



## **Leonard Cheshire Disability and Inclusive Development Centre**

Children with Disabilities, Learning Difficulties and  
Disadvantages: Review and analysis of cross-national statistics  
and indicators during compulsory education

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## **ABSTRACT**

The main purpose of this paper is to summarise the most recent findings based on the internationally comparable framework promoted by OECD and subsequently used for a research study of the Centre for the Research on Lifelong Learning (CRELL), Joint Research Centre, European Commission. The first part of the paper will provide internationally comparable quantitative information on children with disabilities, learning difficulties and disadvantages based on the OECD tripartite categorisation system. Data presented will be broken down by cross-national category (A/Disabilities, B/Difficulties and C/Disadvantages), educational settings (special schools, special classes, regular classes), and by gender and by age, over the period of compulsory education. The discussion of the most recent data and findings has potential to inform policies and programming for improving access to education of these most marginalised children around the world. The second part of the paper will provide a brief overview of the Italian education system that promoted full inclusion of children with disabilities, as well as the numbers of children with disabilities educated in the various levels of the education system, and student-teacher ratios. The paper will conclude with an examination of future trends.

## **ACKNOWLEDGEMENT:**

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## **BACKGROUND**

The educational needs of children with disabilities are addressed by international conventions and documents which stipulate international standards that must be met in order for systems to provide and assure quality education, participation and learning outcomes for all children. Ensuring the inclusion of children with disabilities is critical to achieve Millennium Development Goal 2, achieving universal primary education completion by 2015. Access to quality basic education is also a fundamental human right, as reflected in a number of international conventions and commitments, including the 2006 UN Convention on the Rights of Persons with Disabilities which reiterates the right to inclusive education. The goal of inclusive education has been part of the EU agenda in the field of equity in education for several years. The signing of the UN Convention of the Rights of Persons with Disabilities (CRPD) by the EC in 2007 (UN 2006) and the contents of the Lisbon strategy (EC 2000) reflect a strong and growing concern that the international community must adhere to both the principles and practice of equality of educational opportunity. These international agreements require that special educational needs are fully included within the wider global agenda that has also been pursued by UNESCO through its work on developing Education for All (UNESCO 2006) and via the Millennium Development Goals (UN 2000). Recently, the Council Conclusions on a Strategic framework for European cooperation in education and training identified strategic objectives for the period 2010-2020 by emphasising the need "to ensure that all learners – including those ...with special needs... – complete their education" (Council, May 2009). The EU Disability Strategy 2010-2020 reflects the commitment of the EU in the disability field, especially following the 2007 Council's adoption of the decision for the inclusion of the CRPD, which should in the future form part of the EU legal order. The Strategy focuses especially on removing all obstacles, and making all goods and services accessible, to create a truly barrier-free Europe for persons with disabilities by 2020.

The EU Disability Strategy focuses on eliminating barriers in 8 areas reflecting the rights enshrined in the CRDP: accessibility; participation (including access to quality

community based services); equality; education and training; employment; social protection; health; and external action (development and enlargement programme).

In many developed countries, education systems have invested considerable extra resources to help children who would otherwise under-achieve to help them learn more effectively. Over the past thirty years, an increasing number of countries have established educational policies that target extra money and resources to students who, for various reasons, are unable to access school curricula as easily as some of their peers. Students receiving these extra resources have come to be formally categorised by the international community as having “disabilities, learning difficulties, and disadvantages”. These three descriptors are purposefully broad and intend to capture various types of students, from those who have physical and cognitive disabilities to those who are socio-economically disadvantaged.

This approach was taken and promoted by OECD because of difficulties encountered in making meaningful international comparisons when the national definitions of special educational needs differ, and it has distinctive features: 1) it is compatible with a social model of disability; 2) it is based on the ISCED 97 definition of special needs education (UNESCO 1997); and 3) it has introduced the notion that extra resources are needed to assist schools in helping students with difficulties access the curriculum more effectively. Such a resource-based approach brings together a heterogeneous group of students which was further subdivided into a tripartite taxonomy based on perceived causes of educational failure and thus the adoption of the tripartite taxonomy A, Disabilities, B Difficulties, C Disadvantages (OECD 2007).

### ***Developing an internationally comparative framework***

One of the key elements to achieving an equitable education for all is to develop policies and effective monitoring systems that can provide accountability for the education offered to all children and can communicate progress in the context of national and international comparisons.

OECD has been a source for statistics and indicators on special education needs since the mid-1990s and, with support from the EC, has developed an international comparative framework based on the definition of special education needs in ISCED 97 (UNESCO 1997).

### ***ISCED 97 and the resource-based definitions***

The International Standard Classification of Education 1997 (ISCED 97) is the framework used to compile international education statistics and indicators. It comprises standard concepts, definitions and classifications that are used to produce internationally comparable education data. It covers all organised and sustained learning activities for children, youth and adults, including those with special educational needs. ISCED 97 provides the following definition of special education: “Educational intervention and support designed to address special educational needs. The term ‘special needs education’ has come into use as a replacement for the term ‘special education’. The older term was mainly understood to refer to the education of children with disabilities that takes place in special schools or institutions distinct from, and outside of, the institutions of the regular school and university system. In many countries today a large proportion of disabled children are in fact educated in institutions of the regular system. Moreover, the concept of ‘children with special educational needs’ extends beyond those who may be included in disabled categories to cover those who are failing in school for a wide variety of reasons that are known to be likely to impede a child’s optimal progress. Whether or not this more broadly defined group of children are in need of additional support depends on the extent to which schools need to adapt their curriculum, teaching and organisation and/or to provide additional human or material resources so as to stimulate effective learning for these pupils” (UNESCO 1997).

Through this definition a wider range of students, in all types of schools, are brought into the framework. The notion that extra resourcing may be needed to assist schools to help students access the curriculum more effectively is included in the new description. Many developed countries make additional resources of various kinds available to students who have difficulties in accessing the regular curriculum, whether or not this falls within the national definition of special educational needs.

This has become the first step in identifying students with disabilities, learning difficulties and disadvantages, i.e. those who are being given additional resources to help them access the curriculum. Thus, the operational definition of special needs education is: *“those with special educational needs are defined by the additional public and/or private resources provided to support their education”*.

Additional resources are those over and above the resources generally available to those students likely to have no particular difficulties with the regular curriculum. Resources can be of many different kinds including personnel (e.g. additional teachers), material (e.g. hearing aids, Braille, or classrooms modifications) or financial (e.g. favourable funding formulae) (OECD 1998, 2000, 2001, 2003, 2004, 2005, 2007).

### ***Operational definitions of cross-national categories***

As noted, such a resource-based approach brings together a group of students reflecting different national definitions and policy concerns. This approach was taken due to difficulties encountered in making meaningful international comparisons when countries have differing definitions of special education needs. Some definitions are limited to purely organic, physical and sensory disabilities, while other countries include socially and economically disadvantaged students. The actual number of categories employed varied widely (from 2 to 19). Hence, in addition to adopting a resource-based definition, it was agreed to divide this group into a tripartite taxonomy based on perceived causes of educational failure. These three broad cross-national categories are referred to as A, B and C – students with disabilities, learning difficulties and disadvantages respectively.

*Students in cross-national category A (the ‘disabilities’ category) have clear organic bases for their difficulties in education. Students with disabilities or impairments viewed in medical terms as disorders attributable to organic pathologies (e.g. sensory, motor or neurological defects). The educational need arises primarily from problems attributable to these disabilities. The educational need for students in this broad category reflect substantial normative agreement, such as blind and partially sighted, deaf and partially hearing, severe and profound mental disability,*

autism, multiple disabilities. Typically, adequate measuring instruments and agreed criteria are available.

*Students in cross-national category B (the 'difficulties' category) have emotional and behaviour difficulties, or specific difficulties in learning and the educational need arises from problems in interaction between the student and the educational context.* Students in this broad category have emotional and behaviour difficulties or specific learning disabilities that interfere with typical academic learning, such as dyslexia/speech and language disorders, or are in need of remedial education in reading, writing and/or numeracy.

*Students in cross-national category C (the 'disadvantages' category) are in need of additional educational resources to compensate for problems due to aspects of their socio-economic, cultural and/or linguistic background (OECD 1998-2007).* Typically, there is some form of disadvantaged or atypical background for which education seeks to compensate.

Students with disabilities, learning difficulties and disadvantages are therefore a heterogeneous group which in some countries comprise only students with organic, physical and sensory disabilities, while in other countries includes additional groups such as socially and economically disadvantaged students and/or gifted and talented students.

By focusing on additional resources, the difficulties faced by students in accessing the curriculum are linked to the ability of schools to provide all students with the same opportunity to make educational progress and successfully achieve an appropriate learning environment (Ebersold and Evans 2008).

This approach/classification is innovative because it allows for internationally valid comparisons that overcome the differing meanings of special education needs in different countries. It provides internationally comparable data that is easily understood and widely applicable.

The OECD conceptual framework has been described in depth in a series of OECD publications as well as in the 2007, 2008, 2009 editions of the 'Progress Report towards achieving the Lisbon objectives in Education and Training' (EC 2008, 2009,

2010). Thanks to the collaboration between OECD and the European Commission (CRELL), data were also collected for those EU countries not yet included in the OECD study (Malta, Estonia, Latvia, Lithuania, Slovenia, Serbia, Montenegro, Bulgaria, and Croatia). The following section will present internationally comparable 2005 data on these groups of students in OECD/EU countries. These are the most recent data available using this methodology. Data here will be broken down by cross-national category (A/Disabilities, B/Difficulties and C/Disadvantages), across educational settings (special schools, special classes, regular classes) over the period of compulsory education. In all figures, countries are ranked in ascending order either in terms of overall percentages or descending order in terms of their distribution in regular classes. EU and OECD means and medians are presented. The amount of information which countries were able to provide varied widely. Typically there are more sound and reliable data for students with disabilities than for those with learning difficulties or disadvantages. The most reliable data are found for students receiving additional resources over the period of compulsory education.

### ***Cross-national category A / Disabilities***

Cross-national category A roughly corresponds to needs arising from impairing conditions. All countries using categorical systems have national categories which fall within cross-national category A, although the number of such categories varies from country to country.

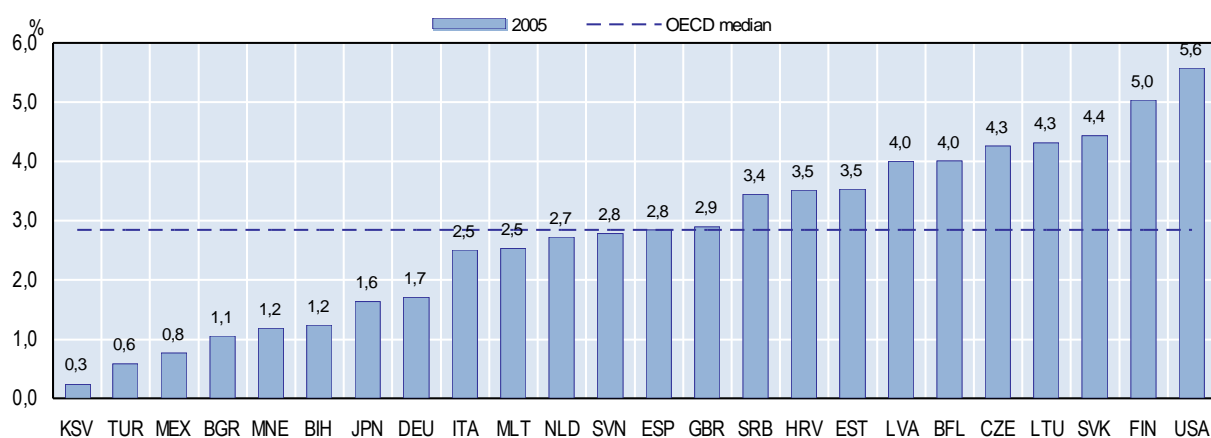
Figure 1.1 shows the number of students receiving additional resources for disabilities as a percentage of all students in compulsory education. Values range from 0.3% in Kosovo to 5.6% in the USA. Italy and Malta are 2.5% and this is in line with the international disability rate (2.5%) (UNICEF 2004)<sup>1</sup>.

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<sup>1</sup> UNICEF (2004) Innocenti Insight, Children and Disability in Transition in CEE/CIS and the Baltic States (The European Academy of Childhood Disabilities considers a disabled children rate of at least 2.5 per cent to be the 'norm' (with 1 per cent having serious conditions). These average figures exclude chronic illnesses like diabetes - Martin Bax, Chairman of the European Academy for Childhood Disabilities.



**Figure 1.1:** Number of students with disabilities (cross-national category A) receiving additional resources over the period of compulsory education as a percentage of all students in compulsory education (2005)



Source : OECD SENDDD Database

Additional notes: Countries are ranked in ascending order of percentage of students

Although countries provide considerable additional resources for these students, which may be seen as positive discrimination aiding the goal of greater equity, there are great disparities among countries in the allocation of additional resources for students with disabilities. Countries differ in the proportions of students with disabilities who receive additional resources and they also differ substantially in both the number and type of programmes included in the disabilities category. Since it is unlikely that the ‘organic’ bases of disability differ greatly among countries, it seems most likely that the different proportions in Figure 1.1 reflect national differences in the conceptualisation of disability, identification procedures, educational practices, comprehensiveness of provision, and policy priorities. Such variation suggests that there are differences between countries in the ways in which they try to overcome the effects of disabilities. This could have an impact on the outcomes for different types of students (OECD/EC 2009; OECD 2007). Further work will be needed at both national and international levels to understand these differences more fully and determine whether some countries are over-identifying children while others may be under-identifying them.

**Table 1.1:** Comparison of numbers of children with disabilities receiving additional resources in pre-primary and compulsory education as a percentage of all children in that phase of education, 2005

	A / Pre-primary	A / Compulsory
Kosovo	0.08	0.25
Japan	0.10	1.64
Turkey	0.16	0.58
Mexico	0.49	0.76
Korea	0.50	0.56
Bulgaria	0.84	1.06
Finland	0.94	5.04
Serbia	0.94	3.44
Italy	1.06	2.51
Slovenia	1.11	2.78
Belgium (Fl.)	1.15	4.01
Montenegro	1.16	1.19
United Kingdom	1.34	2.90
Spain	1.74	2.85
Slovak Republic	1.77	4.43
Malta	1.89	2.53
Croatia	3.63	3.51
Lithuania	3.75	4.31
Czech Republic	3.82	4.26
USA	7.86	5.57

Source : OECD SENDDD Database

Table 1.1 shows that the numbers of students receiving additional resources for disabilities as a percentage of all students in pre-primary are typically smaller than the corresponding percentages in compulsory education. Median values are 1.13% in pre-primary and 2.82% in compulsory education. One possible explanation for this is that it is difficult to identify some of these children before they start compulsory education. It is also clear from Table 1.1 that countries show consistency of provision across the two phases, i.e. those with higher percentages at pre-primary tend to have a high percentage in compulsory education. Countries that are able to identify these children provide substantial amounts of resources, i.e. USA.

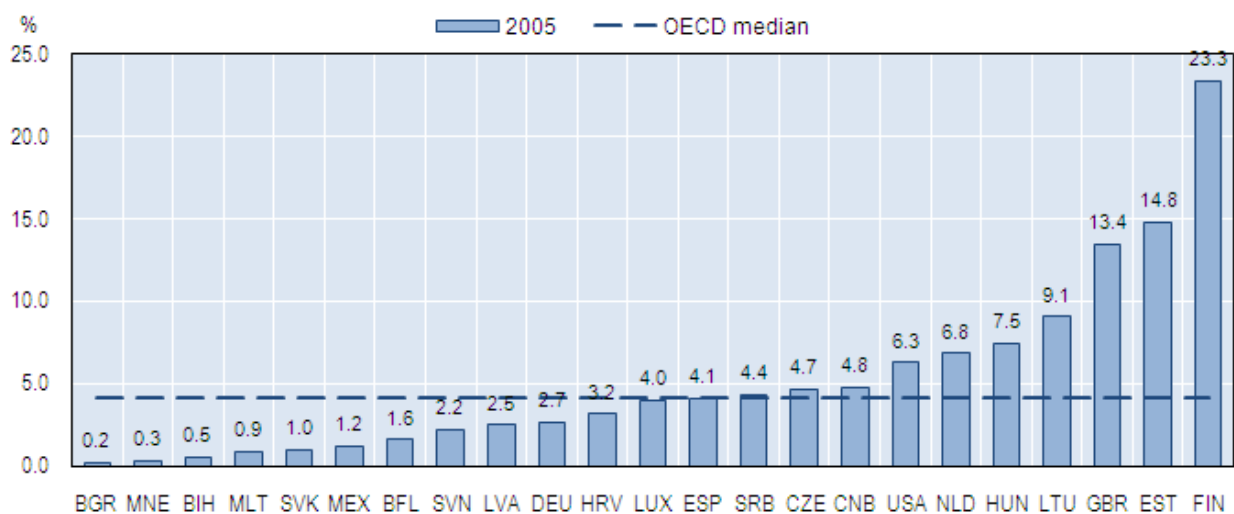
### ***Cross-national category B / Difficulties***

Cross-national category B refers to students with behavioural and emotional disorders, or specific difficulties in learning. The educational need is considered to

arise primarily from problems in the interaction between the student and the educational context.

Figure 1.2 shows that the number of students receiving additional resources for learning difficulties (category B) as a percentage of all students in compulsory education in 2005 varies from 0.2% in Bulgaria to 23.3% in Finland. The OECD median number of category B students as a percentage of all students in compulsory education is 4.13%. The inter-quartile range from 2.1% to 7.9% indicates that variability is substantially greater than that found in the corresponding data for students with disabilities (2.8% to 4.2%). Several countries report greater percentages of students with learning or behaviour difficulties than of those with disabilities. It appears that when such categories are recognised in national systems, the numbers of students receiving additional resources can be considerable.

**Figure 1.2:** Number of students with learning difficulties (cross-national category B) receiving additional resources over the period of compulsory education as a percentage of all students in compulsory education (2005)



Source : OECD SENDDD Database

Additional notes: Countries are ranked in ascending order of percentage of students

**Table 1.2:** Comparison of numbers of children with learning difficulties receiving additional resources in pre-primary and compulsory education as a percentage of all children in that phase of education, 2005

	<b>B / Pre-primary</b>	<b>B / Compulsory</b>
Belgium (Fl.)	0.08	1.62
Bulgaria	0.12	0.21
Croatia	3.42	3.19
Czech Republic	0.12	4.66
Finland	1.93	23.32
Germany	0.34	2.71
Lithuania	24.32	9.08
Malta	0.16	0.90
Mexico	0.73	1.21
Montenegro	0.24	0.33
Slovak Republic	0.12	0.98
Slovenia	0.07	2.23
Spain	1.38	4.13
United Kingdom	2.57	13.44
USA	0.25	6.30

Source : OECD SENDDD Database

Table 1.2 shows that the numbers of students receiving additional resources for learning difficulties as a percentage of all students in pre-primary are typically smaller than the corresponding percentages in compulsory education. Median values are 0.25% in pre-primary and 4.06% in compulsory education. One possible explanation for this finding is that it is difficult for some children to be identified as having a learning difficulty before they start compulsory education. On the other hand, those countries that are able to identify them provide substantial amounts of resources, i.e. Lithuania.

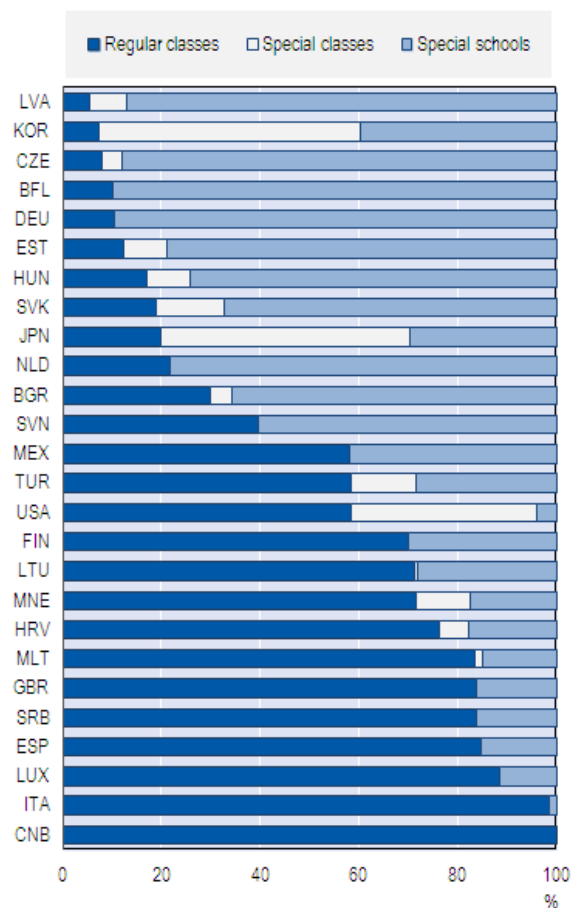
### ***Location of education***

There is great variation in the amount of resources provided to students with disabilities and difficulties. Perhaps the most important resource is the environment, or setting, in which they are located. In some countries mainstreaming students with disabilities and difficulties (or educating them with the majority of the student

population) is a relatively common practice but in others segregated schools and classrooms are the norm.

Figure 1.3 shows the variation in the distribution of students with disabilities (category A) and learning difficulties (category B) educated in special schools, special classes, and regular classes in 2005. There is substantial variation between countries in the extent to which students in both of these categories are included in regular schools. Data also show some significant differences within countries with regard to students in category A and category B.

**Figure 1.3a:** Distribution of students with disabilities (Category A) receiving additional resources over the period of compulsory education, by location (2005)



Source : OECD (SENDDD Database)

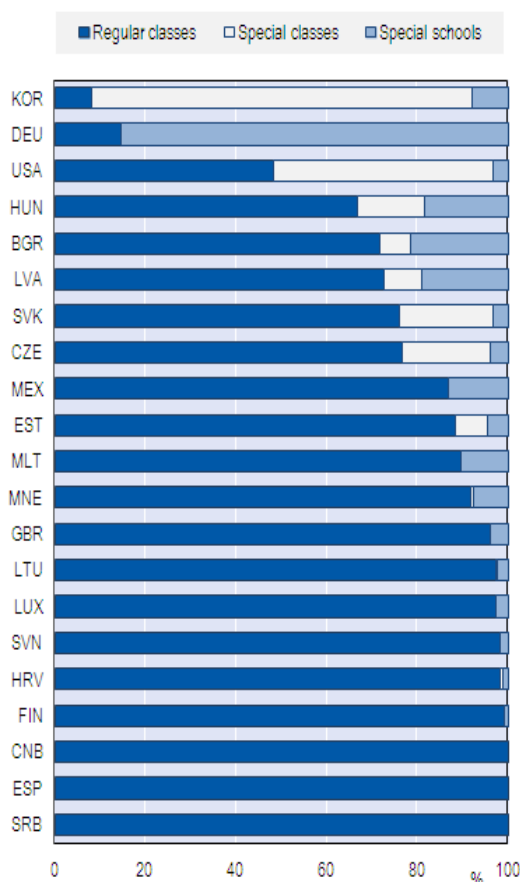
Additional notes for category A:

Special classes: Not applicable: Belgium (Fl.), Italy, Netherlands

Included in special schools: Germany, Spain

Included in regular classes: Finland, United Kingdom

**Figure 1.3b:** Distribution of students with learning difficulties (category B) receiving additional resources over the period of compulsory education, by location (2005)



Source : OECD (SENDDD Database)

Additional notes for category B:

Special classes: Not applicable: Spain

Special classes: included in regular classes in Finland, United Kingdom

Special classes: included in special schools in Germany

Special schools: Not applicable: Spain

Differences exist between countries because of national policies, inclusion policies influenced by characteristics of regular schools and their curriculum, and training and attitudes of teachers. Different cultural and societal norms may determine whether parents and educators place students in mainstream or special schools.

Consideration should be given to the organisation of schools, teaching methods, teacher preparation, as well as identification and outcomes for students with disabilities (OECD/EC 2009; OECD 2007).

The differences shown in Figures 1.3a and 1.3b reveal potential inequities of provision within and between countries that could result in different and/or

inequitable educational and social experiences for some students with disabilities and difficulties. It is clear that students with the same type of disability may be included in regular classes in one country, but in special schools in another. It is inevitable that the educational and social experiences of special schools and regular schools will be different, and thus could well be inequitable in terms of students' access to post-compulsory education, the labour market and the community. Indeed, there is a growing consensus that equity considerations require that, wherever possible, students with disabilities and difficulties be educated in regular, mainstream schools rather than separate institutions.

Overall, all countries that make extensive use of special schooling need to continually monitor how children are referred to special schools, and evaluate the nature and consequences of the provisions made in such schools once children have been enrolled. Additionally, countries that place a strong emphasis on inclusive education in regular schools should be subject to on-going assessments to ensure that objectives are being achieved (OECD 2007).

There is a current lack of oversight of how attitudes are addressed and skills developed to allow more students to stay in school and access the curriculum. There is still a need for the systemic change that would allow schools to become learning organisations, which through a process of adaptation, would enable them to cater for a more diverse set of student needs, including those with severe disabilities. The resultant flexible provision can provide additional support to all students in the school. Evidence has shown how non-disabled students also benefit from this extra support (OECD 1999).

### ***Cross-national category C / Disadvantages***

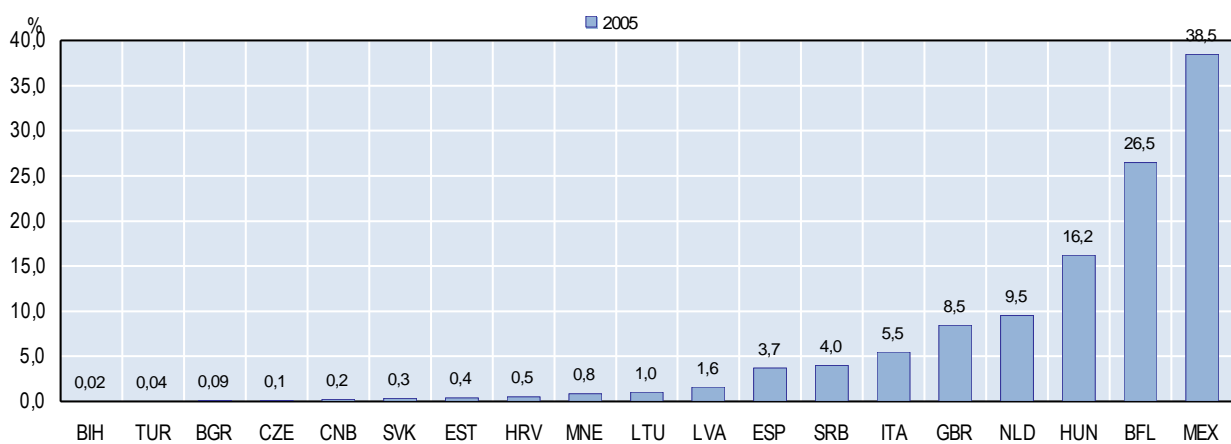
Extra resources are often allocated to students with social and socioeconomic disadvantages; importantly, however, countries provide for these students to varying degrees. When additional resources are provided to students with social disadvantages – those belonging to OECD category C – they usually target ethnic minorities and consist of special language courses and preparation for compulsory

schooling (preparatory classes before primary education). In some countries these provisions fall under the definition of special education needs, whereas in other countries, they do not (OECD/EC 2009; OECD 2007).

Data reveal that there is great variation between countries on the number of categories of disadvantage employed and the ways in which those categories are labelled and defined. Furthermore, there are great differences between countries in the number of migrant students who require additional resources to learn a second language; often reflecting national immigration rates.

If analysis is limited to the period of compulsory education, figures indicate that when categories of students with disadvantages are included in national systems, the numbers of students receiving additional resources are substantial. This is true in Hungary (16.2%), Belgium (26.5%) and particularly Mexico (38.5%).

**Figure 1.4:** Number of disadvantaged students (category C) receiving additional resources over the period of compulsory education as a percentage of all students in compulsory education, 2005



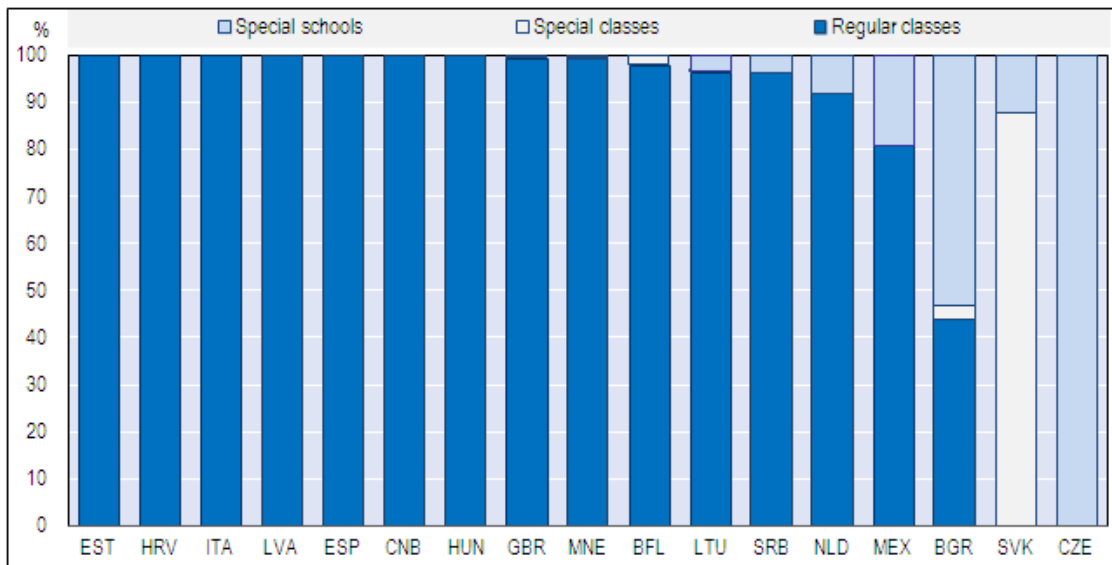
Source : OECD (SENDDD Database)

Additional notes: Countries are ranked in ascending order of percentage of students

The figure above also shows that fewer countries are able to identify how and when additional resources are made available for students who are at risk due to socio-economic disadvantage. This does not, however, mean that those countries do not identify and support this group of at-risk students.



**Figure 1.5:** Distribution of disadvantaged students (category C) receiving additional resources over the period of compulsory education, by location (2005)



Source : OECD (SENDDD Database)

The majority of countries providing data for the period of compulsory schooling educate disadvantaged students in inclusive settings. However, data for the Slovak Republic show that the majority of disadvantaged students attend preparatory classes in special classes. All such students are educated in special schools in the Czech Republic.

**Table 1.3:** Comparison of numbers of children with disadvantages receiving additional resources in pre-primary and compulsory education as a percentage of all children in that phase of education, 2005

	<b>C / Pre-primary</b>	<b>C / Compulsory</b>
Canada (NB)	a	0.22
Estonia	n	0.40
Latvia	a	1.61
Turkey	0.02	0.04
Serbia	0.09	3.99
Bulgaria	0.14	0.09
Croatia	0.24	0.52
Montenegro	0.52	0.84
Lithuania	0.61	1.01
Czech Republic	0.62	0.10
Slovak Republic	1.31	0.34
Spain	1.86	3.70
United Kingdom	4.96	8.50
Italy	5.08	5.46
Belgium (Fl.)	6.03	26.46
Hungary	17.38	16.19
Mexico	19.53	38.49

Source : OECD SENDDD Database

Table 1.3 shows that the numbers of students receiving additional resources for disadvantages as a percentage of all students in pre-primary are typically smaller than the corresponding percentages in compulsory education. Median values are 0.62% in pre-primary and 1.01% in compulsory education. Further work would be needed at both national and international levels to understand these differences more fully. It is also clear from the table that countries show consistency of provision across the two phases, i.e. those with higher percentages at pre-primary tend to have a high percentage in compulsory education. Those countries that are able to identify such students earlier provide substantial amounts of resources, i.e. Italy, Hungary, and Mexico.

### ***Data by gender***

A consistent finding in previous work on education for students with disabilities, learning difficulties and disadvantages was the preponderance of boys over girls in a wide range of analyses (educational setting, cross-national or national category, age or phase of education, etc.). This split was typically 60% boys, 40% girls with

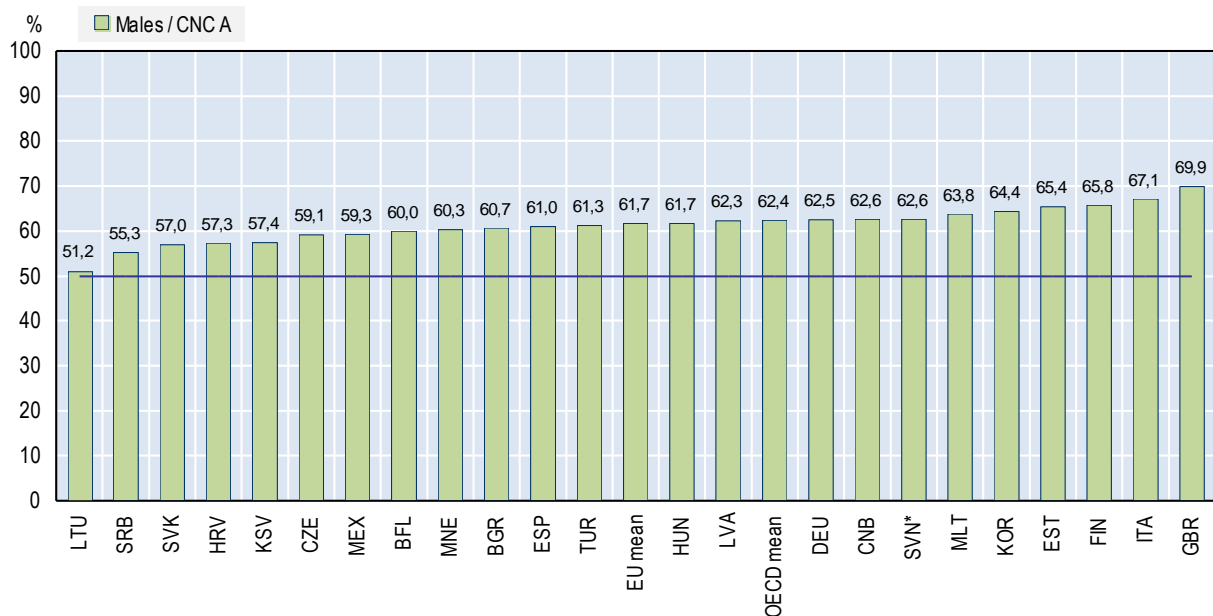
disabilities and 50/50 for students with disadvantages. However, the proportions for students with difficulties were greater, i.e. 70% boys, 30% girls (OECD 2007).

These findings are replicated with 2005 data (OECD/EC 2009). There are approximately 60% of boys in category A, 65% in category B and between 50% and 60% in category C. The discussion section at the end of this paper will examine this more fully. In the following analysis however, the data are broken down by gender and by cross-national categories A, B and C.

### **Cross-national category A / Disabilities**

Figure 1.6 shows the distribution of boys receiving additional resources for disabilities during the period of compulsory education. The EU mean for countries is 61.7%, and the OECD mean is 62.4%. Boys outnumber girls approximately 3:2. Only Lithuania (51.2%) and the UK (69.9%) stand outside the range of 55%-65%.

**Figure 1.6:** Percentages of boys with disabilities (CNC A) over the period of compulsory education,

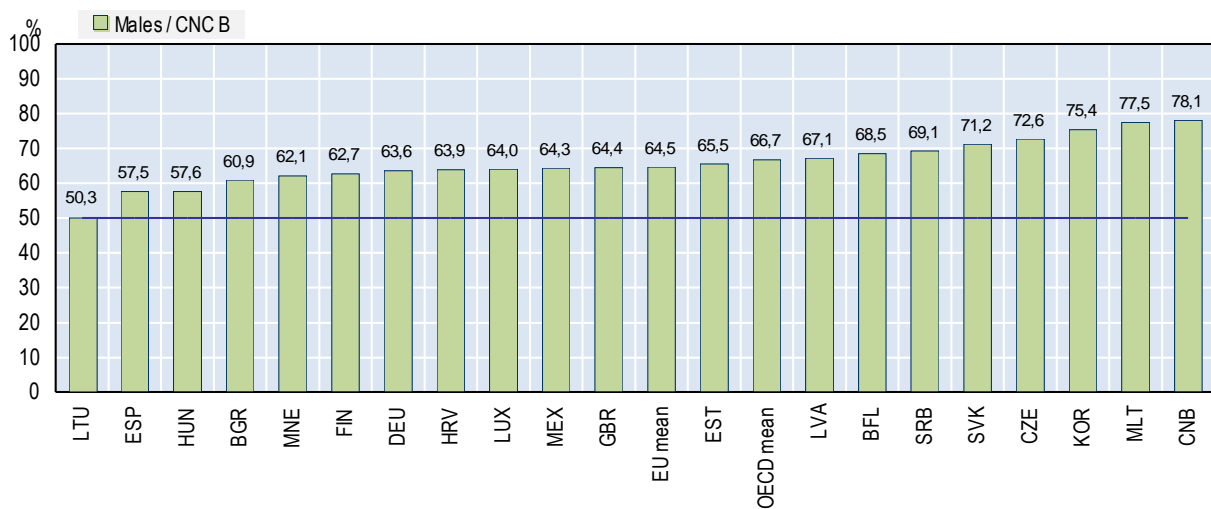


2005

Source : OECD SENDDD Database

### **Cross-national category B / Difficulties**

Figure 1.7 shows the distribution of boys receiving additional resources for difficulties during the period of compulsory education. Boys outnumber girls in all countries with a higher ratio than for students with disabilities as shown in Figure 1.6. The EU mean for countries the figure below is 64.5, the OECD mean is 66.7. Lithuania is an exception. There is a clear difference between the scores for students with disabilities and students with difficulties.



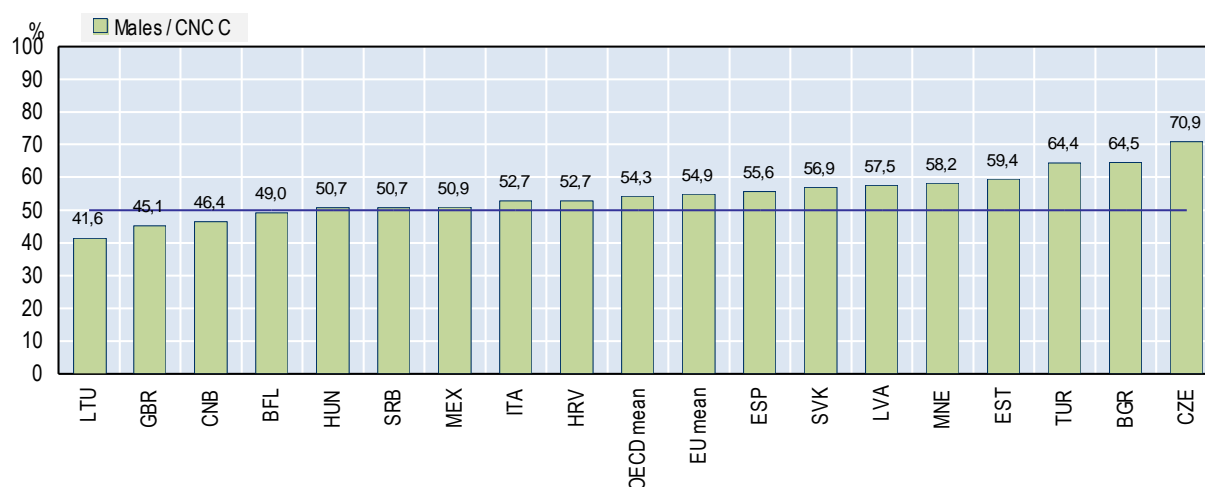
**Figure 1.7.** Percentages of boys with difficulties over the period of compulsory education, 2005

Source : OECD SENDDD Database

### **Cross-national category C / Disadvantages**

Figure 1.8 shows the distribution of boys receiving additional resources for disadvantages during the period of compulsory education. The OECD mean for the countries presented in the figure is 54.3%, the EU mean is 54.9%. Boys outnumber girls in all countries except Lithuania (41.6%). Inspection of the data shows a ratio closer to 50% than for students receiving additional resources for disabilities and difficulties.

**Figure 1.8.** Percentages of disadvantaged boys over the period of compulsory education, 2005



Source : OECD SENDDD Database

Table 1.4 shows the mean distribution of boys receiving additional resources for disabilities, learning difficulties and disadvantages. Percentages for disabilities cluster around the 60/40 boy/girl mean; percentages for students with learning difficulties are more variable but the mean ratio is near two boys for one girl, which also corresponds to the OECD/EU mean. Finally, percentages for students with disadvantages are typically lower than the previous ones.

**Table 1.4:** Percentages of boys over the period of compulsory education, by cross-national category

Percentage of males	Cross-national category		
	A	B	C
EU Mean	61.7	64.5	54.9
OECD mean	62.4	66.7	54.3

With only one exception (i.e. Lithuania) more boys than girls receive additional resources in all three cross-national categories during the period of compulsory education.

A number of possible biological and behavioural reasons have been identified to account for the relative numbers of boys receiving more additional resources than girls, including and both may play some role (OECD 2004; for fuller discussion see OECD 2007). These include:

1) *Males are more vulnerable than females.* Boys seem more prone than girls to illness and trauma throughout the developmental years. The higher incidence of males with disabilities could be attributable to genetic or biological differences between the sexes and therefore might require extra resources in their schooling. This outcome would be seen as equitable since males objectively need more support.

2) *In some societies the education of males is given greater priority than that of females.* The greater value placed in some societies on the education of males could play out a bias toward the giving additional resources to males rather than females from disadvantaged backgrounds, or the possible greater likelihood of exclusion of disadvantaged girls from the educational system. If this is the case, the failure or low performance of males in school is less acceptable than for females and hence greater support is provided to lessen the effects and maximise performance. This outcome would be inequitable for girls.

3) *Males adopt more noticeably deviant behaviours than females thus becoming identified and labelled.* Evidence shows that males and females react differently to behaviour difficulties in schools. Males more often experience failure and frustration when finding difficulty with basic subjects, and show more disruptive and aggressive behaviour in such situations. Their externalising reactions to failure make boys more visible to teachers and hence more likely to be identified. Girls are reported as being more cooperative and conscientious in the classroom, with behaviour patterns which match more closely the expectations of teachers than boys. Thus the over-representation of boys could be a complex function of actual differences in behaviour and teachers' social and cultural expectations or preferences resulting in teacher/pupil interactions (OECD 2007).

4) *Schooling is becoming increasingly "feminised".* There is a greater proportion of female teachers in schools, especially during the primary years (OECD 2002).

Whether this disproportionality reflects reactions to male and female students' behaviours has been discussed in OECD 2007. Since the observed overabundance of boys has substantial implications for equity of any educational system, further work is needed to understand differences and should focus on outcomes linked to the impact of the additional resources invested.

The gender differences in provision for these students are sufficiently marked for this to be a priority focus. This is particularly clear when countries examine the basis by which students are identified for different educational programmes, and the long-term consequences of participation in these programmes.

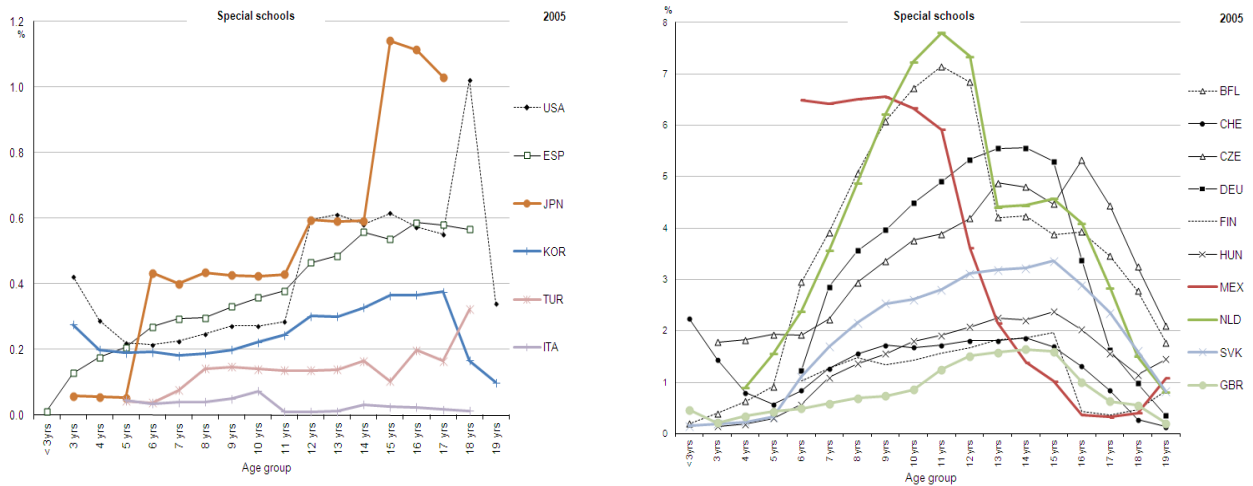
### ***Data by age***

Figures 1.9, 1.10 and 1.11 show the age distributions in special schools, special classes and regular classes respectively. These figures also show gender breakdown, where gender data are available, and the overall totals of males and females. Cohort size has been taken into account so the figures presented here are percentages of students in each age group. Close inspection of data reveal inconsistencies. Some countries provided data by age which did not include the whole population concerned. It is also worth noting that there are unknown numbers of children with disabilities, learning difficulties and disadvantages who are out of the school system. This varies considerably from country to country. The percentages in the following analysis are based on students in school only.

### ***Special schools***

Figure 1.9 shows the numbers of students receiving additional resources in special schools by age from ages <3 to 19. It shows that in general, only small percentages of 5-6 year-olds are in special schools in most countries. Most countries show an increase in the proportion of students in special schools from ages 5-6 up to about age 15, with a rapid decline afterwards. These increases presumably reflect the movement of children out of regular schools and special classes into special schools. The decline beyond age 15 most likely reflects the fact that most students do not continue their education beyond the compulsory years of schooling, a conclusion generally supported by the data on individual categories of disabilities (OECD/EC 2009; OECD 2007).

**Figure 1.9.** Numbers of students receiving additional resources in special schools by age (2005)



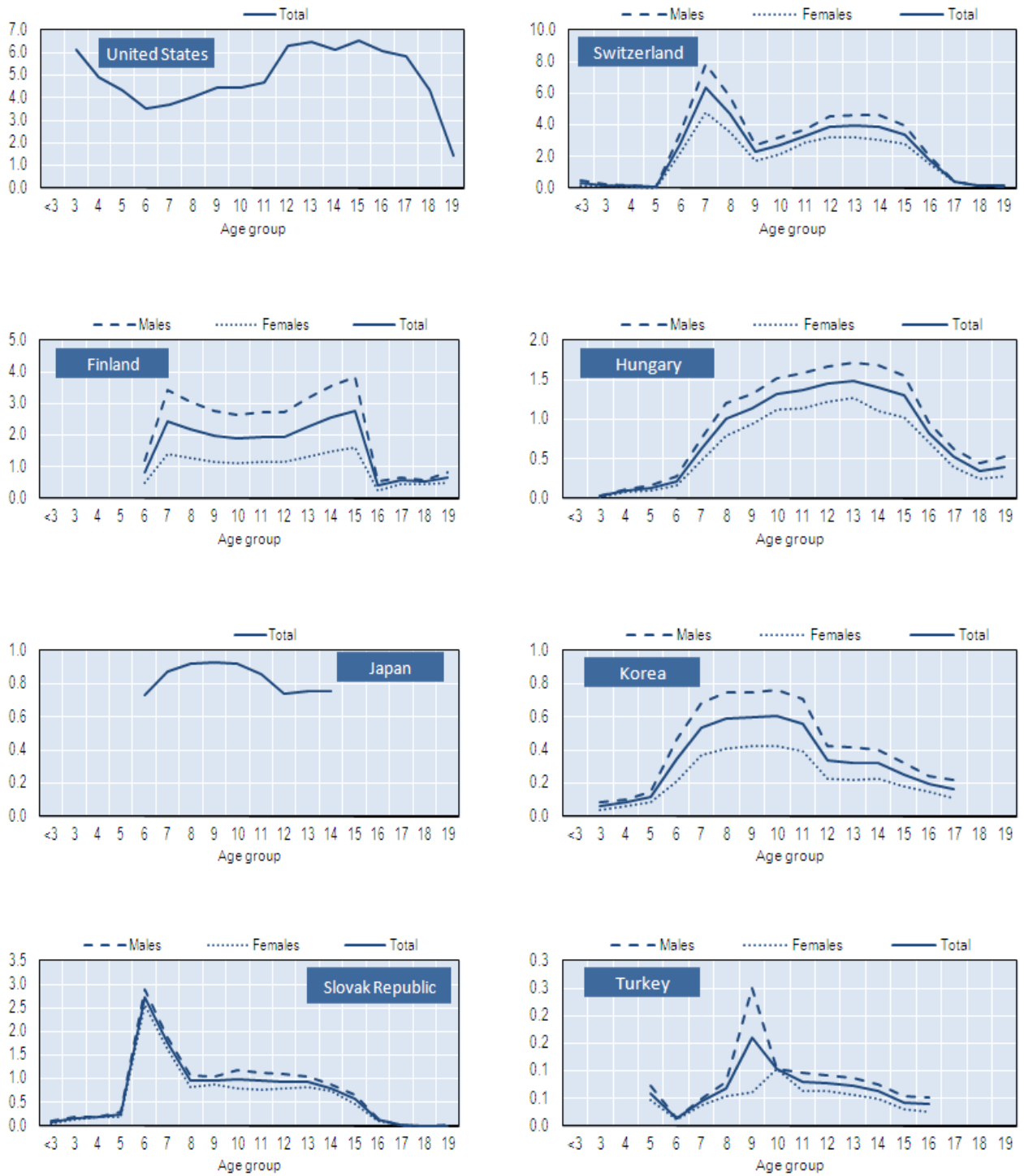
Source : OECD SENDDD Database

### **Special classes**

Figure 1.10 shows the numbers of students receiving additional resources in special classes by age and gender from ages <3 to 19. The pattern for special classes is more difficult to categorise. Broadly, there is a tendency for lower proportions of children to be found at the youngest and oldest age ranges. These lower proportions tend to produce fluctuations and rather erratic pictures. Interestingly, the Slovak Republic and Turkey make use of special classes mostly at the primary level. The figure also shows the higher preponderance of males than females across the age range (OECD/EC 2009; OECD 2007).



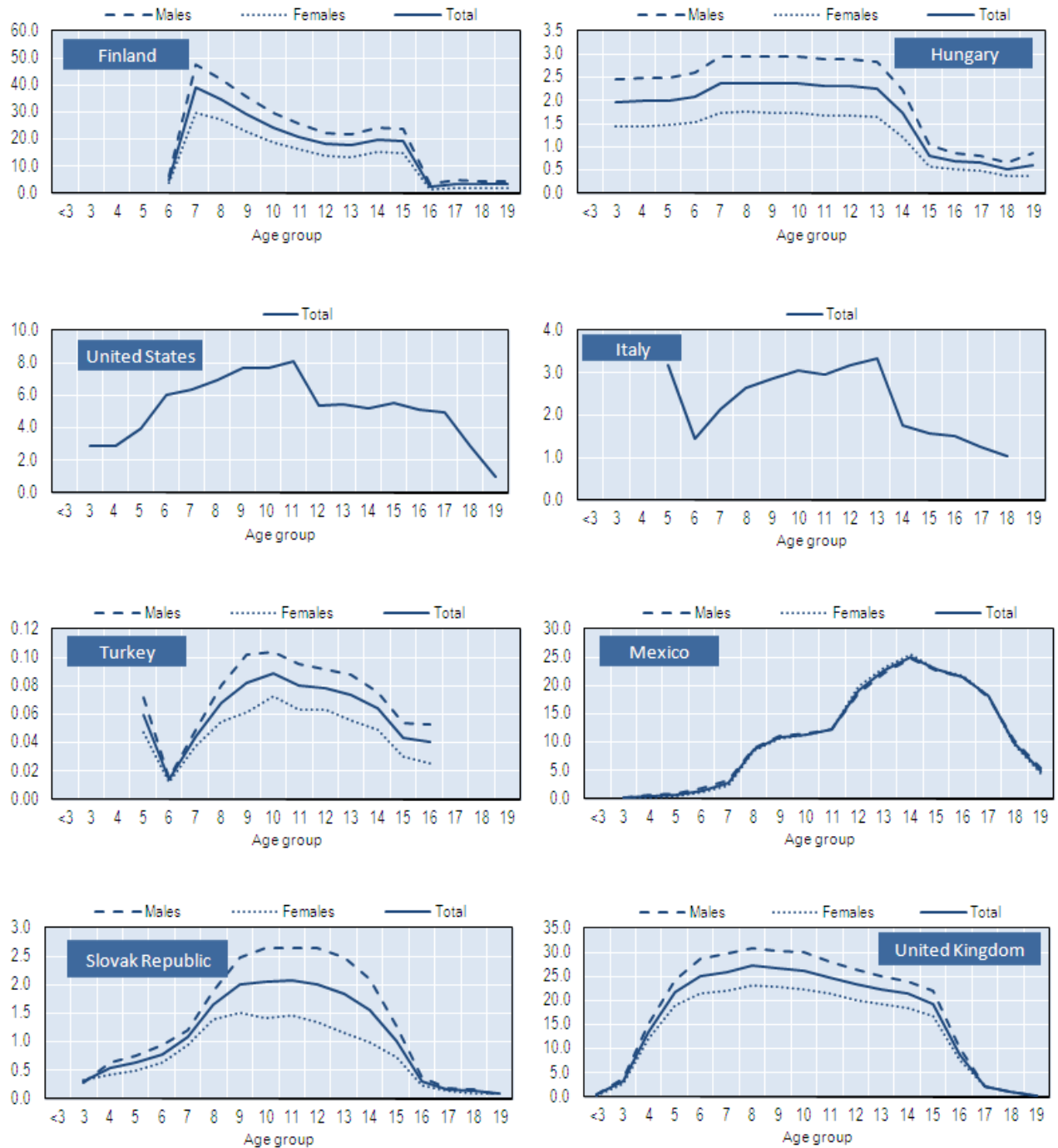
**Figure 1.10** Numbers of students receiving additional resources in special classes by age and gender

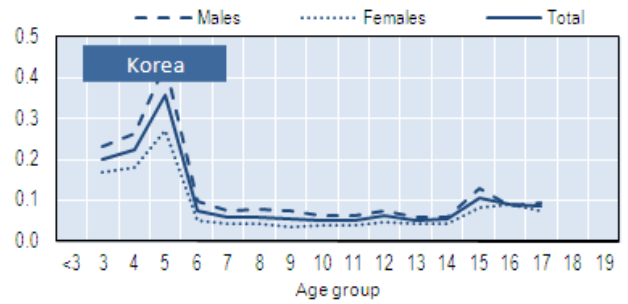


Source : OECD SENDDD Database

**Regular classes**

**Figure 1.11:** Numbers of students receiving additional resources in regular classes by age and gender (2005)





Source : OECD SENDDD Database

Figure 1.11 shows the numbers of students receiving additional resources in regular classes by age and gender from ages <3 to 19. It reveals more availability of data for students receiving additional resources in the age range from 6 to 19. The majority of countries show a peak in numbers during primary education followed by a gradual decrease in the last years of schooling. The figure also shows the higher preponderance of males than females across the age range (OECD/EC 2009; OECD 2007).

## **ITALY AS A MODEL**

According to the OECD, 99.5 per cent of students with disabilities are fully included in mainstream education in Italy. Few countries have this level of inclusion rates (OECD 2004). Over the past 40 years, the educational community in Italy has come to understand that for students with disabilities, quality education means inclusive learning in mainstream schools. Cultural, political and societal features of the Italian education system which provide such a strong support for integration of students with disabilities in mainstream settings include:

- 1) Inclusive education is provided from crèche to university, with considerable investment in human and material resources to support it.
- 2) Curricular agreements exist among public institutions such as schools, local health authorities and local public authorities.
- 3) Specialised teachers work to support inclusive education in regular classroom settings.
- 4) An Individual Education Plan (IEP) is written for each student with disabilities.
- 5) Focus is placed on the guidance of an interdisciplinary group of experts.
- 6) Support measures are provided on transition from school to work and/or community living.

These features will be addressed here only briefly.

### ***Educational provision in Italy***

*Provision in mainstream settings.* Educational provision is granted for students with disabilities in all phases of education (i.e. right of access from crèche

to university). In 2005, education was compulsory for nine years from the age of six to fifteen. All students, including students with disabilities, have the formal right to continue their studies via general or vocational pathways until the age of 18/19. All students with disabilities aged between six and eighteen are educated in regular-education buildings and the vast majority of these students are in regular-education classrooms (for provision in separate settings see end of section). Education for students with disabilities beyond the age of 18/19 continues upon specific request of the family (Law 104/1992).

Children with disabilities aged three years and under have access to municipal crèches. According to the law, children with disabilities have priority access to crèche enrolment. In 2005, enrolment rates for children with disabilities were 1.1% (17,235) of the total number of children in pre-primary education. Pre-primary education (provided for children aged between three and five or six years old) is regarded as being especially important for students with disabilities. Early identification and intervention for children who have difficulties accessing the curriculum is essential. Research has shown that participation in free, high-quality pre-primary education can have long-lasting benefits in student achievement and socialisation because it can facilitate later learning. Studies have shown that early intervention programmes can produce positive socio-economic returns which persist well into adulthood (European Commission 2008).

Primary education caters for students aged five or six to eleven and in 2005 66,467 students with disabilities were enrolled in this phase of education, 2.4% of the total number of students in primary education. The education of students with disabilities is based on their IEPs as established by Law 104/1992. Having an IEP

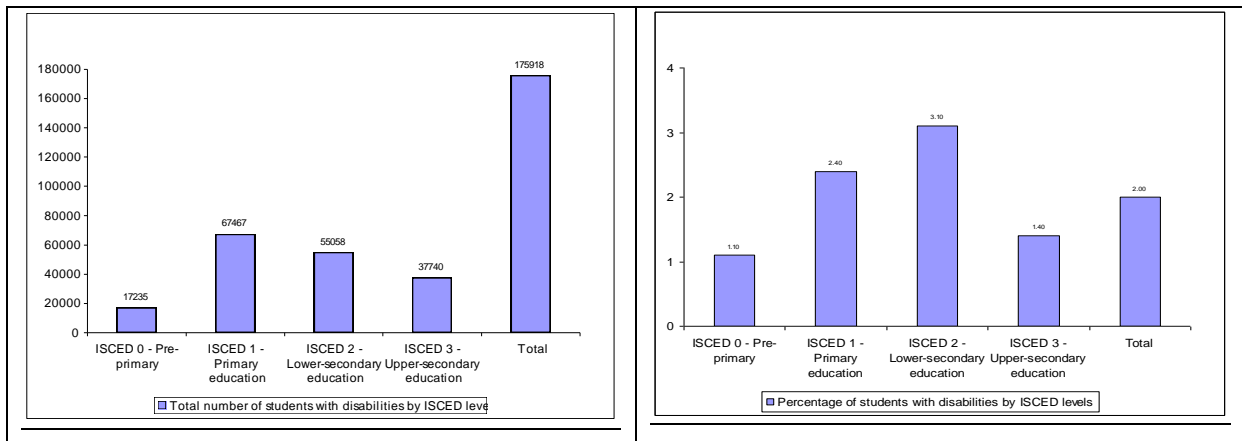
allows pupils with disabilities to benefit from a more complex educational aid and teaching support from schools. Furthermore, for a small number of students with profound disabilities, qualified intervention and differentiated teaching are provided with the support of rehabilitation therapists. There is strong collaboration between schools, specialists, local social and health services and structures and the wider community.

Lower-secondary education includes students in the 11 to 14 age range. In 2005, 55,058 students with disabilities were enrolled in this level of education, 3.1% of the total number of students in lower-secondary education. Educational and curricular planning at this level provides both for individualised paths aimed at tackling learning difficulties and for support activities to facilitate the inclusion of disabled pupils through specialised teaching and other means provided for by law.

Enrolment rates for students with disabilities in upper-secondary education (aged 14 to 18/19) have progressively increased over time, despite the difficulties linked with subject teaching. Recent changes to a modular curriculum have improved planning and coordination initiatives for inclusion. In 2005, the total number of students with disabilities in this phase of education was 37,158 – 1.4% of the total number of students in this level of education.

The right to educational provision for students with disabilities extends to higher education. The number of students with disabilities attending university programmes in 2005 was 10,126, with an increase of 110% compared to 2000/01, when the number of students with disabilities was just 4,813.

**Figure 2.1.** Number of students with disabilities in mainstream-education/regular-classroom settings by levels of education, and as a percentage of the total number of students in each level of education, 2005/06



In 1999-2001 students with disabilities were identified based on the national categories listed below. National categories of disability have changed over time and in 2005 three main disability categories were identified for the purpose of gathering statistics: Visual impairment, hearing impairment, and mental and physical impairments combined. Specific learning difficulties such as dyslexia have been addressed by ministerial guidelines since 2004. However data on these students were not gathered in 2005.

**Table 2.1.** Number and total percentage of students with disabilities in mainstream-education/regular-classroom settings, and as a percentage of the total number of students in all phases of education

Disability Category	Number of Students with Disabilities, 1999	Number of Students with Disabilities, 2001	Number of Students with Disabilities, 2005/06
Visual impairment	2505	3579	4153
Hearing impairment	5711	5185	6386
Moderate mental handicap	54746		
Severe mental handicap	47285		
Mild physical handicap	4624		
Severe physical handicap	5646		
Mental and physical handicaps combined			165379
Multiple handicap		127411	
Total	120 517	136 175	175 918

(Source: OECD 2007 and MIUR)

*Provision in separate specialised settings.* A 1999 study by OECD found that it is no more expensive to provide a supported mainstream place for students with disabilities than to educate them in a special school (OECD 1999). The study also concluded that it is far more expensive to operate a dual system of regular and special education than it is to run a properly resourced fully inclusive single system.

Even though there is full inclusion into mainstream-education/regular-classroom settings in Italy, a very small percentage (0.5 per cent) (OECD 2004) of students with disabilities are educated in separate specialised settings. The provision of education in separate settings is a residual practice for a small number of blind and partially sighted students, deaf and partially hearing students, and students with most severely profound intellectual disabilities. In fact, residual highly specialised centres have developed methods of inclusion and teaching laboratories and act as resource centres and as bridges to mainstream/inclusive education.

The table below shows the numbers of students with disabilities in separate specialised settings in 1999 (OECD 2004), in 2001 (OECD 2005), and in 2005, by level of education and by disability category. A decrease in the number of students with disabilities being educated in separate specialised settings between 1999 and 2001 and an increase in 2005 are clear.



**Table 2.2.** Numbers of students with disabilities in separate specialised settings in 1999, 2001 and 2005 by levels of education and by disability categories

Disability Category	Pre-primary			Primary			Lower-secondary			Upper-secondary		
	1999	2001	2005	1999	2001	2005	1999	2001	2005	1999	2001	2005
Visual impairment	3	2	17	4	22	20	10	48	16	46	118	158
Hearing impairment	14	11	25	61	23	87	106	54	57	267	191	414
Moderate mental handicap	49	33		171	140		1	9		0	0	
Severe mental handicap	20	57		449	419		0	30		8	1	
Mild physical handicap	0	1		1	19		0	0		0	0	
Severe physical handicap	12	17		26	42		0	1		0	0	
Multiple handicap	97	33		773	521		61	5		5	6	
Mental and physical handicaps combined			204			1181			113			10
<b>Total</b>	<b>195</b>	<b>154</b>	<b>246</b>	<b>1485</b>	<b>1186</b>	<b>1288</b>	<b>178</b>	<b>147</b>	<b>186</b>	<b>326</b>	<b>316</b>	<b>582</b>

(Source: OECD 2004, OECD 2005 and MIUR)

## Teachers

In 2005, approximately 840,000 teachers were employed in Italy, 83,761 of whom were specialised support teachers (roughly 10% of all teachers) in pre-primary, primary, lower-secondary and upper-secondary education (MIUR 2006). All teachers are civil servants. Often classroom assistants (i.e. assistants *ad personam*) are allocated with municipal funds. Most assistants have university degrees. While the specialised support teacher is co-titular in the classroom and therefore responsible for the whole class, the assistant *ad personam* is a support measure allocated to the student with disabilities only.

The number of support-teacher posts is established by law and is based on the total number of students enrolled (one teacher post for every 138 students). It is, however, possible to employ additional support teachers under temporary contracts. The number of support teachers established at national level is subdivided at regional level by the Ministry of Education and further subdivided at school level, taking into consideration the actual numbers of students with disabilities in schools.

Teaching and other staff are some of the most important resources available to support the education of students with disabilities. Evidence<sup>2</sup> from trends over time (1997–2004) by levels of education shows that support teachers with specialised training are allocated to schools at the rate of one teacher for every two students ascertained as needing support.

## **SUMMARY AND FUTURE TRENDS**

The paper summarised findings based on the internationally comparable framework promoted by OECD and subsequently used for an EC/CRELL research study. The first part of the paper provided internationally comparable quantitative information on students with disabilities, learning difficulties and disadvantages based on the OECD tripartite categorisation system. The data presented here covered school year 2005 and are the most recent data collected to date. Data were presented broken down by cross-national category (A/Disabilities, B/Difficulties and C/Disadvantages), across educational settings (special schools, special classes,

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<sup>2</sup>Source: Disabilita' in cifre – [www.handicapincifre.it](http://www.handicapincifre.it)

regular classes), by gender and by age, over the period of compulsory education. The amount of information which countries were able to provide varied widely. Typically there are more sound and reliable data for students with disabilities than for those with learning difficulties or disadvantage. Data for students in segregated settings are more reliable than in inclusive settings. The second part of the paper provided a brief overview of the Italian education system with the number of students with disabilities educated in the various levels of the education system, and student-teacher ratios.

## **Main findings**

National systems of education have developed procedures and practices for defining, identifying and resourcing students who have difficulties in accessing the curriculum. This is determined mainly by reference to national concepts and understanding based in cultural history and law making. International comparisons provide contrasts against which these assumptions can be analysed and re-conceptualised. The work carried out has shown very wide inter-country variability.

1. The classification of students with disabilities, learning difficulties and disadvantages varies among countries with some using 2 categories and others 19.
2. The numbers of children identified and provided with additional educational resources within cross-national categories of disability, learning difficulties and disadvantages vary widely.

3. The place of education also varies substantially with some countries educating all children with disabilities in inclusive settings (e.g. Italy and the New Brunswick province of Canada), while others educate the vast majority in special schools (e.g. Switzerland, Czech Republic). In some countries, children from socio-economically disadvantaged backgrounds are educated in segregated settings in contrast to most EU and OECD countries. The differing educational and social experiences of special and regular schools could have long-term implications for future access to post-compulsory education and the labour market.
4. Although there is a wide variation in proportions of children being resourced, there is a high degree of consistency in gender distribution with 60/40 male/female split for different categories and cross-national categories. There are typically more male children receiving additional resources than females, regardless of whether data are analysed by educational setting, cross-national or national category, age of student or phase of education.

These differences should become a priority when countries examine the basis by which children are identified for different programmes, and examine the long-term consequences of participation when they are provided in segregated facilities. The data presented in this report reveal that these resources should be used to renew regular education to prevent the systematic exclusion of many children from it as they age.

All of these factors raise questions about national educational practices and have policy implications, especially concerning the efficient and equitable use of

funds. Thus the comparative context provides real added value by challenging national assumptions through evidence and data and in the context of global agreements.

### **A Need for Further Research and Reforms**

In recent decades, many developed countries have made some notable steps in the area of including children with disabilities into regular-classroom settings. However, questions remain as to whether quality forms of inclusive education can be provided for all children without better means of gathering data on academic achievement outcomes for all children, including children with special educational needs. A consistent international approach to data collection and interpretation is needed that uses information about academic achievement outcomes to drive the creation and sound implementation of policies meant to serve young people with special needs. In this sense, inclusion practices must extend beyond classrooms and into the realm of evaluation and assessment.

Descriptive statistics such as those presented here provide a useful lens for understanding the diverse ways in which the international community conceives, categories, and serves children with special needs. The work of OECD, the EC/CRELL and others in these areas is invaluable and should continue to shed light on these issues. Perhaps most importantly, if data such as that presented in the first part of this work are collected and distributed in a manner that is both transparent and intended to foster dialogue, it could lead countries that struggle to serve special needs children to find good practice from countries that are currently models in the field.

Moreover, countries must be accountable for fair, agreed-upon standards for including all students, not just those who are high performing or easy to educate, in national and international examinations. Indeed, much of the data presented in this report would be more useful to the international educational community if a means to quantify the differences in policies serving youth with learning disabilities, difficulties, and disadvantages was available. To date, only the PISA, TIMSS and PIRLS examinations allow international comparisons about student achievement but even these are imperfect, having inconsistent sampling across the different student populations within all countries. Because children with learning disabilities, difficulties, and disadvantages are excluded from these examinations at high rates, it is difficult to draw meaningful conclusions about the correlation, if any, between local, national, and international policies serving these children and the academic achievement and quality of life outcomes with which those policies are associated.

The appropriate education of children with disabilities, learning difficulties and disadvantages is a key factor in creating social cohesion and inclusion through the efficient use of education provision. More generally, providing opportunities for schools to become learning organisations would allow them to find creative solutions to challenges related to the full diversity of children's abilities. Whether schools are allowed to perform this sort of role is a major policy issue which may require reforms that relinquish some centralised control over the curriculum and school organisation.

## ANNEX - COUNTRY CODES

Belgium (Fl.)	BFL	Luxembourg	LUX
Bosnia Herzegovina	BIH	Malta	MLT
Bulgaria	BGR	Mexico	MEX
Canada (New Brunswick)	CNB	Montenegro	MNE
Croatia	HRV	Netherlands	NLD
Czech Republic	CZE	Serbia	SRB
Estonia	EST	Slovak Republic	SVK
Finland	FIN	Slovenia	SVN
Germany	DEU	Spain	ESP
Hungary	HUN	Switzerland	CHE
Japan	JPN	Turkey	TUR
Korea	KOR	United Kingdom (England)	GBR
Italy	ITA	United States	USA
Kosovo	KSV		
Latvia	LVA		
Lithuania	LTU		

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