearly, further investigation is needed in this regard. The finding that teachers combined grades for subject areas other than the basic subject areas is consistent with the findings of previous research. At present, the consequences of grade combination for pupils are not clear and should be investigated further. In Ireland, considerable flexibility exists in relation to the sequencing and presentation of content, and systematic testing is not required of teachers. In other contexts, especially those in which standardised testing is an integral feature of schooling at the primary level, less flexibility is likely to exist. In these contexts, grade combination may not be feasible for most subject areas.

Veenman (1995) argues that the multigrade setting provides a unique opportunity for across-grade grouping and peer tutoring, which have the potential to improve the quality of teaching and learning. He argues that little across-grade grouping or peer tutoring takes place in multigrade classes. The findings of the present study show that across-grade grouping for instruction was used by a significant, though relatively small number, of teachers in several subjects of the curriculum, mainly Gaeilge, English, and mathematics. If, as Veenman (1995) points out, cross-grade grouping has been found to consistently result in positive pupil achievement, this is an important finding. The findings of this study also show that most teachers, to some degree, used peer tutoring and cross-age tutoring in their classrooms. Previous research indicates positive outcomes for both forms of tutoring—for the tutor and the tutee alike (Cohen, Kulik, & Kulik, 1982; Graesser & Person, 1994; Sharpley, Irvine, & Sharpley, 1983).

The present study's findings on seatwork practices support Veenman's (1995) report that pupils in multigrade classes spend a relatively high proportion of their time on individual seatwork. However, they do not support his report that pupils in multigrade classes do not engage to any large degree in collaborative or group work. According to Veenman (1995), pupils in multigrade classes spend more time on independent seatwork than pupils in single-grade classes. Although comparisons with the single-grade setting were not made in the present study, findings did show that pupils

in multigrade classes in two-teacher schools spend a large proportion of their time working on seatwork tasks without the direct attention of the teacher. In addition to independent seatwork, most pupils also spent a considerable amount of their class time working with others on paired or group seatwork tasks without the direct attention of the teacher.

Findings relating to the amount of time pupils spend working without the direct attention of the teacher give cause for some concern. Research indicating that pupils have lower time-on-task during independent seatwork than during active instruction by the teacher (Evertson, 1989) suggest that at least some pupils in multigrade classes may be unoccupied for much of the school day. Further, unless the quality of the assigned seatwork is high and matched to the pupil's needs and ability, even on-task pupils may be gaining little from this work. Prior research show positive outcomes for paired/group seatwork in which pupils collaborate on-task. For example, Mulryan (1995) found that pupils had higher time-on-task during collaborative small-group work than in whole class lessons where the teacher was directly instructing the class. Other research has shown that working in cooperative groups enhances pupils achievement and social development (Good, Mulryan, & McCaslin, 1992; McCaslin & Good, 1996). Although research on cooperative group work has not been carried out in the multigrade setting to date, research findings would suggest that time spent on paired/group seatwork in the multigrade setting is likely to be beneficial for pupils in multigrade classrooms.

Overall, the findings of this study suggest that classrooms in two-teacher multigrade schools in the Republic of Ireland are very busy places. In order to function effectively in a context that places so much demands on teachers and pupils, it is evident that teachers need to be well trained and supported, and that appropriate resources need to be made available to them. Veenman (1995) cites lack of resources in these areas as contributing to making multigrade teaching less effective than it might be. Future research needs to examine these matters in the Irish context. Pupils also need to be supported in adapting to the requirements of the multigrade classroom (Miller, 1991).

The findings of the present study raise many questions and suggest the need for further study in Ireland and as well as elsewhere. For example, an investigation of instructional practices (including grouping practices and teaching strategies) from a range of multigrade settings and the corresponding relationships with cognitive and noncognitive outcomes would make an important contribution to knowledge in this area. Observational research and interviews involving pupils and teachers also would be illuminating.

Multigrade teaching is more complex than grouping and tutoring, which were the foci of this study. Since grouping practices are but one aspect of the instructional practices of teachers, they provide only a partial picture of the nature of instruction in the multigrade classes. For example, they give no information about the nature and quality of the instruction that occurred within each of the grouping contexts. Future studies need to reflect the complexity in this area.

Multigrade schools and classes are here to stay. A large proportion of children and teachers throughout the world are working in multigrade classes, and the incidence of multigrade teaching appears to be on the increase. Indeed, for millions of children throughout the world, it is the only educational option available. Multigrade teaching is different from single-grade teaching, yet little is known about the extent and nature of the differences. Further research is needed in order to fill this lacuna and to provide a basis for the education and support of multigrade teachers for the benefit of their pupils now and in the future.

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