The MUSE project: Multigrade teachers' training. Improving the quality of multigrade education

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Abstract

Multigrade schools are considered to play an important role on providing access to education for all in remote, isolated and underdeveloped rural areas. Multigrade schools are more than a reality in primary education in many regions of Europe and the rest of the world. In such areas, multigrade schools not only aim to give enrolment and continuous attendance in school environments, but also to provide knowledge and pedagogy of good standards. Furthermore, rural schools are considered to play an important role in social development. Based on the above, the project MUSE (MUltigrade School Education) aims at designing and implementing a specialized programme for training multigrade teachers in Europe. The project relies on a close cooperation between pedagogical experts, trainers, policy makers and teachers. It aims at enhancing professional skills of multigrade schoolteachers as well as developing their abilities on using Information and Communication Technology (ICT) as a supporting tool in everyday teaching. It will provide multigrade schoolteachers with continuous training and support, enhancing communication among remote, multigrade school teaching environment and outside educational community.

Introduction

Multigrade schools can be defined as schools where groups of students of different grades are taught in a single classroom. In most cases, in a multigrade school's classroom, pupils of two or more grades are taught by one teacher. The multigrade class structure is known by various names in different countries; these include "composite" or "combination" classes, "double" classes, "split" classes, "mixed-age" classes and "vertically grouped" classes. Irrespective of the term applied, multigrade teaching refers to classes of students of different ages, grades and learning abilities. In multigrade schools a relatively small number of teachers try to be effective, while dealing with different student groups simultaneously.

Multigrade schools are actually a more common situation than is generally admitted. They are a usual institution in European rural areas [1], [2]. Many countries in the Mediterranean, in Scandinavia and in central Europe, have significant rates of multigrade schools. For instance, in Finland, a country with many remote areas, multigrade schools represent about 30% of the total school number. In Greece (2001-2002 school year data), 44% of primary schools are multigrade and 15% of teachers are working in multigrade schools. In the United Kingdom, although there are not published statistics on the number of teachers engaged in multigrade teaching, it is estimated that in 1997/98 6.3% of schools had enrolments of less than 50 children, giving rise to multigrade teaching. The rate of UK's small schools is higher in areas with rural and scattered populations. Thus, while very small schools in England do not exceed 3.5%, in Northern Ireland, Wales and Scotland this rate is 13.0%, 14.6%, and 19.7% respectively (Department for Education and Employment, 1999).

The high number of multigrade schools in remote and isolated areas certainly is not coincidental. Geographic, social, economic and practical reasons make in many cases multigrade schools the only viable access to education for those who live in remote and isolated areas and have the right to get educated. In this sense, multigrade schools are vital in the educational system, providing "solutions" that work in implementing important educational goals.

School enrolment in the European countries reaches very high levels; therefore the level of illiteracy is nearly zero. However the educational requirements certainly go beyond the standards of basic literacy. In Europe, high educational quality expected to be attained on every educational level. Any school, including multigrade ones, not only should provide education but also should offer quality education.

One of the peculiarities in the issue of multigrade schools is the big divergence between the importance attributed to them by policy makers and researchers in the field of education. The policy makers try to reduce their numbers in any achievable way, while researchers are debating on the educational value of multigrade teaching. It is worth examining this divergence from two different as-

pects: (a) from the point of view of multigrade schools as educational institutions and (b) form the point of view of multigrade school teaching.

The importance of multigrade schools

Multigrade schools consists an institution that plays educational and societal roles, which differ substantially form the corresponding roles of monograde schools. These schools operate in areas where other schools cannot be established, offering education for all even though at high cost [3], [4]. This finds an official theoretical backing on an international level on the "World Declaration on Education for All" [3] where it is indicated that much effort must be put on establishing the conditions everywhere, even in the most remote and almost uninhabited villages, so that local citizens have access at least to basic education. Multigrade schools facilitate the accomplishment of such a goal, offering education to pupils who otherwise would have to decide whether to stay illiterate, study at home, or leave the place and go to the nearest town to be educated.

It is well established that the school not only facilitates the transmission of knowledge from teachers to learners but also acts as an institution of socialisation. The multigrade school offers the opportunity to its pupils to get the benefits of the school environment in cases where practically no alternatives are available. Multigrade schools play a vital role not only for the local educational community but also for the entire rural society. In many cases schools are the only state establishments in the area and, in addition to their use as educational centres, they should be seen as playing a societal role, as community centres that could foster local cultural and socio-economic development. Finally, multigrade schools may be viewed as alternative educational units, where, in an attempt to improve efficiency, new differentiated approaches can be applied in relation to promoting independent and individualised learning [5].

Because of this multiple role, one would expect that multigrade schools be given special attention. Instead, the usual situation is that multigrade schools are ignored, or assumed to be non-problematic, or problematic with non-resolvable problems, or unimportant, or marginal. Bibliography on schooling in developed and developing countries implicitly assumes that schools are monograde. Rarely one finds specialized programmes and implementation methodologies referring to such schools and also rare is research on this issue. The university Departments of Education, which are institutions that deal with the development of educational models, methodologies and approaches, concentrate, almost exclusively, in monograde schools. National school curricula do not refer separately to multigrade schools.

The importance of multigrade teaching

Multigrade schoolteachers have a multidimensional educational task, which is more difficult than the one of their colleagues in monograde schools. In their teaching role, they have to deal with classes difficult to handle. Consisting of pupils of diverse grades, age, learning abilities and interests, these classes require specific knowledge, teaching abilities, skills and experiences. Multigrade schoolteachers have to develop a wide variety of initiatives and teaching strategies [8], [9]. In their role of managing the school unit, they have to transform multigrade schools so that can provide an appropriate school environment for learners. This means that teachers in these schools should be able to manage resources, organise an attractive school life and communicate with other groups and individuals in the school community.

Acting as promoters of multigrade schools' social role, the teachers have to realise the importance of the school in the community. Moreover they should be able to use school resources not only serving educational goals but also to plan open learning activities with the active participation of the local society. They should be able to create links, communicate efficiently with groups and individuals outside the school community and transform multigrade schools to centres of social development.

For such a multidimensional role, multigrade schoolteachers should have qualities, which are usually met in: (a) senior teachers, who, after a long experience in schools, have developed skills and abilities to undertake difficult educational tasks, (b) teachers who, having attended specific training, are experts in multigrade school teaching and have a good theoretical background in the field of multigrade schools in general and (c) teachers who have access to supporting mechanisms, through which they can solve in-service problems. In this context, support could be offered either vertically by institutions,

or horizontally sharing with other teachers their strategies and ideas, thus improving their repertoire of teaching methods [10], [11].

Although the above form a model of qualifications for a successful teacher in the highly demanding field of multigrade schools, the actual situation is far from ideal. Thus instead of the desired characteristics, in multigrade schools, teachers usually are young and inexperienced (mostly at the beginning of their professional career). Most of them are not professionally trained to face the multigrade teaching effectively. Finally, they do not have the opportunity to be trained in service. The above result in a frustrating situation that has negative impacts on the multigrade schools' efficiency.

The project MUSE

The project MUSE[1] aims at the development of a new model of teacher's training that assists teaching in multigrade schools. The project is based on a close cooperation between pedagogical experts, trainers, policy makers and teachers in order to develop and disseminate methods of fighting educational exclusion and school failure in rural areas, promote the integration of pupils with special educational needs, and provide equal opportunities in education. The project is based on the use of information and communication technology (ICT) in school education and in the training of the staff working in multigrade schools. Further, the project encourages innovation in pedagogical methods and materials and promotes trans-national cooperation and communication between schools and teachers training establishments. The specific aims of the MUSE project seem to be exactly along with the aspects of multigrade education mentioned in the above paragraphs. In detail, these are:

To develop an in-service specialised training programme for teachers in multigrade schools, aiming to meet the teachers' needs. It will include training on methodological approaches applicable to the multigrade school environment as well as familiarization with the use of ICT and its applications on multigrade teaching. The training programme will be delivered through ODL techniques.

To enhance professional skills of multigrade schoolteachers and improve their abilities to develop plans according to the needs of the specific school environment. The MUSE training programme includes extended presentation of case studies and examples of good practice that will help teachers to face the particularities of the multigrade school environment. The participating teachers will be trained in designing and implementing cross-curricula applications, projects and activities.

To develop a model that will allow for the continuous training and support of the multigrade schoolteachers. The MUSE project will develop a platform for continuous interaction between teachers and trainers. The implementation scheme of the training programme includes extended cycles of school centred work. Teachers continuously will give feedback to the academic team about r experiences gained in the classroom during the implementation of selected applications.

To provide training of multigrade schoolteachers on how they can act as promoters of the local community development. Special attention will be given in training teachers to be able to serve the local community's goals. As already mentioned, the project is going to be implemented in rural isolated areas where the perspectives for economic development are limited. Teachers should be trained to fully utilize school resources for the benefit of the community while pupils' education should be planned taking into account the specific social, economic and cultural parameters of the communities' environment. The use of ICT is expected to contribute strongly in the connection of pupils' education with actual life in the community and the emphasis on the social role of the school is expected to promote and develop the local community's interests.

To conduct an intervention study in multigrade classrooms across Europe: The project will be implemented in multigrade school environments in Greece, Finland, Spain and United Kingdom. Through a systematic ethnographic research, the partnership will study the perceptions of teachers of different

[1] The project MUSE (106231-CP-1-2002-1-GR-COMENIUS-C21) is co-financed by the European commission under the COMENIUS 2.1 framework of the SOCRATES action. The partnership consists of University of Aegean (Coordinator), Institute of Education-University of London, University of Dundee, Chydenius Insitute, Ellinogermaniki Agogi, Greek Pedagogical Institute, University of Cadiz and a network of schools in Greece, Finland, Spain, United Kingdom

cultures about the proposed approach as well as the attitudes between teachers themselves coming from different countries.

To make recommendations on multigrade teaching policy and practice. By the end of the project's life cycle a detailed report (a good practice guide) will be prepared and distributed to education policy makers of the participating countries. The project is designed to raise awareness of policy makers and planners on the size of the problems and needs of multi-grade teaching and learning environment.

To enhance communication among remote multigrade school teaching environment and outside educational community. The aim is to create a virtual educational society where teachers will communicate with the academic community and will be familiarized with the idea of international cooperation and networking.

To initiate the formation of a European network on the multigrade school education. The partnership aims to initiate a network on the multi-grade school education. In the framework of the project a virtual educational community (teachers, researchers and policy makers) will be formed in order to exchange experiences, proposals and ideas for the qualitative improvement of the multigrade education.

Within the framework of these targets, the MUSE programme focuses on some issues that are considered of vital importance for providing solutions to multigrade schools. These issues are (a) the integrated teachers' training programme, (b) the development of innovative multigrade teaching methodologies and strategies, (c) the extensive use of ICT, (d) the application of open and distance learning techniques (ODL) and (e) the transformation of multigrade schools into core nodes to the local community. These issues are discussed below.

Integrated teachers' training programme

The MUSE Project aims to improve teachers' efficiency through an extensive integrated teachers' training programme, which is based on the following characteristics:

- It is adjusted to the conditions that give rise to the need for multigrade teaching [6], [7] and at the same time it focuses in offering to multigrade teachers adequate knowledge about the socio-economic and cultural background where they work.
- It inspires and motivates teachers, increasing awareness about their role in multigrade schools and the local society.
- It promotes specific principles, such as collaboration, and it encourages teachers to undertake initiatives and to apply innovative educational approaches.
- It trains teachers in didactic and pedagogical techniques through which they will be able to cope with cross curricula teaching.
- It trains teachers in counselling, managing multigrade school units, communicating and developing efficient links between the school and the local society.
- It trains teachers in regional planning.

The training programme is going to be implemented by highly qualified educators and will be delivered at a distance.

Development of innovative teaching strategies and methodologies

The MUSE Project aims to develop a model of teaching strategies and methodologies applicable to multigrade schools. This model is based on some principles a follows:

- It encourages work in groups and collaboration between pupils of the same grade but also of mixed grades.
- It promotes self-learning of pupils in the classroom and tutoring of younger children from older ones.
- It gives emphasis on approaches that promote the pupils' creativity, such as problem solving, the "project" method etc.

- It gets inspiration from the social, economic, cultural and natural environment and it gives emphasis on linking education to actual life.
- It motivates pupils to learn, through incentives (e.g. art competitions etc) and encourages communication with the local society.
- It encourages the teachers to work with pupils in the form of action research and to disseminate the results of their teaching strategies with other teachers.

The teaching strategies will be available to multigrade schoolteachers on line and will be based heavily on ICT.

Extensive use of Information Communication Technologies (ICT)

The MUSE Project is based heavily on ICT, acknowledging that the introduction of ICT promises revolutionary changes in any field of life, but is of specific importance for remote and geographically isolated areas. In this sense, ICT in multigrade schools is expected to offer to teachers and pupils, as well as to other groups or individuals who will be involved in the project accessibility to information, no matter the area's size, geographic characteristics and the distance from the centre.

Although serious effort is made recently by national ministries of education and other educational organizations in many European countries with respect to ICT, most of the relevant programmes have been designed to address the needs of teachers of conventional schools and not those of multigrade ones. The training programmes, where available, mostly face the introduction of ICT as a goal by itself, and do not focus on the exploration of multimedia, the Internet and special software as instruments that improve teaching and learning. Furthermore seminars are performed for specific periods of time and no measures are taken in support of the teachers' professional development.

In the MUSE project, the introduction of ICT in multigrade schools will be based on the following principles:

- The use of advanced communication channels should focus on providing a high quality continuous training programme to the multigrade schoolteachers. This will be based on an innovative methodological approach and will include the use of the Internet in order to develop a platform for training, collaboration, networking and exchanging of ideas between teachers, students and trainers.
- The use of ICT should also focus on (a) upgrading quality of multigrade teaching, (b) supporting students learning and (c) fostering social development of the local community [13], [14].
- Specific emphasis should be given in the development, through ICT, of "technological culture" that is believed to upgrade the educational system in general, also providing valuable knowledge on using modern technologies in real life situations [12].

Support by open and distance education techniques

In relation to the use of ICT, the MUSE project represents a paradigm of distance education scheme that aims at utilising the advantages of open and distance learning (ODL) instruments and techniques in order to provide:

- Quality in service training to multigrade schoolteachers.
- Professional support to multigrade educators.
- Support of pupils learning activities
- Lifelong learning opportunities to the local community (as seen below)

The training programme is going to be developed by educational and academic institutions specialized in teachers' professional training and the same institutions are going to supervise and guide the implementation of the programme in each of the participating multigrade schools. Under such circumstances, the implementation of a project like MUSE may be considered as a multidimensional case for studying the contribution of ODL in professional training and educational schemes. In this sense, the evaluation of the project's results with respect to the effectiveness of ODL could be used in support of

implementing open and distance teachers' training programmes not only in remote places but in urban areas as well.

Transformation of school to a core node in the local community

The MUSE project has set as one of the objectives to train teachers to become facilitators of social development of the rural community. This is strongly relied on providing a training framework, as part of the teachers' integrated training scheme that supports teachers in developing the multigrade schools' societal role, transforming it to a node in its community. Without limiting its role as a formal education provider, the multigrade school, in its social role, is expected, through this project, to act as a community centre serving (a) as an institution for life long learning activities and (b) as a vehicle for the delivery of wide range of services. Such a transformation is based on the following:

- School resources such as technology equipment and the school's well-trained staff can provide a range of educational and training opportunities for the community.
- The e-Learning solutions, that the project provides for the accomplishment of its educational goals, will be accessible (with the assistance of the teacher) to those members of the local community who are in need of continuous training/education. Apart from students, the local community in need of such support includes farmers, people in the tourist industry, entrepreneurs in small, family run businesses, etc.
- Horizontal links between a school or a group of schools and the local community will be promoted. [15], [16].
- Parents and other members of the local community will be recruited to support pupils' learning and possibly to provide material and financial help to schools.
- Experiences and skills that can help pupils in their future employment will be given priority. In this context there will be an attempt to promote and advertise the pupils' skills in the local community.

The social and economic conditions within which multigrade school operates are such that co-operation between school and local community and reciprocal assistance is expected to favour both, quality of educational services and social development.

Conclusions

The MUSE project is a rather ambitious and extensive attempt to examine in a global way multigrade schools, which exist in many European regions, work under difficult conditions and form a neglected or ignored part of the educational system. Apart from the promises for providing solutions in upgrading the quality of teaching in multigrade schools, the project considers as major challenges the attempt (a) to change the attitude towards these schools, (b) to show that these schools could become active centres of development in their region through the right policies and the appropriate use of modern technologies.

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