

Requirements / Accommodations for Special Educational Needs within large international surveys and studies

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Abstract

The PISA NPM manual (2012) states 'PISA is rather limited in the extent to which it permits modifications and accommodations to assist students with special needs. There is provision for school co-ordinators to record information about students having Special Educational Needs (SEN); and if they are deemed severe enough to prevent students from participating. This is one of the accepted grounds for exclusion'.

The theme at this year's conference suggests that 'at the core of every assessment system... is the impact assessment has on learners'. With the above context in mind, it is important to show that assessment is accessible and available to all – particularly in international surveys to ensure there is a way to check that children's needs are being met in the same way across countries.

This paper aims to discuss current accommodations for students with SEN within international surveys. In addition, using data from PISA 2009 results (see Table on Exclusions, p175) and bringing together information from a web search on diversity within international surveys, this paper will investigate the differences between participating countries with regards to SEN definitions, exploring the different types of SEN addressed - why the number of exclusions vary so much from country to country. This will therefore provide opportunity to show benefits and disadvantages of current practices in educational assessment and their impact on learning (a subtext of the theme for this year's conference).

The paper will be of interest to researchers, educators, policy makers and SEN specialists interested in international surveys and inclusive practices. The paper could lead to prompt a review of methodology and a better understanding of inclusive practices within international surveys.

Introduction

Within this paper, the concept of international surveys is explored, specifically with regards to their access by children with diverse needs. Currently the assessments used cross-nationally are not accessible to all children with a certain number of students/schools being excluded from these surveys on the grounds that they cannot access them. There is a move in some international studies to allow students access arrangements and accommodations to help them access the surveys. It is important to look at the way that international surveys are currently carried out and to look at the broad array of definitions which occur for children with special educational needs internationally. This does, however, need to be considered alongside the strict guidelines and rules needed for consistent reliability in international comparisons.

Background

Large international surveys of educational achievement, such as the the PIRLS and TIMSS studies (organised by IEA) and the OECD PISA survey, are important for comparing student achievement and educational systems across the world. The success of these types of survey is dependent on gathering reliable data from large samples of students that allows for consistent cross-country comparisons. To ensure this, a standardised approach needs to be adopted by each country taking part. A vital element of every international survey is ensuring students in all participating countries receive equivalent test and questionnaire items, regardless of the language in which they are being tested. There is thus a need to ensure that all translations and adaptations do not result in the instruments being interpreted in different ways by participants in different countries, impacting on the comparability of data. Each international survey, therefore, enforces particular requirements on participating countries to ensure that such impact is limited.

As an example of an international survey, this paper will mainly focus on the OECD Programme in International Student Assessment (PISA). It assesses the attainment of 15-year-olds in reading literacy, mathematical literacy and scientific literacy, and also gathers a large amount of data on student and school factors and on student attitudes. In each PISA survey, one of the three subject areas forms the main focus, which in 2009 was on reading literacy, and next year will be on mathematical literacy. A total of 65 countries participated in PISA 2009 and around 67 will be participating in PISA 2012.¹

In order to make valid comparisons in international surveys, there needs to be an equivalence and consistency between the survey instruments used in different countries. It is, therefore, important that only limited and necessary changes are made – such as translations into other languages. However, sometimes a country may feel it is necessary to make changes for cultural reasons or to conform to local usage. These changes are referred to in international surveys as ‘adaptations’. Sometimes there is a tension between making adaptations that

¹ For full details of PISA go to <http://oecd.pisa.org>

enable students to access the survey instruments more easily and limiting the number of changes in order to maintain comparability. In the PISA survey for example, the PISA guidelines for adaptations recommend that any proposed national adaptations are discussed with relevant national committees or other experts (e.g. curriculum and assessment groups). Procedures such as these can ensure that the proposed adaptations are both necessary and appropriate.

International surveys and SEN

However, when it comes to adaptations for children with SEN, there is a grey area in international surveys. With the strict approach to maintaining consistency across instruments, standardised approaches do not easily allow for accommodations for pupils/students who are identified as having SEN and therefore have difficulty in accessing the instruments used in international surveys.

Currently, PISA does provide for cases where a school is exclusively for students with SEN – a one hour version of the test that is shortened is provided (the ‘UH Booklet’ [‘une heure’]). This is also made available for individual students in mainstream schools, under certain defined conditions. But it is down to the choice of the school as to whether they choose to take this booklet or not. Students who sit this shortened test are permitted more flexible administration conditions, such as more frequent and longer breaks to suit the needs of the students. Interestingly, although all countries/schools can opt in to use it, many do not.

As will be discussed later in the paper, SEN can include a number of different needs and difficulties. In this particular instance, although not explicitly written in the documentation for PISA, it is envisaged that the UH booklet would be particularly used by students with learning difficulties. This is because, for example, students with more physical needs, such as visual impairments would not be able to access the UH booklet as the booklet is not modified in any way for this.

Exclusion

Within PISA, PIRLS and TIMSS, countries are allowed to exclude a small percentage (5%) of the schools or students within schools from taking part under certain conditions. As explained, in the PISA NPM manual (2012),

'PISA is rather limited in the extent to which it permits modifications and accommodations to assist students with special needs. There is provision for school co-ordinators to record information about students having Special Educational Needs (SEN); and if they are deemed severe enough to prevent students from participating, as this is one of the accepted grounds for exclusion', p28.

Exclusion in international educational surveys is carefully defined and must be consistent for all participating countries. The exclusion rates have to be limited because if a significant proportion of students were excluded, survey results would not be deemed representative of

the entire national school system. What's more, there is a possibility that to try and boost results, countries could try to exclude pupils who would score low on the tests. Thus, the five per cent cut off needs to be strictly adhered to, and rules need to be applied that outline that students are not to be excluded solely because of poor academic performance or normal discipline problems.

In the PISA 2009 survey (OECD, 2010), the sampling standards permitted countries to exclude up to a total of five per cent of the relevant population either by excluding schools or by excluding students within schools. This rate was also the same for international surveys PIRLS and TIMSS. Exclusions were allowed for the following reasons.

School-level exclusions

Within the target population, countries can define a population that excludes a small percentage of certain kinds of schools or students who would be very difficult or resource intensive to test. For example, schools that were not accessible geographically or located in remote rural areas or schools where a majority of students would not be able to access the test (e.g. schools for students who are blind). Thus, a school for the blind could be excluded from the sample as the test is currently not modified to have a version which could be accessed by students with visual impairment.

Within-school exclusions

Also, exclusion can occur at student level, and the maximum exclusion rate within schools for PISA was less than 2.5 percent of the national desired population. In 2009, student level exclusions in PISA were based on the following categories:

- i) students with a functional disability
- ii) students with an intellectual disability
- iii) students with limited assessment language proficiency
- iv) other – this is defined by the national centre
- v) students taught in a language of instruction for the main domain for which no materials were available.

The first two categories (i and ii) are directly associated with SEN. The Technical Report (OECD, 2010) defines functional disability as:

‘Functionally disabled students are students who are permanently physically disabled in such a way that they cannot be validly assessed in the PISA testing setting. Functionally disabled students who could provide responses were to be included in the testing.’ p3 (OECD Technical report, 2010)

Intellectual disability was defined as:

‘students who have a mental or emotional disability and who, in the professional opinion of qualified staff, are cognitively delayed such that they cannot be validly

assessed in the PISA testing setting. This category includes students who are emotionally or mentally unable to follow even the general instructions of the test.’ p.3 (OECD Technical report, 2010)

Similar definitions were also outlined in the instructions for PIRLS and TIMSS (see PIRLS and TIMSS NPM manuals, 2011).

In addition, if the above definitions were not applicable in certain countries, a nationally-defined within-school exclusion category was also permitted if agreed upon by the PISA Consortium (category iv). For example, a specific subgroup of students with dyslexia, dysgraphia, or dyscalculia, may need to be excluded, where the other categories, i, ii or iii could not be explicitly applied. This is where a more specific within-school exclusion definition was needed. However, as can be seen on the PISA table of exclusions on page 6 of this paper, many countries did not use this category.

The differences in definition between countries can be investigated further by looking at the exclusion numbers for different countries. Table 1 is an adapted version of Tables A2.1 and A2.2 (p173-5, OECD, 2010) reporting the percentages, numbers and types of exclusion per OECD country in the 2009 PISA survey. To work out the percentages of students in each exclusion category, the weighted number of excluded students in a category was divided by the total number of weighted students (excluded + participating).

Table 1: Exclusion rates in PISA 2009

OECD countries	School level exclusion (%)	Within-school exclusion (%)	Overall exclusion (%)	Functional weighted (%)	Intellectual weighted (%)	Other weighted (%)
Australia	2.62	1.79	4.36	0.11	1.16	0.00
Austria	0.12	0.69	0.81	0.00	0.36	0.00
Belgium	1.96	0.24	2.20	0.02	0.14	0.00
Canada	0.56	5.47	6.00	0.11	5.01	0.00
Chile	0.98	0.25	1.22	0.07	0.18	0.00
Czech Republic	1.39	0.37	1.76	0.10	0.13	0.00
Denmark	4.47	3.87	8.17	0.26	2.26	1.04
Estonia	3.09	0.74	3.81	0.06	0.67	0.00
Finland	2.28	1.15	3.40	0.06	0.72	0.16
France	2.62	0.04	2.66	0.04	0.00	0.00
Germany	0.84	0.47	1.30	0.11	0.32	0.00
Greece	0.66	3.10	3.74	0.18	0.37	2.35
Hungary	2.81	0.34	3.14	0.00	0.05	0.30
Iceland	0.42	4.10	4.50	0.07	1.70	0.85
Ireland	0.50	2.75	3.23	0.09	1.44	0.73
Israel	1.40	1.30	2.68	0.19	1.00	0.00
Italy	0.47	2.06	2.52	0.14	1.21	0.00
Japan	1.93	0.00	1.93	0.00	0.00	0.00
Korea	0.42	0.28	0.69	0.16	0.12	0.00
Luxembourg	3.31	5.01	8.15	0.04	3.82	0.00
Mexico	0.41	0.15	0.56	0.08	0.07	0.00
Netherlands	3.12	0.35	3.46	0.10	0.26	0.00
New Zealand	1.07	3.15	4.19	0.34	1.45	0.00
Norway	2.22	3.79	5.93	0.15	2.94	0.00
Poland	1.61	0.27	1.88	0.04	0.24	0.00
Portugal	0.00	1.57	1.57	0.03	1.34	0.00
Slovak Republic	2.49	2.14	4.58	0.24	0.79	1.08
Slovenia	0.89	0.73	1.61	0.21	0.17	0.00
Spain	0.74	3.17	3.88	0.25	1.79	0.00
Sweden	1.92	2.89	4.75	2.26	0.00	0.00
Switzerland	1.95	1.15	3.08	0.08	0.42	0.00
Turkey	1.00	0.20	1.19	0.04	0.07	0.00
UK	2.24	2.44	4.62	0.35	1.92	0.00
US	0.36	4.81	5.16	0.43	3.60	0.17

The table highlights the stark differences between countries. Of particular interest are the countries where exclusion rates are particularly high or particularly low. Denmark, for example, had the highest school level exclusion rate (4.47%); Portugal, on the other hand, did not have any school level exclusions. However, the school level exclusion should be carefully considered as it is unclear why the schools were excluded in Denmark – they may have been excluded due to reasons other than SEN, such as geographical location of schools. In the UK, the school exclusion rate was 2.24%. Nationally, it was decided that the Pupil Referral Units² (PRUs) should be excluded as well as special schools. It is unclear if other countries used similar rules. This highlights the differences between how countries deal with the categories of exclusion.

School leaving age is a factor that could affect exclusion rates in PISA. PISA is administered to 15 year olds, but in some OECD countries, school leaving age is at 15 or earlier meaning that, in those countries, the survey is representative of the students who have decided to stay on in education. For example, in Turkey compulsory education is until 14, after which students can choose to leave. Turkey had particularly low levels of within-school exclusions and it is possible that the Turkish pupils taking part in the PISA survey were not excluded due to SEN because these students may have already left school. It could be that due to the nature of their diverse needs, students with SEN are more likely to leave school at the school leaving age, rather than decide to stay on for further education. However, this should not be seen as a deciding factor as Japan, which does not have any within school exclusions in PISA, has a school leaving age of 15 but a majority of these students decide to stay on in education.

The category of most interest to this paper lies within student level exclusions (within-school). Canada and Luxembourg had over five per cent exclusion rates at student level, whereas Japan made no exclusions at student-level. Although one could conclude from this table, that this means that some countries may not have any children who have special educational needs in schools included in the survey, there are other possible reasons for why exclusions could differ so much by country, and this is in the level of the definition used per country.

Within the particular student-level exclusions there are interesting differences between functional and intellectual disability. Functional disability can be argued to be easier to define, as the definition mainly revolves around the physical needs of the students and medical definitions can be more readily available. Between countries, there does not appear to be much difference between percentages of excluded students with functional disabilities. (Apart from Sweden – where it is not clear why Sweden had a higher exclusion rate for functional disabilities.)

² PRUs are short stay centres for pupils and students who are educated other than at maintained or special schools, and they vary considerably in size and function. These centres can sometimes be joined onto mainstream or special schools, and admit pupils with behavioural difficulties and others who can be identified as vulnerable because of their health or social and emotional difficulties (OFSTED, 2007).

The area where definition can vary the most is within intellectual disability. Indeed, looking at the table above, a variation in exclusion rates between countries can be seen. Canada has a particularly high number of students excluded within the intellectual disability category (over 5%), similarly Luxembourg and the United States also have high exclusion rates in this category compared to the rest of the OECD countries. Conversely, other countries in the table show very low rates of exclusion of students with intellectual disability. There is a difference in what constitutes intellectual disability between countries. In a recent publication about intervention for children with intellectual disabilities, Eden & Bezer (2011) defined intellectual disability as being characterised by significantly impaired cognitive functioning and deficits in two or more adaptive behaviours. Students are below average on an intellectual level of functioning and have difficulties in learning and daily living skills. Within this definition there is the possibility that terms such as ‘significantly impaired’ and ‘below average’ can be misinterpreted, or at least interpreted at different levels in different countries.

SEN Definition

In an OECD study on Equity in Education, OECD countries were asked to carry out the task of re-classifying their current SEN categories according to a cross-national model based on three categories: students whose disabilities have clear biological origin (A); students whose learning and behaviours difficulties are likely to have more of an acquired nature (B); and students who have difficulties arising from disadvantages (C).

OECD reported that for some countries, the SEN definition included only those children with ‘traditional’ disabilities, while for others it extended the definition to include disability, disadvantage and learning difficulty. Within these categories there were also quite varied differences that reflected what was found in the exclusions table above, i.e. it was very difficult to distinguish between different severities of learning disability and difficulty across countries. Students with emotional and behavioural problems also presented a problem, whereby Greece, Hungary, Italy and Turkey did not include such a category in their definition, whereas Canada reported a large amount (OECD, 2005). It is possible that this could be a reason why Canada had such a particularly high number of students excluded in the intellectual disability category compared to other countries.

Some would argue that the easier and more straightforward option would be to base definitions on medical classification. However, basing definitions on medical classifications does not necessarily aid with giving information about educational provision, where the whole child is taken into account. Furthermore, there is still a lot of debate around the medical classifications of certain behavioural and emotional difficulties.

International indicators

The instrument used for defining the nature of education statistics to be gathered internationally, the International Standard Classification of Education, has been revised.

Originally, special education was defined as the education provided in special schools – which is now not representative of special education in many countries. The current definition of the ISCED (97) category is

‘Special needs 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 population 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 handicapped categories to cover those who are failing in school for a wide variety of other 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 are able to adapt their curriculum, teaching and organisation and/or to provide additional human or material resources so as to stimulate efficient and effective learning for these pupils’

UNESCO, 1997

All countries have laws covering special educational needs, or are at least developing laws for this, to ensure access to education for all students. Some countries are more specific than others. For example the UK defines learning difficulties within the Education Act (1976), whereas the Czech Republic frames laws mainly in regard to provision for students with disabilities, difficulties and disadvantages and Iceland had no reported laws for special education (OECD, 2005). The move towards inclusion is being driven by an agenda made up of human rights issues, equity, parental involvement and social cohesion with growing understanding that the concept of SEN implies students’ failures to made adequate progress in their education/ learning – these are a responsibility of the school and cannot be viewed as being caused wholly by ‘disability’ diagnosis. OECD identified the following definition:

‘those with special educational needs are defined by the additional public and/or private resources provided to support their education’.

Additional resources can include the following:

- personnel resources (including higher teacher/student ratios than in regular classrooms; additional teachers, assistants or other; training programmes for teachers and others which equip them for work in SEN)
- Material resources (including aids/supports, e.g hearing aid; modifications or adaptations to classrooms; specialised teaching materials)
- Financial resources (including systems set aside for SEN within regular budget allocation; payments made in support of SEN; costs of personnel and materials).

Creating equitable provision for diverse student populations is a key feature of education policy in OECD countries. Central to this is the concept of inclusion.

Accommodations, access arrangements and provisions

PIRLS (Progress in International Reading Literacy Study) and TIMSS (Trends in International Mathematics and Science Study) do not provide a separate test booklet for use with students who have SEN. Instead, a recent new addition to TIMSS and PIRLS administration instructions is:

‘If your country has a policy for handling testing differently for students who are conceptually capable of taking the test but unable to access it because of a special need, such as hearing or visual impairment, dyslexia, or physical impairment, you should apply the same policy to the TIMSS testing. There is a special code ‘SA’ to be used to document the participation status of the students who have participated with special accommodation in the Student Tracking Forms’. p7 (Operations Procedures: Unit 5, 2011).

Thus, there is a procedure for allowing the schools to adapt the conditions set for the tests, according to their usual within-classroom procedures. This is a relatively new concept for these international studies, and there is little research around how the accommodations can impact the results of the international surveys.

Studies on access arrangements in tests have been carried out in the UK. In 2008, an unpublished review was carried out by the NFER (commissioned by the National Assessment Agency) to investigate the different types of access arrangements used. Although only based on a small sample, the study highlights the accommodation most commonly used in the UK so that one can get an idea of the accommodations for testing that may need to be employed for international studies. The three most commonly used access arrangements were 25% additional time, the use of a reader (not for reading assessments) and testing in a separate room. In any single testing session, pupils could utilise several access arrangements, and all three of these relatively commonly used arrangements could be used in combination. Importantly, these particular access arrangements differ in the extent of resourcing that they require. Testing in a separate room requires the space for this and also an additional adult to supervise the session; a reader requires an additional adult and often on a one-to-one basis, whereas additional time may require an adult to be available to supervise the pupils beyond the standard test session.

An important factor affecting the use of access arrangements in international studies is based around the funding that would be needed in order to carry out the testing internationally, keeping in mind the need for consistency and validity. Evans (2001) writes about the resources needed to aid disabled students in accessing the curriculum and this is relevant to the debate in this paper. He states that providing additional resources for disabled students raises the questions of ‘bottomless pit’ funding. There is a possibility that no matter how

much provision is given, the students with these severe additional needs would not be able to access the curriculum as other students do. This could apply to international surveys. What is more he also flags the issue that every country appears to have different rules about the additional help that can be provided for different students, and if an international study was to take additional requirements on board, this would also need to be taken into account when looking at the results, particularly because some may serve to level the playing field for all students, but others may give unfair advantage.

Accommodating students with SEN is also a particularly bureaucratic process – the amount of management and time that could possibly be needed in order to maintain consistency in international surveys using accommodations is another reason for debate. The question remains, should accommodations be allowed within international surveys?

Concluding Remarks

There are three main issues for SEN and international surveys: sampling – can special schools be excluded from the sampling frame? If so, to what extent? Can/should pupils be excluded from testing and if so, what are the criteria? And lastly, should accommodations be permitted? If so, who decides what type and for whom?

In the near future, the debate around including students with SEN in international surveys will need to be continued. More countries are becoming interested in carrying out and adhering to inclusive practices. Further research will need to find the best possible avenue for this within large scale international surveys, especially to look at the possible effects of using adaptations or access arrangements for some students.

This is a difficult area which needs to be researched further. International surveys require a high level of careful standardisation across instruments to ensure that they are translated accurately and understood in the same way by each student, from each country that takes part. Constructs and concepts may entail culture-specific attributes and meanings which need to be explicitly taken into account to ensure sound interpretation of cross-cultural data. Researchers need to systematically establish equivalence in terms of their adopted constructs, measures and samples. However, keeping in with the current move towards inclusive education, there needs to be a focus on giving students every chance to participate, and care needs to be taken to ensure that adaptations made to assessments to include these students do not change anything fundamental that would affect comparisons.

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