

## Clustering: A Survival Mechanism for Rural Schools in the United Kingdom

Maurice Galton and Linda Hargreaves  
*University of Leicester*

*This article describes current developments in the lives of small rural schools in the United Kingdom. Such schools have been under continuous threat of closure throughout the period following World War II, but the introduction of the National Curriculum and its emphasis on subject expertise has recently increased this threat. We describe how small rural schools in the United Kingdom are responding to this challenge and suggest that, during the next decade, those who govern small schools will need to consider how much autonomy they are prepared to give up to stay in existence.*

### Introduction

In the United Kingdom (UK), particularly England and Wales, most small rural schools are primary schools covering the age range 5 to 11 years. In 1993, 23% of all schools covering this age range in England and Wales had 100 pupils or less (Department for Education [DfE], 1994). Most of these schools have two or three teachers, one of whom will be the headteacher. In most cases, the headteacher is given either one whole day or half a day per week to administer the school and is provided money to pay an extra teacher to teach his or her class.

If the economic viability of a small rural school is judged solely on the average cost per pupil, then such schools are expensive compared to larger schools in the inner city and suburban areas. For this reason, policymakers have always looked for ways of reducing the number of small schools. In this article, we review briefly the recent threats to the existence of small rural schools and the research evidence concerning curriculum provision in small rural schools. We also put forward a framework for the development of "cooperative clusters," defined later, which is a strategy being used in many parts of the UK as a survival mechanism for small rural schools in the light of current economic and educational demands.

### Small Rural Schools Under Threat

Various features of small rural schools have been seized on by policymakers to justify programmes of small school closures. But the movement of middle-class families from the cities to the countryside during the last 50 years has exerted considerable pressure on both local and

national politicians to maintain their local village schools, thus making it more difficult for such programmes to succeed. In recent years, therefore, the argument has shifted from the economic viability of the small rural school to the effectiveness of its performance. These educational criticisms initially centred on the existence of schools that had only one or two teachers to cover the age range 5 to 11 years. The Plowden Committee (Plowden, 1967), appointed by the then Minister of Education to "consider the whole subject of primary education" (p. iii), argued that "three classes each covering two age ranges" (p. 177) were the minimum required to provide expertise in a full range of subjects. The Plowden Report concluded that "schools should be large enough to justify a staff with varied gifts and correct flexible organisation, which does not force classes with a wide age range on teachers who are not convinced of their value" (p. 168).

Nearly 20 years later, the Government publication *Better Schools* (Department of Education and Science [DES], 1985), commented on the imbalance in the English primary school curriculum, particularly the lack of science and the overemphasis on computation in the mathematics curriculum. The authors argued that each area of the "core" curriculum (mathematics, English, and science) should be the responsibility of the teacher with appropriate expertise. Such experts could engage in a consultancy role in support of other staff, as well as taking over some of their colleagues' teaching in classes of 10- and 11-year-olds.

Recognising that such a solution was subject to the constraints of finance and staffing, the authors of *Better Schools* concluded that "except for practical reasons, the number of pupils should not, in general, fall below the level at which a complement of three teachers is justified, since it is inherently difficult for a very small school to be educationally satisfactory" (DES, 1985, p. 80). Since 1988, with the passing of the Education Reform Act and the creation of a National Curriculum, this argument about educational viability has gained greater prominence. In the

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Correspondence concerning this article should be addressed to Maurice Galton, School of Education, University of Leicester, 21 University Road, Leicester LE1 7RF, England. (mjg5@leicester.ac.uk)

English county of Warwickshire, for example, present plans for reorganisation are based upon the closure of 40% of its small rural schools.

#### The Education Reform Act and the National Curriculum

By 1988, considerable concern was being expressed about the quality of curriculum provision, particularly in the primary sector. As in the United States, where research has pointed to the need to increase teacher quality and the time that pupils spent on task (Brophy & Good, 1986), so in the UK similar findings pointed to great variability among schools in the curriculum being offered (Galton, 1989a). Studies estimated that the time allocated to teaching varied nationally by as much as 5 hours per week—a whole school day. Studies of mathematics, for example, had shown that there were variations of around 40% in the time assigned to this subject in the primary school (Bassey, 1978).

The National Curriculum attempted to address these concerns. First, it prescribed the content of the curriculum by setting out detailed Programmes of Study that pupils had to follow from year to year. Second, it extended the range of the curriculum by setting out Programmes of Study for both the core subjects (mathematics, English, and science) and for the foundation subjects (geography, history, art, music, physical education, and design and information technology). Third, it indicated the proportions of time to be spent on core and foundation subjects.

The 1988 Education Reform Act, however, attempted to combine two contradictory philosophies. The Act embraced the notion of the “market” so that schools were seen to be competing against each other with resources stemming from their ability to attract pupils. Thus financial control of schools was taken away from local authorities and handed directly to the schools under a system known as Local Management of Schools (LMS). Logically, as part of this philosophy, schools should have been free to design their own curriculum, since parents would then choose the school according to its suitability for their child. This, indeed, was the implication of a later government publication entitled *Choice and Diversity* (DfE, 1992). At the same time, however, the 1988 Act sought to impose on all schools a standard, centralised curriculum, similar to that operating elsewhere in Continental Europe (e.g., France).

Previously, small schools were protected somewhat by their local authorities, who recognised that some financial support had to be given to compensate for the limited size and to maintain adequate curriculum coverage. For example, many small schools were provided with visits by peripatetic music or physical education specialists who provided curriculum coverage in those subjects. Under the

new market forces philosophy, however, local authorities no longer had the ability to protect small schools to the same extent, because in most cases up to 90% of the budget was devolved to schools. When the main element in the funding calculation became the number of pupils on roll, it was more difficult for small rural schools to maintain adequate curriculum coverage.

Since the introduction of the National Curriculum, concern has been expressed also about the competence of primary teachers (teachers of children aged 5 to 11 years), particularly in subjects such as science, history, and geography. Many primary teachers have been shown not to have a grasp of the concepts embedded in National Curriculum science (Summers, 1994; Wragg, Bennett, & Carré, 1989). As a result, there have been recommendations to end the use of generalist class teachers in the final 2 years of primary school (having one teacher per class who teaches all or most curriculum areas to that class) and to replace them with subject specialists (Alexander, Rose, & Woodhead, 1992). Clearly, a three-teacher school finds it very difficult to provide subject expertise across the full range of National Curriculum core and foundation subjects. Neither are such schools in a position to “buy in” this expertise for a limited number of lessons from subject specialist colleagues in the secondary schools (which cover the age ranges 11-16 or 11-18). If small schools are to survive in the present climate, they have to demonstrate their capacity to provide such expertise collectively.

Increasingly, therefore, small and usually rural schools have come together to form clusters or federations. A cluster is defined as a group of three to eight schools whose headteachers and teachers voluntarily (or by local mandate) cooperate in the sharing of resources or facilities and/or in the planning needed to implement a broad curriculum. In the UK, clusters usually are relatively compact geographically compared to the distances between rural schools in North America or Australia. Inter-school distances range typically from 3 to 10 miles, although in very sparsely populated areas such as Northern Scotland, distances can be much greater.

In a cluster, each school retains its own headteacher and governing body, and there is no formal or legally binding agreement linking the schools. The term “federation” can refer to what has been defined as a cluster here, but it has come specifically to denote a formal arrangement in which a few small schools are first closed and are then re-opened as one school under the authority of one headteacher and one governing body. Our concern in this article is with clusters or informal groupings of small rural schools.

These clusters can share teaching resources and engage in joint planning. Teachers from different schools can act as specialists to coordinate the work of colleagues in a particular subject area. Pupils from the different schools

can also be brought together, from time to time, to reduce the potential effects of rural isolation and to enable them to work cooperatively so they are prepared for entrance into larger secondary schools. The current focus on market forces, however, tends to act against these cooperative developments. Since schools are pitted against each other for pupils, there is a tendency in some schools that enjoy some advantage to refuse to cooperate with other schools, since such cooperation would then put their rivals in a better position to compete for pupils. The recent attempts of small rural schools to come together to work cooperatively have been the subject of several research studies, which form the basis of the remainder of this paper.

#### The Rural Schools' Education Support Grant Programme: National Evaluation

In the mid-1980s, researchers at the University of Leicester were asked to survey Curriculum Provision in Small Primary Schools throughout England. The survey included a major programme of systematic observation of classroom interaction and children's curriculum activities in 70 schools from nine counties distributed across the country, standardised tests of children's achievement in basic skills and a project-based assessment of their study skills, together with interview and questionnaire data.

There is not space here to give details of the results (see Galton & Patrick, 1990), but the data indicated that the situation in small rural primary schools was relatively healthy. Not only did the schools outperform larger schools on standardised tests of achievement in mathematics and English, but they also offered wider curriculum coverage than had been observed in an earlier study of larger primary schools (Galton, Simon, & Croll, 1980).

Part of this wide coverage was attributed to the fact that these small schools, conscious of their potential limitations, went out of their way to make certain that their pupils received a wide range of experiences. They utilised parents as teachers, made use of the local authority Advisory Services, and their teachers underwent regular training in order to increase their own expertise.

However, the study did show that, in some respects, small rural schools did not maximise their potential. Teaching was still heavily didactic. And despite the smaller class sizes, pupils did not receive more individual attention than did children in larger urban and suburban schools.

Partly because of these limitations, the National Government included in its Education Support Grant (ESG)<sup>1</sup> initiative a programme intended to "improve the quality or extend the range of the curriculum provided in primary

schools in rural areas" (DES Circular 6/84, p. 64). The rural schools' ESG programme sought to achieve this by funding pilot projects that would enable local education authorities (LEAs) "to experiment in ways capable of replication, if successful, with means of compensating these schools for the curricular deficiencies that may occur because of their size." (DES Circular 6/84, p. 64). Between 1985 and 1986, 14 LEAs bid successfully for additional money to fund a variety of rural schools' projects over a 5-year period. The most commonly adopted strategy was to encourage small schools to work together in groups or clusters in order to enhance teachers' professional development, to improve the availability of resources, and to reduce the possible effects of pupil isolation. A national evaluation of these programmes, referred to hereafter as the Rural SCENE Project, was carried out between 1989 and 1991 (Galton, Fogelman, Hargreaves, & Cavendish, 1991).

Almost all of these ESG programmes appointed coordinators to organise the schools into clusters. Supported by the coordinators, the clusters were expected to identify areas of curricular weakness and to devise programmes of training to overcome these. The results of the SCENE evaluation, based on semi-structured classroom observations, tended to show that the programmes resulted in improved curriculum coverage, particularly in science and technology. Interviews were conducted with 48 teachers who were eager to point out their confidence to teach in curriculum areas new to them (science and technology, in particular).

When asked if their training in the various curriculum areas had led them to rethink the way they taught, however, all but one of the teachers replied that it had not. The vast majority had tended to "bolt on" the new curriculum activities to their existing pedagogy. Despite this, the evaluation concluded that the pilot projects had succeeded in extending the range and improving the quality of the curriculum, largely through cluster development. In terms of the range of the curriculum, elements of science education occupied 30% of the classroom observations, compared with 8% in the previous survey (Galton & Patrick, 1990). Technology was included in 20% of the activities observed.

Improvement in the quality of the curriculum was seen in the wider range of resources and equipment which had been observed more frequently in use, and in the greater variety of teaching strategies, with a slight increase in the amount of cooperative groupwork and a decrease in the use of individual work. The teachers reported that they felt more confident as a result of sharing ideas with others, and in many cases, they were determined to continue to maintain their clusters after the end of the special ESG funding.

<sup>1</sup>ESG was a national programme of funding for support and in-service provision largely targetted in the areas of science, mathematics and technology.

To explain the differences between the pilot projects in terms of curriculum enhancement and the relatively small changes in classroom practice, the evaluation team developed a framework of cluster development, shown in Figure 1. This will be described in more detail below, but, in essence, it suggests that teachers coping with the dual innovations of cluster development and curriculum change are unlikely to concern themselves with pedagogical matters until (a) they readily identify themselves as cluster members and (b) they have mentally “accommodated,” in the Piagetian sense, the new curricular content.

The cluster development framework, referred to hereafter as the SCENE framework, was constructed from the SCENE project’s qualitative data on cluster development. These data suggested that certain strategies for curriculum support and cluster development were more appropriate at certain stages in the life of a cluster than others. Where there had been little curricular progress, or where teachers were less enthusiastic about the value of clustering, it was generally the case that inappropriate cluster formation or support strategies appeared to have been implemented.

The SCENE framework relates progress in cluster development in terms of teacher cohesion, cooperation, and sharing. It incorporates elements of the Concerns Based Adoption Model (Hall, Loucks, Rutherford, & Newlove, 1975) and the stages of individual teacher development

identified by Fuller (1969) and Fuller and Bown (1975). The Hall et al. model is relevant to explain teachers’ concerns with both cluster development and curriculum innovation, but is related here more specifically to the former.

Fuller’s model has explanatory value with respect to the curricular changes required. These include, for example, the newly specified content contained in the National Curriculum and, in particular, innovatory aspects of the science and technology requirements. They also include the pedagogical changes implied by the curriculum and assessment demands, such as the greater use of group work, the incorporation of more within-class communication, and need for observation-based assessment. Figure 1 suggests that the cluster members—namely schools and teachers—are characterised by certain kinds of activity at different points in the development of a cluster (see Table 1).

Table 1 summarises, at three stages in the clustering process, developments within each individual school and developments in individual teachers’ thinking that appear to be associated with successful clustering. These developments have implications for the nature and source of curriculum support, as shown in the fourth row of this table. These stages of cluster development, as observed in the SCENE project, will now be described in more detail.

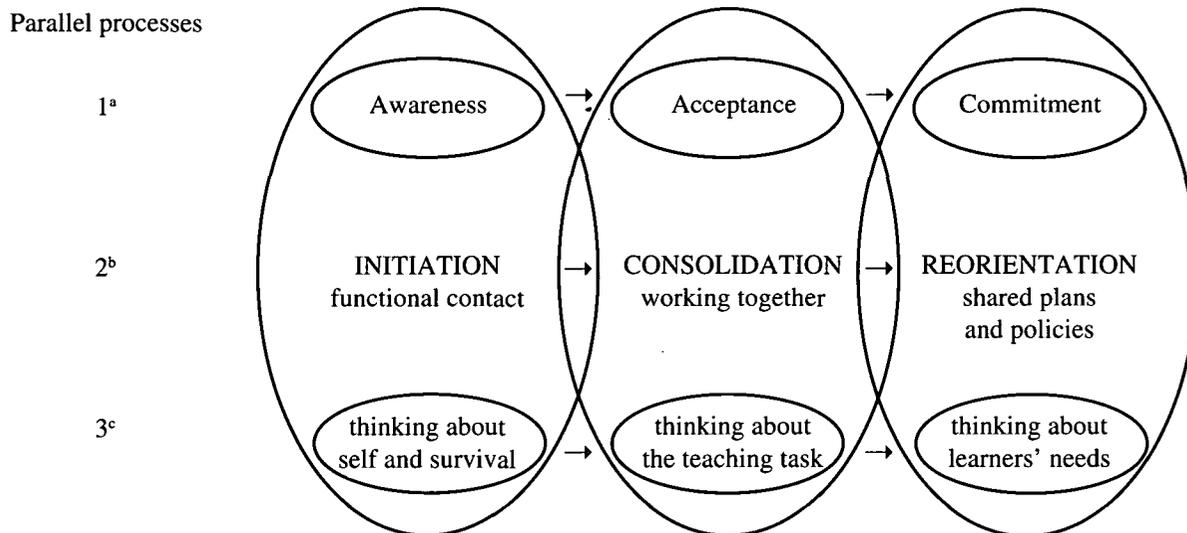


Figure 1. A simplified model of clustering showing parallel processes of cluster development and teacher development.

<sup>a</sup>Concerns about innovation (derived from Hall et al., 1975)

<sup>b</sup>Stages of cluster development (Galton et al., 1991)

<sup>c</sup>Development of teaching thinking (see Fuller & Bown, 1975)

Table 1  
The SCENE Framework of Rural Schools' Cluster Development

	Approximate Time Elapsed to Reach this Stage from Beginning of Process		
	up to 2 years	from 1 to 3 years	from 3 to 6 years
Cluster development: levels of cooperation	INITIATION functional contact only between schools (e.g., sports fixtures; governors informed of joint events)	CONSOLIDATION cluster theme or curriculum focus; governors aware of joint Inservice Education for Teachers (INSET) and workshops; governors meet	REORIENTATION cluster policies; shared curriculum documents; some shared funds; cluster development plan; regular cluster governors meetings
School development	Curriculum dialogue develops within school; staff discuss school development; plan and evaluate curriculum	Shared collaborative activities; (e.g., INSET); access to more resources; school development plans feed cluster development plan	School identifies itself as cluster member; teachers feel part of cluster staff; integrated school and cluster development plans
Teacher development	SELF-ORIENTATION focus on personal costs versus benefits of clustering; individual interest gives INSET needs	TASK ORIENTATION focus on task content whilst working with others; identify strengths and weaknesses of self and others; evaluate joint work	LEARNER ORIENTATION focus on learner's needs leading to differentiated teaching strategies; critically aware of complexity of teaching
Curriculum support	GENERALIST SUPPLY TEACHER to release teachers to work together and later to suggest links with other schools	SPECIALIST SUPPORT TEAM schools have identified common need; runs joint workshop and works in classrooms	COORDINATOR FROM CLUSTER implements cluster development plan; coordinates cluster planning; buys in expertise; ensures evaluation

#### Cluster Development

Stage 1 of the cluster development involves *initiation*. Teachers at this stage of coming together were aware of the objectives of clustering, but were often more concerned with the personal costs of such development in accordance with what Doyle and Ponder (1977) call the "practicality ethic." Teachers requested to take part in cluster development were required to do training, attend meetings, organise trips for pupils, and so on, all of which

take up time. That time could be justified only if the teacher perceived there to be immediate benefits outweighing these costs. Thus, in small rural schools, the early years' teachers (teachers of 5- to 7-year-olds) were particularly isolated compared to their headteacher colleagues who had regular contact with other teachers through attendance at headteachers' meetings. Prior to the clustering process, therefore, these early years' teachers had had very few opportunities to meet other early years' teachers. Consequently, they felt that the costs of coming together were

outweighed by the benefit of having opportunities to end their own personal and professional isolation.

In the second stage of cluster development, *consolidation*, teachers were now concerned to gain immediate benefits. The focus at this stage in the SCENE clusters very likely was to identify tasks and effectively manage these activities. For example, teachers in the cluster who had identified weakness in their science planning engaged in joint activities that could help them gain a good grasp of the necessary procedures.<sup>2</sup> At this stage, there was relatively little concern for aspects of pupils' learning, since all of the participants' energies were devoted to producing an end product: a new and improved curriculum. This curriculum, therefore, was still likely to be "bolted on" to existing practice.

Only at the third stage, *reorientation*, did considerations of pupil learning emerge. By this stage, teachers were committed to the cluster and were as likely to consider cluster needs as well as their own schools' needs. In the SCENE project, however, only a few clusters were at this point in their development. Teachers now began to question the programmes offered by the advisory teachers, believing that they, themselves, could improve upon them in ways that would benefit their pupils. Thus, in one cluster of small and geographically isolated schools, pupils and teachers used e-mail to share information both for curricular and social support purposes.

When the headteachers of these schools were invited through their IT adviser to participate in a language project organised by the forerunner of the UK National Council for Educational Technology, they discussed the proposal in terms of its value for their children and rejected it (in spite of the prestige it would have brought to the cluster). One of their objections was the way that it would tend to shift ownership and control (to an advisory teacher) of the writing it required from the children. These children had in effect passed the stage of benefiting from such a project. Thus, only at this stage in cluster development, after working together for some time to implement the curriculum, did questions of pedagogy have the opportunity to emerge and did the cluster have the collective confidence to reject what would be regarded by most as a flattering proposal.

An important feature of the clustering process, which also mirrored wider curriculum development processes, concerned the teaching and training support required. At the initiation stage, many of the exchanges between the teachers in the clusters were of the trust-building kind. Teachers needed to get to know one another and to find out whether or not they could cooperate. At this stage, there-

fore, the major support required was free class time in order to engage in these conversations. Accordingly, what was required as part of the ESG project were competent generalist teachers who could take over the class and free the teachers to meet in school and, later, to meet teachers from other schools. However, once the decision to participate in the cluster had been made and teachers had moved to the consolidation stage, it was subject expertise that they required as well as general support in organising joint activities. Therefore, the use of external advisers or subject specialists was essential at this second stage. But at the reorientation stage, which is intensely personal, control of the process needs to belong to those who are involved. Thus, the support for the initiatives had to come from within the cluster itself so that the cluster members retained total ownership. Only at this stage, and under these conditions, were changes in classroom practice likely to be contemplated.

#### Small Rural Schools and the National Curriculum

In a further research project, the same ESG evaluation team has examined the functioning of clusters at the different stages of development with regard to the implementation of the National Curriculum. In this study, a questionnaire about cooperation between schools revealed a fourth group of small schools that were cluster-independent (Hargreaves, 1996). Unlike the evaluation of the ESG initiatives, there was no local requirement to form clusters. These schools tended to be large enough to have four full-time teachers, or they experienced no competition for pupils, or they had highly confident headteachers who felt that other schools had nothing to offer them. These schools are not the focus of this paper, however.

As noted earlier, the National Curriculum is an imposed "top down" model of curriculum development. Many studies have shown that such imposed changes rarely go beyond the consolidation stage, where the new curriculum is "bolted on" (Galton, 1989b; Sarason, 1990). This follows from the aforementioned practicality ethic (Doyle & Ponder, 1977). The teachers themselves have not participated in the development of the new curriculum, and therefore wish to minimise the costs in terms of time and effort of delivering it. Changing one's pedagogy, however, can involve considerable stress since it also involves changing one's ideology.

Fullan and Hargreaves (1991) point out that these nationally initiated curriculum developments often fail because time lines are unrealistic, because policymakers want immediate results, and because there are tendencies towards faddism and quick-fix solutions. Developers often have a "managerial" view of practice, believing that if you improve planning and change the assessment system, practice will alter also. Such strategies not only fail to motivate

<sup>2</sup>Here, "consolidation" is unrelated to the U.S. term (the amalgamation of two or more schools). In the SCENE framework, consolidation refers to schools *voluntarily* deciding to work together on curriculum development, etc.

teachers, but they also serve to alienate them from participating further in the reform process (Fullan & Hargreaves, 1991).

In the United Kingdom, Fullan and Hargreaves' predictions have been more than fulfilled. The National Curriculum, and particularly its associated testing programme, has given rise to teacher boycotts, a considerable amount of stress for both teachers and pupils because of work overload (Campbell & Neill, 1994), and a decision to radically restructure the whole programme only 3 years since its introduction into schools (Dearing, 1993a, 1993b).

Despite these problems, the evidence from small rural schools shows that they have coped remarkably well, perhaps better than larger schools. The distribution among the teachers within clusters for the responsibility of planning, one aspect of the National Curriculum, has considerably reduced the workloads. In our study, teachers were asked about their confidence and competence in delivering the range of subjects in the National Curriculum, and these were related to the cluster development model (Hargreaves, Comber, & Galton, 1996). In general, the confidence levels reported were higher than those from other studies of larger English suburban schools (Bennett, Wragg, Carré, & Carter, 1992; Osborne & Pollard, 1991). As the cohesion of the clusters developed, so too did teachers' confidence, although it dipped slightly at the reorientation stage. We interpret this finding to mean that teachers entering this level of cluster cooperation have begun to consider the wider implications of the new curriculum for pupils' learning. Because they now view the problems as more complex, they are less confident in their own ability to solve them.

#### Future Development

Like most western countries emerging from the recession, public sector spending in the UK has been limited so that sums available to support primary schools in general, and small rural schools in particular, can be expected to decrease. This is against a background where primary schools, in comparison with the schools attended by 11- to 16-year-olds, were already underfunded (Alexander et al., 1992). It is within this economic framework that local authorities are again raising the question of the economic viability of small schools. Insofar as they do survive, they can only do so by pooling what resources will be available.

The debate in the United Kingdom is now turning to these issues. Up to now, clustering has been characterised by informal organisational arrangements. Headteachers meet regularly and decide by consensus on policy, the purchase of a resource, or the planning of an inservice training day for the staff. The National Curriculum has extended this arrangement to those teachers with particular responsibility for coordinating different subject areas

within the curriculum. These arrangements, however, can be time consuming and often require additional evening and after school meetings. Planning days for headteachers, for example, often take place on Saturdays away from the cluster school sites. The recommendations for more specialist teaching for 10- and 11-year-olds (Alexander et al., 1992), together with the decline in the support by LEAs in the form of specialist advisers and peripatetic teachers, indicate that more cooperation and sharing of resources will be necessary, thus giving rise to an increased need for time to be given over to planning these shared arrangements.

This suggests that the present, largely informal, clustering arrangements will need to be taken further if small rural schools are to cope with these challenges, particularly those generated by restrictions in funding and the need for greater specialisation. For example, in providing specialist help in an area such as music or physical education, it would be an enormous advantage if a cluster of small schools could be certain that at least one teacher member of the group could have expertise in each area. This expertise could be used not only to train other teachers to a basic level of competence, but also to take specialist teaching in a manner formerly undertaken by peripatetic teachers. Up to now, the ability to provide this expertise within a cluster has been due to chance in most cases. Individual schools within a cluster still appoint their own teachers according to their own priorities. However, in the future, it may be necessary for clusters to have a cluster staffing policy. This would require schools within a cluster to pool the budgets and to have some means of deciding priorities when teacher vacancies occur. Such arrangements, requiring the establishment of formal joint planning mechanisms across the schools, would go considerably beyond the informal structures currently found in most clusters. For this reason, it might be best to distinguish them from existing forms of clustering by naming them federations or consortia (although this term in the UK does not imply the conditions attached to it in the U.S., and would involve only a small number of schools [see Stoops, 1992]).

The establishment of a federation will imply that joint decisions will be taken in the belief that individual schools or the group as a whole will derive benefit from their association. Crucial to these decisions will be staffing. It may be easy to agree to pool funds in order to achieve better value for money by exercising joint purchasing power, but more difficult to set aside funds for joint appointments or to enable the purchase of equipment by one school for use on agreed terms by others. Yet these are just the kinds of decisions required if small rural schools are to compete on equal terms with larger suburban institutions.

One of the first steps will be to decide whether these crucial decisions are to be taken collectively or delegated

to one or two smaller committees. Much will depend here on the level of involvement of the schools' governors (i.e., managers) and to what extent parents and parent associations see themselves as initiators of policy within schools rather as than endorsers of the headteachers' recommendations. However matters are resolved, some form of constitution will be required covering the appointment of officers, chairperson, secretary, and the terms of service. Currently, in the very few examples of federations that exist, the government appears to favour the establishment of one headteacher in charge of the whole federation, but other arrangements are also possible and may be more desirable. For example, one option would be to elect one headteacher to act as head of the federation for one or two academic years and then rotate the office to the headteacher of another school (Galton, 1993).

Equally important are the procedures governing the day to day running of the federation. It will require a person to take the responsibility of *line manager*, dealing with such matters as timetable arrangements and financial control, including authorising payments. It would be important also to establish mechanisms to resolve any dispute between the various schools. In some countries, such as Sweden (Galton & Blyth, 1989), federations of this kind already exist.

#### Conclusion

Thus the challenges now facing small rural schools in the UK demand radical thinking about their existing organisation. In particular, the extent to which a school's individual autonomy needs to be reduced in exchange for greater flexibility in the use of staff and resources will need to be determined. For over half a century, small rural primary schools in the UK have struggled to maintain their identity and status. Local authorities in the past have been extremely supportive and have generally found ways of easing the financial problems associated with small numbers of pupils attending any one school. Such support is now no longer available, and this has happened at a time when the demands of curriculum specialisation have increased the pressures on small schools considerably. In the UK, research on the effectiveness of small rural schools has clearly demonstrated that they can hold their own academically with large suburban and urban establishments despite the fears expressed by critics (Patrick & Hargreaves, 1990). The partial loss of some autonomy, as a result of forming federations, would seem a small price for individual schools to pay to maintain these standards in the future.

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