

Why deaf pupils have reduced graduation rates from compulsory education in Greece? An investigation of factors related to their low attainment

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Abstract: The current article deals with the issue of increased dropouts of deaf pupils from compulsory education (primary and junior high school) and tries to map out plausible reasons according to what principals and teachers for the deaf say, which might account for these dropouts. Official statistics are employed to demonstrate reduced graduation rates for deaf pupils from primary and junior high school. This data is collected through annual census surveys targeting all primary and secondary schools for the deaf, conducted by the National Statistical Service of Greece (NSSG). Then, this paper tries to explore some of the possible reasons, which could be at the root of these increased dropout rates from primary and lower secondary schools, according to the accounts of principals and teachers for the deaf, who serve in schools for the deaf. Two types of questionnaire were employed, addressed to principals and teachers for the deaf, serving in schools for the deaf, one on one, and telephone interviews, with these two categories of respondent. Low graduation rates are associated with several factors, including inadequate coverage for schools for the deaf, the fact that Gymnasias do not operate everywhere there are primary schools for the deaf and the fact that often deaf pupils have to enrol in schools for the deaf only after suffering considerable delay can be partly attributed to the relative shortage of schools for the deaf. Other limitations include the inadequate use of hearing aids by pupils, associated with inadequate screening and assessment procedures; a lack of kindergartens and preschools for the deaf; and the relative shortage of speech therapists in schools for the deaf. In addition, teachers criticized the fact that the “whole-day” school initiative, which allows pupils to remain in school until 4 p.m. and have assistance with their homework, does not operate in the majority of schools for the deaf. In addition, the need to create books and teaching materials more tailored to deaf pupils’ needs was mentioned, as well as inadequate or lack of teacher training in deaf pedagogy and Greek Sign Language. Findings are discussed in accordance with the international bibliography on this issue.

Key words: handicapping conditions in schools for the deaf; reduced graduation rates; possible explanations; ways forward

1. Literature review

It has been shown that deaf pupils in the USA fail to graduate from secondary education, as they cannot pass the written exams. For many deaf pupils, the acquisition of the mechanisms of reading and writing is a big challenge. Many deaf pupils take part in written exams many times in order to graduate, which implies that these

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pupils are enrolled in secondary education with a significantly lower level of written speech. Reduced literacy rates impede deaf pupils' access not only to tertiary education but also to the labour market. As reading and writing are necessary ingredients in many professions, many deaf pupils are directed towards lower professions (Lochen, 2005). Johnson, Lidden and Erting (1989) state that most deaf pupils in the USA leave secondary education having mastered a literacy level equivalent to that of 4th grade of primary school. Plausible reasons put forward to account for this failure include the following: Many of these pupils are not taught by the use of a sign language, teachers do not receive training in deaf education (Gerner de Garcia, 1995); inappropriate pedagogical methods are employed, and finally reduced emphasis is placed upon teaching higher order skills according to Bloom's taxonomy (Livingston, 1997).

2. Research design

This research employs statistical data collected through annual census surveys on special education by NSSG, as well as two types of questionnaire addressed to principals and teachers serving in primary and junior high schools. Open-ended questions were included in these questionnaires, as well as some summarized statistical data on the deaf pupils. Through the use of open-ended questions, a more unconstrained and spontaneous mapping of teachers' problems was targeted in relation to the teaching organization in schools for the deaf, basic pedagogic dimensions, characteristics of language instruction, and characteristics of deaf pupil population.

Out of sixteen teachers who replied and filled out the questionnaires, three were deaf and the remaining thirteen had no hearing problems. Six principals in schools for the deaf completed the principals' questionnaire. However, seven schools replied to this study since one principal in a school from which other teachers responded did not fill in the questionnaire. The response rate of the current study at the level of school units (9 primary and 3 secondary) was 7/12, that is to say 58.3%.

Schools' and teachers' identities were nowhere mentioned in the questionnaires. Teachers were not obliged to fill in their names in the questionnaire, in order to keep the data confidential.

Questionnaires were sent by post to all schools for the deaf. Visits to schools in and around Athens were scheduled by the writer, in order to build up a more vivid picture of the current situation. In the framework of these visits discussions with teachers were held and the questionnaires were completed. Reminders were given to remote schools to increase the response rate.

3. Possible explanations that can be at the origin of reduced graduation rates of deaf pupils

3.1 Absolute numbers and graduation rates of deaf pupils from primary and junior high school (Gymnasio)

The actual figures as well as the graduation rates of deaf pupils from primary and junior high school are juxtaposed below to the relative figures and graduation rates of the entire pupil population without SEN (Special Educational Needs), who were enrolled at the same level during the same school year. The data source is NSSG. The data come from annual census surveys conducted by NSSG, and more specifically, from the annual census survey on special education, and from the annual census surveys on primary and junior high school. Graduation rates of deaf pupils and pupils enrolled in mainstream schools may be compared, provided that they refer to the same educational level (primary or secondary) and to the same school year.

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Table 1 Deaf pupils enrolled in all schools (primary and junior high school) and pupils who have graduated from primary and junior high school

School years 2000-1 to 2005-6						
School year	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Primary						
Pupils enrolled	275	205	186	184	170	139
Pupils who have graduated	24	4	7	12	8	7
Pupils enrolled in the 6th grade	46	34	31	30	28	23
Percentage of graduates in relation to enrolment	52.1%	11.7%	22.6%	40%	28.5%	30.4%
Junior high school (Gymnasio)						
Pupils enrolled	98	72	86	86	71	78
Pupils who have graduated	0	0	0	0	12	0
Pupils enrolled in the 3rd grade of junior high schools	33	24	29	29	24	26
Percentage of graduates in relation to enrolment	0%	0%	0%	0%	50%	0%

Table 2 Pupils enrolled in ordinary mainstream schools (primary and junior high schools) and pupils who have graduated from primary and junior high schools

School years 2000-1 to 2005-6						
School year	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Primary						
Pupils who have graduated	103314	104654	100352	110948	108052	110367
Pupils enrolled in the 6th grade	103460	104804	100530	111133	108233	110552
Percentage of graduates in relation to enrolment	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
Junior high school (Gymnasio)						
Pupils who have graduated	101825	102646	99552	96339	96087	*
Pupils enrolled in the 3rd grade of junior high schools	108011	106775	105527	102699	100358	
Percentage of graduates in relation to enrolment	94.3%	96.1%	94.3%	93.8%	95.74%	

Note: * Represents data are not yet available.

Statistical data collected by the NSSG shows that the percentages of deaf pupils who have graduated from all the primary and secondary schools in Greece (according to Table 1) in relation to those enrolled in 6th grade of primary school and in 3rd grade of junior high schools (Gymnasia) during the end of the school year are very low. Graduation rates from primary schools for the deaf are approximately 1/3 compared to the corresponding graduation rates from primary mainstream schools. Graduation rates of deaf pupils from junior high schools (Gymnasia) are very often zero. The graduation percentages for pupils enrolled in mainstream schools are 99.8% for primary schools (according to Table 2), whereas it ranges between 94.3% and 95.7% for junior high schools (Gymnasio). It is evident that a serious injustice is being committed against deaf pupils, which is perpetuated by our lack of sensitivity. The differences in graduation rates are not slight but substantial, and they show that more compensatory measures should be taken in order to alleviate some of the consequences of educational disadvantage and raise deaf pupils' attainment by allowing them to progress at a rate which does not deviate too much from the progress rate realized by their counterparts enrolled in mainstream schools. Frequently however, organizational conditions and teaching practices in schools for the deaf are not optimal. Graduation rates are indicators of educational effectiveness. Low graduation rates call in question the effectiveness and of the educational provision for the deaf in Greece and they indicate that deaf pupils' attainment lags behind the

attainment respectively of pupils enrolled in mainstream schools, most of whom do not have SEN. In addition, they possibly indicate that deaf pupils' progress lags behind the progress of pupils enrolled in mainstream schools.

A basic criterion of school effectiveness is the degree to which enrolment in a given school improves the educational outcomes of pupils enrolled, that is to say, the degree to which it promotes pupils' attainment and progress. Alternatively, a basic criterion for programme effectiveness is the degree to which enrolment in a given type of educational programme or intervention, promotes the educational outcomes of pupils enrolled in it. Willms (1992, p. 34) stated that: "A preferable indicator of a school's performance is the distribution of the rates of growth of its pupils".

3.2 Factors to which low graduation rates can be attributed

Low graduation rates from schools for the deaf can be related to several factors. First of all, there is a relative scarcity of schools for the deaf throughout Greece. According to the latest statistical data available, only 9 primary schools for the deaf exist throughout Greece and are located in Athens¹, Thessalonica, Rhodes, Crete, Thessaly, Sterea Ellada and Peloponnese. In the rest of Greece and in some regions there is relative scarcity of schools for the deaf. As far as Gymnasia² are concerned, throughout Greece only 3 Gymnasia for the deaf are operating in Athens, Thessalonica and Crete. In other towns where primary schools for the deaf are located, there are no corresponding secondary schools for the deaf. This relative scarcity results in the majority of deaf pupils being enrolled in primary and junior high schools in the mainstream. In these schools the Greek Sign Language (GSL) is not used to facilitate instruction and other appropriate compensatory measures are not taken in order to cater for deaf pupils' educational needs. Even if in some mainstream schools, teachers for Special Educational Needs are delegated to cater for the needs of deaf pupils, most of them do not know the Greek Sign Language, and they are not specialized in the education of deaf pupils. Hence they are very often of little help to deaf pupils, since they cannot make them understand and learn major parts of the lessons taught in the mainstream. Under these circumstances, the educational level of deaf pupils in Greece lags well behind that of their counterparts without special educational needs. Low graduation rates for deaf pupils from primary and junior high schools can be attributed, at least partly, to the fact that deaf pupils initially enroll in mainstream schools, and remain there for several years, until their parents feel that they have matured enough to be able to separate them from their families in order to be enrolled in schools for the deaf and stay in boarding houses associated with the schools for the deaf located in these towns. Precious time is lost waiting for the deaf children to adjust to the regular mainstream school environment, where no adjustments are made to make the lessons more comprehensible to them. So they arrive in schools for the deaf after considerable delay, and, when they arrive they are enrolled in higher grades without having appropriated the content taught in the lower grades, and without being able to communicate in the Greek Sign Language, which is used to facilitate instruction, as their peers in their new schools do. Therefore, several years are lost in this transition process.

In addition, the problem of scarcity of appropriately trained special teachers in schools for the deaf, as well as in mainstream schools where deaf pupils are enrolled, has become more acute due to the lack of appointments of graduates from the Special Education Section from the University of Volos, who cover all the specializations of SEN teachers, which existed until September 2008.

According to the new law on special education³, which has been voted on the 9th of September 2008 teachers

¹ One in Filothei, one in Argyroupoli and one in Ampelokipi.

² Schools corresponding to junior high school.

³ This law has not yet been published in ΦΕΚ.

to be employed in schools for the deaf should know and have a relevant certification in the Greek Sign Language. Additionally, teachers of SEN should have a qualification from the special educational needs sections of the Universities of Volos and Makedonia, located in Thessalonica. Again, candidate teachers for the deaf may also have a regular teaching qualification and a master's or a doctorate degree on special education. Otherwise, after having acquired their bachelor degree in teaching, they may have been enrolled in a two-year specialization course organized by five Greek universities (e.g., the former Marasleios, etc.). Previously, it was the case that if the position of the teacher for the deaf could not be covered by employing a teacher specialized in SEN, any primary teacher who had also been through a short-term course⁴ on SEN could be employed in this position, provided that such an appointment was authorized by the administration (PISPE-ΠΥΣΠΕ)⁵. Let's hope that this is the dawn of a brighter future, and that the new appointments will be sufficient to cover the remaining vacancies for teachers for the deaf in Greece.

Many of the teachers serving in large schools for the deaf in Athens, which have more than one grade, are competent in GSL and they use it while teaching, and some of them have master's degrees in deaf education. Hence, they can exchange pedagogic views with their colleagues, choose more appropriate teaching methods and differentiate the lessons to better reflect pupils' needs. They also use methods to assist deaf pupils to visualize the lessons and to use software programs, usually dictionaries of GSL.

However, some teachers in the provinces do not employ the Greek Sign Language in their teaching, as they do not know it, and hence pupils are taught there through a sign language devised by themselves, their families and their teachers. Some teachers for the deaf have followed lessons of Greek Sign Language for one year only, and some for a couple of years, and hence many teachers for the deaf who already serve in schools for the deaf do not have competence in Greek Sign Language.

Another condition, constraining the successful integration of deaf pupils, mentioned by principals and teachers of the deaf, is the inadequate use of hearing aids by pupils, associated with the financial difficulties encountered by the families, which are related to the high cost of purchasing hearing aids, especially when they are not covered by their insurance as well as with the inadequate screening and assessment procedures employed by the former ΚΔΑΥ⁶ and current ΚΕΔΔΥ. Some principals suggested that every child's enrolment in a regular school as well as in a school for the deaf should be accompanied by a screening test of hearing ability. Such a screening can be performed by an audiologist, or by a specialist doctor affiliated to these diagnostic centres. The teachers also demanded more specific guidelines from ΚΔΑΥ in relation to the pedagogic measures that should be undertaken by them and the adjustments to the surroundings, following pupils' placement in their schools and classrooms. They also asked for learning targets to be included in ΚΔΑΥ's report. That is to say, they asked for information that may be provided within Individual Education Plans.

A secondary school language teacher expressed the view that the creation of kindergartens for the deaf, preschools and family consultancy centres, where parents could drop in from a very early age to ask for advice in relation to their children's deafness, could greatly facilitate deaf pupils' success in primary and secondary school. Children could be directed towards receiving appropriate speech—therapy lessons, and parents could be assisted in choosing the most appropriate specialists and hearing aids for their children. Also the prompt enrolment of deaf

⁴ Of 3 or 6 months' duration.

⁵ Administrative centres regulating issues of appointment, placement, vacancies, transfer, and disengagement of primary and secondary teachers.

⁶ Centres for diagnostic assessment for pupils with SEN.

pupils in nursery and kindergarden schools would contribute to their learning of the Greek Sign Language and exposure to speech therapy lessons from a very early age, a fact which would assist in getting them to come to primary school more readily to learn. There is data showing that there are benefits associated with early rehabilitation (Markides, 1986; Ramkalawan & Davis, 1992; Eilers & Oller, 1994; Robinshaw, 1995). Markides (1986) stated that children produce more comprehensible speech if they start using the hearing aids during the first six months of their lives. Ramkalawan and Davis (1992) state that even children with an average degree of deafness can suffer detrimental effects if the intervention is delayed. Mayberry and Eichen (1991; Loncke, et al., 1990) state that it is difficult for children who have not acquired fluency in one first language by the age of 5, to keep up with other children in sign language, or speech.

Another principal in a central school judged that in classrooms where the lessons were carried out by two teachers (the deaf teaching in Greek Sign Language, while the hearing teaching in Greek), deaf pupils had better educational outcomes in relation to other classrooms where the instruction was carried out by one teacher only, no matter whether the teacher was deaf or hearing. In case there is the opportunity that two teachers for the deaf can co-teach in the same classroom with the same students, as it is suggested by some teachers who participated in this survey, one teaching through the Greek Sign Language and the other through normal Greek then educational outcomes of deaf pupils are likely to be enhanced. Also Watson and Parsons (1998, p. 141) stated that where there is a team of different professionals working together, some deaf pupils may be supported by more than one person at the same time, for example a deaf adult and a hearing teacher of the deaf, and that can partially account for the fact why some writers argue against an integration of deaf pupils in mainstream settings. In the current study teachers argued that in case co-teaching by two teachers for the deaf at the same time is generalized, deaf pupils would have increased learning opportunities and existing schools for the deaf would become more effective.

Another deaf teacher expressed the view that free intensive speech therapy lessons should be given to deaf children from the pre-nursery stage. Subsidizing speech therapy lessons is a necessity, since speech therapy is included in the framework of basic education for deaf pupils. According to this teacher, there are many financially disadvantaged deaf pupils. The insufficient hours of speech therapy in the schools result in such pupils suffering a greater disadvantage than expected, because they cannot afford to pay private speech therapy lessons.

In addition, many teachers for the deaf said that it would have been helpful if deaf pupils could remain in the school to gain assistance with their homework in the afternoon, in the framework of the “whole-day” school initiative. However, only in one school did the “whole-day” school operate. In this school, study groups were organized involving various activities, such as informatics, drawing, etc.

In addition, most of the teachers stressed the need to create more appropriate teaching materials and books tailored to deaf pupils’ needs, since they found the existing books too difficult for their children. Most teachers stated that they were unable to cover all the material that was included in the curriculum for pupils without SEN. They made a selection of content in each chapter that would cover the most crucial points in the lesson. Also some found it difficult to teach abstract concepts in lessons and they felt that the content of the books should be adjusted to include more concrete materials.

The majority of teachers said that teacher training in issues of deaf pedagogy was inadequate or non-existent and demanded more training in deaf pedagogy and also in mastering the Greek Sign Language.

Our long-term goal in deaf pupils’ education should be the alleviation of attainment differences⁷ on average

⁷ Attainment and progress.

between deaf and hard of hearing pupils without additional handicaps and pupils of the same age and grade without special educational needs⁸ enrolled in the mainstream. Even if at the moment the teachers serving in schools for the deaf judge that we are very far from this target, using the appropriate educational interventions we can move closer to this target in the near future. There is a need for appropriate training of teaching personnel in Greek Sign Language and deaf pedagogy. Greek LEAs and PISPEs should bar inadequately qualified teachers from entering the profession. DVDs should be acquired, which would provide for simultaneous translation of the content of every lesson in GSL. Teachers said that such an initiative was launched by the Pedagogical Institute in Athens, but when the government was changed, the initiative stopped. Appropriate technical equipment, such as amplification systems, should be acquired by the school, to assist hard of hearing pupils and enable them to employ their residual hearing to appropriate the content of the lessons. Hearing aids should be dispensed free of charge to deaf pupils, to assist poor families. Principals also stated that appropriate additional software should be created which would explain not only the vocabulary, as is the case now, but also the structure of GSL. Principals said that they expect more from the former ΚΔΑΥ and current ΚΕΔΔΥ (the diagnostic centres), and more specifically individual education plans should be created for all pupils, setting the targets and educational goals to be taught for each year. Pupils should not be assessed once only but more regularly on a longitudinal basis. Also deaf pupils' hearing ability should be more adequately assessed. Teachers said that GSL should be taught not only to teachers, but also to parents, siblings, and the wider community, to improve the communication of the deaf children with their families, to make the parents able to assist their children with their homework and in order to provide a sufficient number of interpreters at deaf people's disposal (Tillander, 1994, in Barcham, 1998, p. 245). Finnish government encourages deaf pupils' parents to employ Sign Language with their children, offering to each family 100 free hours of instruction in Sign Language at home and subsequently allowing them to enroll in schools where Sign Language is taught. The school operation should be increased in the afternoon so that deaf pupils can have support with homework and remedial teaching. Also various workshops reflecting pupils' interests can be organised in this "whole-day" school framework.

More visits, social contacts, and consultancies with parents can be held in the afternoon. These are examples of possible interventions which, if adapted to deaf schools' conditions and implemented, would probably ameliorate deaf pupils' educational outcomes. Access to information is crucial for deaf pupils' parents, since it informs them about the different options they have in relation to treatment, choice of schools, speech therapists, doctors, etc.

An educational innovation or an intervention programme is judged effectively if it alleviates negative attainment differences between the target population and the general population by creating positive progress rates for the target population (Slavin, et al., 1996, 1998). If deaf pupils receive successful interventions, the future is brighter for them, at an educational, vocational and social level.

Successful intervention programmes can be presented as examples and subsequently generalized in schools for the deaf. Basic elements and ideas can be drawn from intensive intervention programmes for underachieving pupils such as the "success for all" programme (Slavin, et al., 1987, 1996, 1998), the "reading recovery" programme (Pinnel, 2000). Intervention programmes can be adjusted to include elements of deaf pedagogy and use of sign language. In addition, the teaching of metacognitive skills would be of value to deaf pupils, as in the

⁸ No significant differences between the two means of the two attainment distributions (of deaf and hard of hearing pupils without additional handicaps and of pupils without SEN) should be detected, or in case they are detected they should be very small in magnitude.

long run, it would make them autonomous and self-regulated learners. Deaf pupils have to be enrolled in interventions that would enhance their reading ability so that they may be able to appropriate the content of the other lessons at a quicker rate. "Reading recovery" employs running records that enable detailed analysis of pupils' mistakes in reading. Based on this analysis, this intervention programme gives emphasis on teaching the phonics, and concepts not yet mastered by the child, by using finely differentiated basal series of books. "Reading recovery" provides one to one or small group tuition based on pupils' needs with the aim of covering pupils' learning gaps. "Success for all" is another intervention programme that employs small group tuition, frequent assessment and regrouping of pupils in homogeneous groups, of the same reading level. Subsequent instruction is carried out at one level only, thus avoiding that precious time allocated to differentiating instruction to different pupils' ability levels is lost, allowing pupils to progress at a rapid pace and cover a great part of the curriculum. Increased time for teaching and the use of a programme coordinator and intensive teacher training also characterise these support schemes. Other characteristics are the regular assistance and guidance provided to the teachers in implementing correctly all the elements of the intervention programmes, setting up examples of exemplary teaching practices and of successful implementation of the programme, etc. The design and implementation of support teaching programmes for the deaf requires sustained efforts by the Greek Ministry of Education, the teachers, the parents, the pupils, the academics, and the wider society. New studies may compare deaf pupils' progress between various schools for the deaf, so that teachers serving in schools and classrooms in which pupils have demonstrated the lowest progress rates, are informed about pedagogical methods and techniques of teachers serving in schools and classrooms in which pupils have demonstrated the highest progress rates. The effectiveness of intervention programmes needs to be also evaluated, using a longitudinal design employing pre and post-tests. These data can be analysed with multilevel modeling or linear regression techniques. Teacher training programmes as well as appropriate networking of schools for the deaf, comprising also distinguished experts could take place.

3.3 The importance of deaf pupils attending schools for the deaf

If deaf pupils do not receive extra help from their parents, speech therapists and other specialized teachers, they often remain functionally illiterate and unable to read, write and calculate, when they face difficulties in communicating at an adequate level with their deaf counterparts, their parents and the deaf community. This can be attributed to the fact that they never learned sign language, and they have not learned to speak and understand what their interlocutor has to say, as they would do if a specialized speech-therapist had taught them.

Many primary school teachers for the deaf, especially those who were deaf themselves, highlighted the fact that deaf pupils should be enrolled in schools for the deaf from a very early age from nursery school, so that they can develop their sign language in time. They highlighted the fact that it is detrimental for deaf pupils' learning to be enrolled in the schools for the deaf later in upper grades of primary school, after having failed in their integration into the mainstream schools and after having felt inadequate, and losing precious time. Deaf pupils are often enrolled in schools for the deaf only after considerable delay, after having been enrolled for several years in mainstream schools. They also stressed the importance of speech therapists for the development of language skills. They suggested that more speech therapists should be employed in primary and secondary schools for the deaf, even in nursery schools for the deaf and that it is not sufficient to employ just one speech therapist in a large school, since a speech-therapist most often offers individualized tuition. Needless to say, small schools in the provinces do not have speech therapists at all, fact that has detrimental effects for deaf pupils' attainment.

Schools for the deaf can cover deaf pupils' needs in a more comprehensive manner. In case that deaf pupils

are supported in a mainstream class setting, then support teachers or teaching assistants in the mainstream class should be able to translate the content of the lesson in Greek Sign Language and at the same time be able to explain the concepts taught by the mainstream class teacher to the deaf child (Watson & Parsons, 1998). That is to say support teachers in mainstream class settings should be teachers themselves and they should also have adequate knowledge of GSL, conditions difficult to be met in mainstream schools with deaf and hard hearing pupils in the Greek territory. These functions can be accomplished in a school for the deaf, as teaching is carried out in small groups by educated pedagogues trained in the use of Greek Sign Language. In Sections of Integration (in Greek called “Τμήματα Ένταξης”) deaf pupils enrolled in the mainstream are supported in parallel or in a separate setting for a couple of hours per day only by a teacher who might not be competent in using the GSL. The relative lack of schools for the deaf in the regions results in deaf pupils being enrolled in regular mainstream schools, where neither sign language, speech therapy nor lip-reading instruction or any other method of education for the deaf is used. The lack of proactive measures in current policy making contributes to the perpetuation of the current situation for the deaf. That is to say, it contributes to depriving a substantial part of the deaf pupil population from curriculum access, thus making them functionally illiterate in the long term. Pupils belonging to middle or higher socio-economic classes who have the privilege of being able to afford private tuition from a speech therapist, or from a specialised pedagogue have better prospects of catching up to the average. Increased learning opportunities for deaf pupils from higher social classes is another example of interaction of educational disadvantage and social class, where, in the absence of proactive compensatory measures, pupils from more advantaged classes seem to enjoy more learning opportunities and hence are expected to have better educational outcomes in relation to deaf pupils suffering from poverty. The vast majority of deaf pupils enrolled in regular schools who can comprehend the lesson taught by the mainstream class teacher have learned to lip read from a special pedagogue privately at home. This is a condition that poor families of deaf pupils often can't afford. However, it is the responsibility of the educational system to guarantee access to learning for all pupils, especially for those pupils who originate from educationally and socially disadvantaged groups, through the adoption of appropriate remedial measures.

Watson and Parsons (1998) argued for the need to examine the nature of the whole educational experience for deaf pupils, and to make decisions, which consider individual needs rather than follow a general policy.

More schools for the deaf should be created throughout Greece, as there are regions, such as Epirus, the islands, or West Macedonia, where no schools for the deaf exist at all, the fact that has pushed deaf pupils involuntarily to mainstreaming.

Douka (2005) stated that a large percentage of the deaf community and of scientists involved in deaf education are opposed to deaf pupils' integration in regular schools. They regard schools for the deaf not as special schools for pupils with disabilities but as schools in which sign language is taught. Some researchers regard sign language as a necessary component in deaf education, as it facilitates the learning process, because deaf pupils, at least initially, are capable of appropriating new stimuli only visually. Hence, “the sign language is considered to be the mother tongue of the deaf” (Salles, et al., 2005). Also the new law on special education voted on the 9th of September 2008 (in article 7, paragraph 1) recognizes the Greek Sign Language as the first language of the deaf, while their second language is the written form of Greek. Greek Sign Language and Modern Greek are defined as equivalent languages and bilingual instruction as the appropriate form of instruction for deaf pupils. In addition, this new law requires that in order that teachers can be appointed in schools for the deaf, it is necessary that they have an accreditation on Greek Sign Language.

In 1994 in an education conference held under the auspices of the United Nations Educational, Scientific and Cultural Organization, it was agreed that “the importance of sign language as the medium of communication among the deaf should be recognized and provision be made to ensure that all deaf persons have access to education in their natural sign language. Owing to the particular communication needs of deaf and deaf/blind persons, their education may be more suitably provided in special schools or special classes and units in mainstream schools” (UNESCO, 1994a, p. 18).

Teachers of the deaf recognised the importance of GSL for communication and the understanding of analytical programmes for deaf pupils. A language teacher in a secondary school suggested that the GSL should be taught as a lesson on its own at all grades and educational levels. Due to the fact that they can communicate in sign language, deaf pupils enrolled in schools for the deaf have more opportunities for interaction with their classmates, as well as teachers, speech-therapists and other specialists and more opportunities to participate in workshops and outdoor activities. Farrugia and Austin (1980, p. 540) stated that such opportunities are not available to many deaf pupils enrolled in regular schools.

In order that deaf pupils may learn, they should be able to appropriate content either through sign language or oral communication. This does not hold in the case of deaf pupils who have been enrolled for many years in a regular mainstream school, which did not provide the appropriate structures in order to assist deaf pupils. Salles, et al (2005) suggested that logical reasoning should be integrated into visual pedagogy. Hence the delayed enrolment of deaf pupils in schools for the deaf results in only partial appropriation of GSL and consequently to a partial appropriation of the content of the other lessons. Some deaf adults, for example Ladd (1991) argued against the integration for deaf pupils.

Distinct pedagogical approaches for the deaf are often employed in schools for the deaf, such as “the Rochester method” (Musselman, 2000), which promoted the use of the mother tongue as an additional means of instruction, and makes use of finger spelling as an auxiliary means of communication. Another pedagogical approach has been expressed by Livingston (1997). Livingston disagreed with the idea that deaf pupils should first gain command of sign language in order to start learning and puts forward the idea that sign language and English (the language of instruction in American schools) should coexist in the same classroom during regular instruction. Gerner de Garcia (1995), who examined the experience of Spanish speaking deaf pupils in the USA agrees with the above idea and reports that in some classrooms teaching is carried out through sign supported speech (Johnson, Liddell & Erting, 1989). In this case, the teacher is teaching through speech while at the same time trying to indicate through sign language what s/he says orally. Gerner de Garcia (1995) considered that deaf education should acknowledge the trilingual experience of foreign deaf pupils in order that educational outcomes for these pupils are improved.

3.4 The need regularly to evaluate programme effectiveness

It is expected that, if teaching methods are adapted to the educational needs of deaf pupils, they, in broad terms, will be able to ameliorate their educational outcomes. However, it is advisable regularly to evaluate the relative effectiveness of one pedagogical method over the other, or of one intervention over the other, based on the longitudinal assessment of deaf pupils’ attainment and progress. Such an assessment exercise would enable the researcher to establish the relative progress of deaf pupils in relation to their initial attainment level at the baseline. Through the use of curriculum based tests, such an approach would allow researchers to estimate the degree to which deaf pupils have acquired the learning targets corresponding to the curriculum of the grade they are enrolled in. In addition, the relative effectiveness of two different teaching methods or of two educational

interventions can be compared through the comparison of their respective effect sizes⁹.

In this way, reliable data can be obtained concerning the degree to which a given pedagogical method or educational intervention has promoted deaf pupils' learning outcomes. Thus deaf pupils' schools may be enabled to choose the most effective among them. Such a methodology has been employed by Slavin, et al (1996, 1998), in order to assess the relative effectiveness of intervention programmes for underachieving pupils' groups without learning handicaps.

The measurement of deaf pupils' attainment at the beginning and the end of a predefined period of study would allow the estimation of deaf pupils' progress during this predefined period of study, using some linear regression or multilevel model. This progress can be accounted for by other explanatory variables, such as attendance in a specific type of school, participation in a specific type of intervention, or reception of speech therapy lessons, etc.

3.5 Some additional explanations that may account for increased dropout rates of deaf pupils

In order to disentangle some of the reasons for which deaf pupils fail to graduate from primary school and junior high schools (Gymnasia), questionnaires were administered and normal and telephone interviews were conducted with principals and teachers (16 respondents) serving in 7 schools for the deaf. According to these respondents, other plausible reasons, for deaf pupils' failure to graduate are the followings:

Deaf pupils are not enrolled early enough in schools for the deaf. The majority of deaf pupils come to be enrolled in schools for the deaf only during the last grades of primary schools and after having been enrolled in regular mainstream schools in which they were deprived of the means to understand and appropriate the curriculum, and where they could only minimally understand what was going on, and where precious time was lost, as they are automatically promoted from one grade to the next, without having appropriated the content of their grade. As a consequence, their rate of progress in these regular mainstream schools had been very slow. Hence, when they reach schools for the deaf, there is required on average two to three years of enrolment in order to enable deaf pupils to catch up and appropriate the curriculum taught during 6 years in regular schools. One principal stated that on average, deaf pupils who come into schools for the deaf after having been enrolled in mainstream schools, after having finished primary mainstream school, can remain enrolled in these primary schools for the deaf until they are fourteen years old. There is a relative lack of time, and often this is one reason why deaf pupils fail. In contrast, the principals emphasised that pupils who have been enrolled in primary school early on from the 1st grade or even better from preschool, do not face major problems in relation to their educational outcomes and are adapted at a satisfactory level to the school environment and its requirements.

A principal serving in a primary school for the deaf has suggested that in order to make deaf pupils, who have graduated from ordinary mainstream primary schools to be able to be enrolled in gymnasia or in secondary vocational schools for the deaf, they should be additionally enrolled in the last couple of grades in primary school for the deaf. Upon entry, deaf pupils are assessed by teachers and by the National Diagnostic Institute (former ΚΔΑΥ, current ΚΕΔΔΥ), so that individualized intervention programmes are compiled for them, adapted to their needs and their learning gaps. In this particular school for the deaf, deaf pupils learn at the same time Greek and

⁹ The effect size is a particularly useful tool in assessing the effectiveness of experimental programmes and expresses the proportion of a standard deviation separating the experimental from the control group in terms of the educational outcome at stake (in many cases the educational outcome is attainment). The effect size of a given educational programme is estimated according to the following formula:
$$ES = \frac{(\text{progress of experimental group}) - (\text{progress of control group})}{SD(\text{progress of control group})}$$

the Greek Sign Language, that is to say, deaf pupils are taught according to the principles of “sign supported speech”, using total communication. In the Greek setting only some of the schools employ the total communication method. There are teachers for the deaf serving in small schools for the deaf located in the provinces who do not use sign language. After their graduation from this central school for the deaf, deaf pupils are additionally assessed by the above mentioned National Diagnostic Institutes in order to estimate their ability to follow the curriculum followed in Gymnasia (junior high schools) or the appropriateness of other forms of vocational education for them in EEEEEK, or in Special Vocational Gymnasia (former TEE of 1st level).

Another principal took up a defensive stance and declared that all pupils enrolled in his school graduated from it. However, pupils who graduate from this school were not assessed by the above-mentioned National Diagnostic Institutes in order to estimate the degree of their cognitive competence, but were only subjected to internal assessment by the school. In addition, in this school, deaf pupils are not assessed according to the curriculum of the grade they are enrolled in, and the following quotation is characteristic: “There are pupils following the curriculum set by the Ministry of Education and pupils who do not follow it”.

When the question was posed, “What percentage of the pupils follow the authorized curriculum set by the Ministry of Education”, this principal refused to answer and defensively hang up.

In many cases, deaf pupils in schools for the deaf are promoted from one grade to the next without definite checks that these pupils have mastered the learning goals corresponding to the grade they were enrolled in.

The previously presented data suggests, that there is a literacy problem among deaf pupils, since as the data shown in section 3.1 demonstrate, there is a very small percentage of graduates from all educational levels, according to the statistical data produced by the National Statistical Service of Greece, and the promotion of deaf pupils from grade to grade is not related to their competence levels. In order to ensure that deaf pupils have the requisite knowledge taught in these grades, relevant requirements in relation to the attainment of this pupil population¹⁰ should be established corresponding to each grade, that is to say, attainment levels or standards, for language and mathematics. These standards should describe in detail the competence and skills that deaf pupils without additional handicaps should have and be able to do during definite times and moments in their school course. Standards for deaf pupils without SEN could be defined in relation to the outcomes attained by the corresponding pupil population of the same grade and age, without SEN. In the USA and in the UK the standards define the average level of reading competence that a pupil is expected to attain when s/he graduates from all educational levels (Ravitch, 1995). There are standards referring separately to special populations of pupils. The lack of standards in Greece does not allow comparisons between the average performance level of all pupils and of special pupil groups. Such knowledge would enable us to compare the average level of deaf and hard of hearing pupils without additional handicaps, in relation to the average level of pupils without SEN and results in a big number of deaf and hard of hearing pupils without additional handicaps not reaching either the average level of performance in basic skills of their counterparts without SEN, nor the level they could reach according to their individual capabilities. These average expected attainment levels, or Standards may also be defined in relation to the outcomes attained by successful schools for the deaf. These standards may evolve as best practices, technical equipment and conditions ameliorate in schools for the deaf. If the appropriate measures have been taken for deaf pupils' education, we should know on average, to what level of total language ability, or of total reading ability, or in terms of mathematics competence, deaf and hard of hearing pupils without SEN are expected to reach in

¹⁰ According to the definition of standards, based on Wikipedia, the free internet encyclopedia.

relation to the learning targets corresponding to pupils' grade. Then we would be able to identify deviations from these targets, occurring in schools and classrooms for the deaf throughout Greece and be able to design appropriate interventions. Such interventions may include the organization of intensive teacher training programmes, or support schemes in the afternoon for underachieving pupils. Elmore Richard F. (2002) discussed the importance of teacher training to improvement of students' learning outcomes.

A relevant condition for allowing performance standards to operate, is the creation of appropriate tests and examinations which would accompany these absolute attainment levels. Such tests and examinations would make certain that pupils reach the point described by content standards defined by the curriculum. That is to say, normative tests have to be created mapping out certain basic dimensions of the basic skills curriculum (in language and mathematics) which deaf pupils are expected to reach when these have graduated or are close to graduation from a certain grade of compulsory education, or every three years of their school course. Having collected attainment measures at regular intervals from individual pupils would allow the estimation of pupils' classrooms' and schools' progress towards these standards.

Low graduation rates can be correlated with absence of standards, characterizing not only the deaf pupils' education, but also mainstream education. No absolute level of standards has been defined corresponding to competence, levels of knowledge and learning targets by each grade or level which should have been acquired by pupils in order to be promoted to the next grade, or level, as occurs in the USA, the UK or Australia. Content standards comprise statements about what pupils should know in various areas of the curriculum and various subjects, such as mathematics and science.

These standards should be reflected in performance-based tests, on which pupils can be tested in order to define their absolute level of performance. The Idaho State board of Education (2007) has established a set of standards according to which deaf pupils should be assessed. These comprise among others a test constructed for the education of hearing pupils, given that the education of deaf pupils aims to make deaf pupils able to develop and operate at a level compatible with the corresponding level of hearing pupils.

Lack of standards contributes to lack of awareness of the problem of inadequate education for the deaf, and furthermore, adds to its perpetuation. In contrast, the accurate transcription and description of the problem of lower performance levels for the deaf would be the first step in the direction of alleviating its negative consequences. It could further lead to proactive measures, which would contribute to their gaining access to the curriculum, with emphasis on basic skills, that is to say, language and mathematics. Furthermore, the automatic promotion of deaf pupils from one grade to the next, which is suggested by many school counselors, may assist in supporting deaf pupils in the psycho-emotional domain. However, as far as the cognitive level is concerned, it is detrimental, given that this policy contributes to low standards. Low standards imply that deaf pupils lack the knowledge and skills essential to their promotion, and their understanding of the content taught in the higher class, and in the long run low standards might contribute to deaf pupils' inability to perform at an adequate level in the work context. As a result, in the long term low standards are detrimental, as deaf pupils are often condemned to unskilled jobs. The way forward is not to deny promotion to deaf pupils, but to organize appropriate learning structures in deaf pupils' schools, which would facilitate learning for deaf pupils. In addition, deaf pupils' schools should cover all of Greece, so that schools for the deaf are accessible to all pupils in need. Teacher training should be organized on a more regular basis and sufficient networking of schools should take place, so that teachers can exchange experiences and learn from one another. Alternatively services for peripatetic teachers can be organized as it is the case in the U.K. in remote areas/regions or where numbers of deaf pupils are limited in mainstream

schools or in given geographical areas, so that deaf pupils may gain access to services for the deaf. In the case a deaf child is supported by a peripatetic teacher, then communication between the teacher for the deaf and mainstream staff can present difficulties and requires commitment from both sides (Watson & Parsons, 1998).

To summarize, principals' and teachers' responses to questionnaires and interviews with them has shown that most deaf pupils enrolled in schools for the deaf are not taught according to the same curriculum learning targets as mainstream pupils without SEN, but instead a watered down version of the curriculum is adopted with easier learning goals.

3.6 Possible reasons for reduced graduation rates of deaf pupils and ways forward

- (1) Insufficient number of schools for the deaf;
- (2) Inadequate teacher training;
- (3) Lack of appropriate teaching materials, as well as DVDs, of all curriculum lessons, translated in GSL;
- (4) Lack of appropriate equipment for hard of hearing pupils (amplification systems);
- (5) Lack of specially designed software;
- (6) The diagnostic centres¹¹ did not provide precise instructions to teachers for the deaf, did not provide them with individual education plans for every deaf pupil, and did not regularly assess deaf pupils' hearing abilities;
- (7) Inadequate number of speech therapists employed in schools for the deaf;
- (8) Provincial schools are not staffed with speech therapists;
- (9) Many teachers for the deaf already serving in schools for the deaf are not competent in GSL, hence systematic teaching of GSL to teachers for the deaf even to those already serving in schools for the deaf should be provided;
- (10) Pupils who are enrolled with delay in schools for the deaf often have limited knowledge of GSL therefore GSL should be taught as a lesson on its own for all grades and levels;
- (11) Many teachers employed for the first time in schools for the deaf are not competent in GSL, therefore competence in GSL should be a prerequisite for employing teachers for the deaf and in case appointed teachers are not competent in GSL, they should receive intensive training in employing it;
- (12) Deaf pupils' parents cannot communicate adequately with their deaf children using GSL, therefore they should be provided with free access to GSL lessons;
- (13) On many cases families of deaf children cannot afford to pay for hearing aids, therefore free hearing aids should be given to all deaf pupils;
- (14) Communication opportunities are limited outside the school setting, and deaf pupils' parents cannot assist their children to do their homework, as in their majority they do not know the GSL. Therefore the 'whole-day' school initiative should be adopted in all schools, to provide support with homework for deaf pupils from competent teaching staff, thus increasing opportunities for interaction between deaf pupils and their peers, teachers and the deaf community;
- (15) Deaf pupils' parents suffer from lack of guidance and access to crucial information. Therefore, consultations with parents should be made in the framework of the "whole-day" school, or in drop-in centers that should be established;
- (16) Early Sign Language development and speech therapy are crucial for deaf pupils to develop competence

¹¹ The former ΚΔΑΥ and current ΚΕΔΔΥ.

in GSL and oral competence. Therefore, more kindergartens and nursery schools for the deaf should be established, which would provide deaf pupils with speech therapy lessons and would instruct them to communicate in GSL from a very early age.

4. Vocational prospects for the deaf pupils

If deaf pupils have not received education tailored to their needs, they will not be able to acquire vocational qualifications (from secondary or tertiary education), which would allow them to find a good job in the labour market. So they often get marginalized, in some unskilled jobs, with low status, and a low salary, a fact that puts heavy burdens on their family and community. The existing vocational schools (EPAL, Special Vocational Gymnasia and Special Vocational Lykeia¹² and EEEEEK¹³), which serve special education students, where these exist, do not give deaf pupils the opportunity to understand the lessons through the Greek Sign Language, as would be appropriate, resulting in deaf pupils not understanding the lessons adequately, or in facing difficulties in understanding the lessons. Probably this can partly be attributed also to the fact that most deaf pupils have never received adequate speech therapy during primary or junior high school, which would allow them to understand the greater part of an ordinary lesson, through lip-reading. If deaf pupils enrolled in EPAL, Special Vocational Gymnasia and Special Vocational Lykeia or EEEEEK had reached the point of understanding the oral teaching, and were quick in their reading (had increased reading ability), maybe their inclusion in the second level of an ordinary secondary school would entail some benefits for them. But at the present time deaf pupils, according to a principal and some primary school teachers, have not reached the point where they can understand oral teaching without the parallel use of sign language.

Many deaf pupils when they graduate from primary or junior high school go to EPAL, Special Vocational Gymnasia, Special Vocational Lykeia, and EEEEEK, where they are taught together with pupils who might have other more severe special educational needs such as mental retardation. At the same time no proactive measures are taken in order to make the curriculum taught in these institutions comprehensible to the deaf, through for example the simultaneous use of sign language. Some deaf pupils have access to Special Vocational Gymnasia, which have relatively easy vocational programmes. Those deaf pupils who have been instructed according to the same curriculum adopted in mainstream schools and who have followed the same learning goals as non-deaf pupils can gain access to Special Vocational Lykeia, which provide more positive prospects for their vocational careers, whereas these pupils can have access to Tertiary education as well.

Farrugia and Austin, (1980, p. 540) stated that deaf pupils enrolled in mainstream schools do not have sufficient interaction opportunities with their peers or the teachers. If deaf pupils are not assisted, they are not able to acquire some vocational qualifications, which would enable them to have better opportunities of access to the labour market and be employed in an adequately remunerated job. Without these opportunities they remain marginalized, in some poorly remunerated job as unskilled workers, which strains their relationships with their families and the deaf community in general.

That is to say, they suffer from social exclusion. According to Vergeti (2003), social exclusion concept encompasses concepts such as poverty (material deprivation due to low income, which in turn is responsible for limited access to many other social and cultural goods) as well as deprivation of basic social rights which excludes

¹² Former TEE of 1st and 2nd level.

¹³ Special Labs of Special Vocational Education and Training.

individuals and whole groups from formal and informal production mechanisms, distribution and redistribution of a great variety of funds and goods.

5. Conclusions

From the above data, it can be seen that deaf education is a neglected area in Greece. The current article has investigated some plausible reasons and circumstances that might be at the root of the fact that the vast majority of deaf pupils underachieve in primary and junior high school for the deaf, and to the fact that few deaf pupils graduate from them. The low graduation rates are associated with the fact that deaf pupils are in many cases promoted from grade to grade without making sure that they have acquired the relevant competence and skills associated with the curriculum of the grade they are enrolled in. This points to the need for establishing standards in deaf education, as in the USA. One should also look into the conditions inherent in schools and classrooms for the deaf, in order to transfer conditions appearing in schools and classrooms in which deaf pupils do relatively well in terms of attainment and rates of progress, to schools and classrooms where attainment standards are low. Areas in need of improvement can be pinpointed in the latter. Following this, remedial measures can be taken such as teacher training, school and classroom networking, consultations with academics and experts and other measures, such as more adequate functioning of National Diagnostic Institutes (the former ΚΔΑΥ and current ΚΕΔΔΥ), and the provision of consultants for the deaf at the LEA level. Other measures would include the preparation of a full range of specialized DVDs where all the lessons are translated into the Greek Sign Language, so that deaf pupils can do their homework in the afternoon with the support of these DVDs. Alternatively, all schools for the deaf should become “whole day schools” in order to provide the opportunity to deaf pupils to do their homework under the guidance of competent teachers.

Free and adequate speech therapy lessons should be provided to all deaf pupils in every school for the deaf, hearing aids should be provided free of charge to all deaf pupils, and especially to those pupils whose parents are poor.

A condition associated with significant learning in deaf pupils' schools, which has been found to be missing in several schools for the deaf, especially in the provinces, is the simultaneous use of sign language with oral teaching. Hence all teachers for the deaf who are not competent in using the GSL should be intensively trained to become competent in it, free lessons of Greek Sign Language should be given to deaf pupils' families in order to increase communication opportunities with deaf pupils, enable the parents to assist their children with their homework, and at the same time to act as interpreters for their children. In addition, due to the fact that many deaf pupils and especially those enrolled in schools for the deaf with delay have been left behind in their knowledge of GSL, the GSL should be included as a lesson in primary and junior high schools for the deaf during all grades.

In addition, in order to compensate for these pupils' attainment gap in basic skills, support with homework sessions should be carried out in the ‘whole day school’ framework, in the afternoon, in all schools for the deaf where attainment standards are low.

However, in order to ensure that structured conditions for teaching and learning exist for deaf education, as a necessary first step there should be to create a sufficient number of schools for the deaf in Greece. Actually there are only 12 schools for the deaf nationally, which does not adequately cover the geographical distribution of our country. However, the enrolment of deaf pupils in schools for the deaf is not related to a high graduation rate as there is a relative shortage of supporting mechanisms in schools for the deaf and also due to the fact that many

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deaf pupils are only enrolled in schools for the deaf after long delays, after having spent several years in mainstream schools, which do not provide any additional provision for deaf pupils. After making sure that there is an adequate number of schools for the deaf throughout Greece, and also that deaf pupils are timely enrolled in them from nursery, or at least from the first grade of primary school, which requires a sufficient tracking system, a sufficient number of kindergartens and preschools for the deaf and drop in consultancy services for deaf pupils' parents, the next step might be to improve pedagogy in schools for the deaf. Such an improvement would facilitate deaf pupils' access to the curriculum and to the learning targets of their grade and would ensure that deaf pupils' actual level does not lag far behind the level of pupils without SEN of the same age and grade enrolled in mainstream schools. Further studies should focus on pedagogical approaches, especially language teaching, and ways of improvement. The opportunity should be given to deaf pupils to learn by whichever method is more suitable and convenient for them, employ a more visual pedagogy, supported by software applications, adapted to the learning needs of deaf pupils and the way they appropriate knowledge. Finally, it is necessary to regularly evaluate the different interventions in this area, so as to assess the relative effectiveness of schools for the deaf and intervention schemes.

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