

You Don't Teach, Students Learn: A Report on a Project on Statistical Literacy in Ireland

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Abstract

In 2007, with the aim of improving statistical literacy and effective use of statistics, the Central Statistics Office (CSO) in Ireland launched an Education Outreach Programme. To achieve these objectives, the CSO has fostered key academic partnerships at a national and international level. The CSO tailored projects developed under the umbrella of the Education Outreach Programme to target key audiences using statistics. This paper outlines a number of key lessons learned in the Irish Education Outreach Programme with illustrations drawn from the Irish experience to date.

Keywords: statistical literacy, outreach, strategic partnerships.

“Mathematics scares and depresses most of us, but politicians, journalists and everyone in power use numbers all the time to bamboozle us. Most maths is really simple - as easy as 2+2 in fact. Better still it can be understood without any jargon, any formulas - and in fact not even many numbers. Most of it is common sense, and by using a few really simple principles one can quickly see when maths, statistics and numbers are being abused to play tricks - or create policies - which can waste millions of pounds. It is liberating to understand when numbers are telling the truth or being used to lie, whether it is health scares, the costs of government policies, the supposed risks of certain activities or the real burden of taxes.” (Blastland and Dilnot 2008)

1. Introduction

In 2007, the Central Statistics Office (CSO) in Ireland launched their outreach programme ‘*Investing in the Future*’. The CSO recognised it could not address all of the educational ‘gaps’ in statistical literacy and that each ‘gap’ might require a bespoke approach, so the Education Outreach Programme targeted three limited or specific cohorts:

1. Primary and Post-Primary Education;
2. Third level and Continued Professional Development; and
3. Media and Oireachtas (The National Parliament or Oireachtas in Ireland consists of the President and two Houses: Dáil Éireann (House of Representatives) and Seanad Éireann (the Senate)).

This paper outlines some simple lessons learned by the CSO since the programme began in 2007 to improve statistical literacy in Ireland.

In 2007, the Senior Management Board of CSO found itself deliberating the role of a national statistics office in improving statistical literacy. One of the five CSO corporate goals ‘*Increased awareness and effective use of our statistics*’ (Central Statistics Office 2008) inferred that statistical education would be prudent. A proposal, before the Board, argued that CSO should develop an ‘Education Outreach Programme’ that collaborated with the Department of Education and Science (Department of Education and Science 2005) and other recognised national and international experts to improve statistical literacy. The concept of statistical literacy used in the proposal leaned heavily on Smith’s presentation about “Data Literacy” at ACCOLEDS conference in Vancouver, Canada in 2002, which stated that statistical literacy should comprise being able to:

- *Understand and interpret statistical data;*
- *critically evaluate statistical information and data-related arguments;*
- *use the information in context of daily life; and*
- *discuss or communicate one’s reactions.*

The proposal argued that the programme should be designed to promote the statistical outputs of the office. This would be done by ‘*Creating real life projects that enhance the learning process and nurture the life skills needed in our knowledge based society, while supporting the Irish education system in developing its youth as future policy makers, entrepreneurs and statisticians*’. The Board endorsed the proposal to establish an education outreach programme, viewing it as a long term investment.

2. Lessons learned

2.1. Many hands make light work – collaboration is key

The Central Statistical Office Ireland (CSO) is a National Statistic Office; its areas of expertise are in gathering, producing, analysing and disseminating information. The CSO is not *prima facie* an institution that educates. Yet, it is important that the information provided by the CSO is used correctly. The CSO favours more educated users, using its information. Hence, the development of the CSO Education Outreach Programme.

To improve statistical literacy in Ireland the CSO has collaborated with many organisations nationally and internationally (a detailed list of collaborations is outlined in Appendix 1). Cooperation and collaboration across a number of different projects has introduced CSO to new networks of talented, enthusiastic and committed professionals with aims that overlap with our own. By building on this enthusiasm and harnessing these diverse skills, CSO has achieved so much more than it could do on its own.

To get a picture of this collaboration, take for example, the CSO sponsored apps4gaps competition. The CSO coordinates and part funds the project having overall ownership of the apps4gaps competition. Insight (<https://www.insight-centre.org/>), maintains the website and provides technical backup.

SFI Discover (<http://www.sfi.ie/discover-science-engineering-dse/>) and Open Government Partnership Ireland (<http://www.ogpireland.ie/>) provide funding. The Department of Education and Skills (DES) (Department of Education and Science 2005) and the Department of Education Northern Ireland (DENI), write to every school in Ireland to encourage school participation. Coder Dojo (<https://coderdojo.com/>), CensusAtSchool (<http://www.ncca.ie/en/AboutUs/>) and Project Maths (National Council for Curriculum

and Assessment 2012) encourage participation and support students to enter the project. All organisations promote the competition.

Collaboration has been critical adding to the strength and depth, of the reach, of the CSO Education Outreach Programme.

2.2. Engage and make it engaging

Sometimes, there is a tendency to make statistical education complicated and tedious. Having been a secondary school mathematics and accountancy teacher, a founding parent of a Waldorf Steiner School, an education and activities coordinator in a homeless shelters, a teacher of diverse topics from kinesiology, to organic gardening and permaculture design, a member of the Cork City UNESCO Global Network of Learning Cities implementation group, besides my work in the CSO Education Outreach Programme, I have considerable experience of being both a teacher and a student in many disciplines. As a student, my most profound learning experiences have come from being engaged in a subject by learned, passionate, open and inspiring teachers. From contract law, through building swales, to the intricacies of the somatid cycle, I have been engaged and touched by the most surprising topics. In the presence of a great teacher, I have discovered that almost any subject can be enthralling. Palmer (2009) describes this teaching beautifully in his book *The Courage to Teach*.

Good teaching cannot be reduced to technique; good teaching comes from the identity and integrity of the teacher in every class I teach, my ability to connect with my students, and to connect them with the subject, depends less on the methods I use than on the degree to which I know and trust my selfhood – and am willing to make it available and vulnerable in the service of learning.

Commitment 8. Enhancing Quality in Learning from the United Nations Educational, Scientific and Cultural Organisation report on the International Conference on Learning Cities states (UNESCO 2014):

In many cities, there is a disparity between the numbers of people participating in education and learning and those who succeed in mastering relevant, portable skills and competences. Quality is, therefore, of utmost importance.

It goes on to state:

In developing learning cities, we attach great importance to enhancing quality in learning by: (here I have picked two of the five points)

- promoting a paradigm shift from teaching to learning, and from the mere acquisition of information to the development of creativity and learning skills;
- fostering a learner-friendly environment in which learners have, as far as practicable, ownership of their own learning;

I have found the same to be true of many cases of mathematics and statistical education. Many students go through the education system, but, few achieve mastery in mathematics and statistics. I have a number of suggestions in this regard.

2.3. Keep it simple

In all cases, whether speaking to primary school students or government ministers, it is important that the information imparted is understood. In education outreach you don't teach, students learn. You are the presenter of the message. It is important that the message presented is at the appropriate level and presented in a way that make it simple to understand. When in doubt, one should simplify, so everybody learns.

In *The Tiger That Isn't: Seeing Through a World of Numbers* (Blastland and Dilnot 2008), the authors state that size is personal and that big numbers should be made clear to everybody.

For example, in presenting statistics involving big numbers to a group, one could ask the participants what is a million? Agree that a million is the number 1,000,000 and show the number. Then ask the participants how long would it take to count to one million? If it takes a second to count off each number, how long would that take, in hours, days? One could take some guesses from the participants and then inform the participants it takes over eleven and a half days to reach one million. One could follow this up by asking what is a billion? Agree a billion is the number 1,000,000,000, again showing the number. Asking again how long would it take to count to one billion? If it takes a second to count off each number, how many hours, days would it take? Again one could take some guesses from the participants. It takes over thirty-one and a half years. Participants are then clear that a million and a billion are vastly different numbers. Asking participants to picture a baby boy eleven days old and a thirty-one year old man/woman and the span of time they have lived. It is totally different. People get a clear picture of the difference between the numbers, so when data is presented in millions and billions, now, there is real understanding.

Big numbers are important, so I suggest, one should present them in a simple way that everybody can understand.

A great teacher, through their mastery, presents complex subject matter simply, in a way that students can learn.

2.4. A good example

A good example facilitates learning. In keeping with the billion theme above one can refer to the United Nations Development Report ([Malik 2014](#)).

One could ask participants can they estimate world hunger? Recent media headlines state two billion poor and one billion hungry. The FAO report on Global Food Losses and Food Waste ([Gustavsson and Sonesson 2011](#)) estimates 1.3 billion tons of food loss and food waste annually in the world.

These two pieces of information can lead to lots of questions, discussion and learning. Why are one billion people hungry? Why with all this food waste and food loss are people going hungry? This in turn can then lead to a fruitful discussion on policy making, the complexity of global issues, the value of different data sources, global awareness and informed policy making. Having a good example that is easily understood and engaging can enhance learning. Big issues are ideal in this context.

A good example is a great tool for teaching and learning.

2.5. Make it personal

Bringing a personal perspective promotes deeper learning. Engaging with CensusAtSchool data creates this opportunity. Here (http://www.censusatschool.ie/images/phases/phase_11_questionnaire_en.pdf) is an interesting example from CensusAtSchool Phase 11 (2011/2012). The question (9b) asked “Please state what you had for breakfast this morning”. Respondents ticked a selection of breakfast items or “I did not have breakfast”.

Looking at the national CensusAtSchool data broken down by sex and age, the percentage of boys who did not have breakfast remained practically the same throughout the secondary school cycle. However, looking at the girls’ data the percentage of girls not having breakfast spiked, at 15 years old, before going back to normal. Of the 5,224 records, 15.8% of the girls as opposed to 10.1% of the boys did not have breakfast.

Some engaging questions might be: Why would girls at a certain age stop eating breakfast? Does skipping breakfast assist in weight loss? Is there evidence that eating breakfast combats obesity and diabetes in young people? What does the data for our school/class show?

Again, what makes CensusAtSchool interesting for students is that they are looking at data about themselves and their peers. Students can see patterns in the data for their class/school

and for a randomised sample of the data from other schools. The Database Interrogation Tool (<http://www.censusatschool.ie/en/get-data/datatool>) and the Random Data Selector (<http://www.censusatschool.ie/en/get-data/random-data-selector>) are provided to assist in the learning process.

A video (<http://vimeo.com/110872135>) has been produced to assist teachers and students in using this tool. The video shows how engaging CensusAtSchool can be both for teachers and students.

One should be careful when dealing with potentially sensitive topics with younger children e.g. student weight has not been asked on the Irish CensusAtSchool questionnaire to date.

2.6. Make it fun

Discussing data, it can be fun to get participants to actively engage. Sometimes data can be surprising, the birthday paradox is a good example. Eastaway (2008) gives the example of a wedding party where there are about 50 guests old and young. The question “I wonder what the chance is that there are two people in the wedding party who have the same birthday as each other, not the same birth date, just the same birthday, like 5 May or something”. The answer is a surprise to most students. With 50 people at the party then the chance of a birthday coincidence is 97%.

From the birthday paradox the chance of a matching birthday with 20 people in the group is 43% going up to 70% at 30 people and 97% at 50 people; the 50/50 chance is 23 people.

For a smaller group, one could bet the group that two people have a birthday within one day of each other. So, if one group member had a birthday on January 8th, a match would happen, if someone else in the group had a birthday on January 7th, 8th or 9th. 13 people in this case are needed for a 50% chance of a match and 28 people for a 95% chance of a match. A good bet in a classroom situation.

Most students, unaware of the paradox, are willing to place a bet that two people don't share the same birthday. Having won the bet, this can be a fun way of introducing probability.

3. Tools that enhance the education outreach process

3.1. Competitions

The CSO's experience with the John Hooper Medal for Statistics and the apps4 gaps competition (www.apps4gaps.ie) has been documented in a recent CSO paper presented at the International Conference on Teaching Statistics of the International Association for Statistical Education (IASE) in Arizona in 2014. These competitions have proved very successful as a vehicle for engaging students and the public and in bringing statistics to a wider and younger audience. The winner of the John Hooper Medal for Statistics represents Ireland at the biannual International Statistical Literacy Project (ISLP) (A list of ISLP participating countries is detailed in Appendix 2, giving an indication of the countries' engagement in the competition).

3.2. CensusAtSchool

CensusAtSchool is where the CSO education outreach programme began in 2007 and it is going from strength to strength. The Irish 2014/2015 CensusAtSchool questionnaire (see <http://www.censusatschool.ie/images/phases/2014-15-questionnaire.pdf>) celebrates family in keeping with the UN International Year of the Family Farm 2014 and the twentieth anniversary of the International Year of the Family in 1994. The CensusAtSchool website is a vehicle to promote much of CSO's education outreach work at secondary school level, with over 100,000 hits on the questionnaires (<http://www.censusatschool.ie/en/take-part/>

questionnaires) alone. CensusAtSchool questionnaire responses by country/region are detailed in Appendix 3, giving an indication of international participation. The figures in Appendix 3 are an update on the figures in (Davies 2011) about the further uses of CensusAtSchool and the ExperimentsAtSchool projects, to improve collaborative teaching and learning, statistical thinking and literacy for learners and teachers.

3.3. Professional diploma in official statistics for policy evaluation

The *Professional Diploma of Official Statistics for Policy Evaluation* (see <http://www.ipa.ie/index.php?lang=en&p=page&id=363>) was launched in 2012 by the CSO in cooperation with the Institute of Public Administration (IPA) (Institute of Public Administration 2014) and University College Dublin (UCD). The diploma is a one-year, part-time programme and is targeted at the public service, specifically those who use (or should use) data to formulate or assess policy. The course is designed as a practical ‘hands-on’ course where students are shown how to access and interpret official statistics. Considerable emphasis is also placed on presenting and visualising statistics so that useful policy relevant information can be derived. This course has proven very successful and is now in its third year.

The diploma introduces students to important Irish and international official statistics that will help them better understand the structure and trend of Irish and international economies, societies and environments and their respective inter-dependencies.

The diploma is not designed as a quantitative methods or technical statistics course but rather to teach an appreciation of statistics and how they can be used to find and present key messages. The aim of the diploma is to encourage sound evidence based policy making and sound evaluation of existing policy. It is hoped the course will take the fear and mystery out of official statistics.

27 people successfully graduated from this course in 2013, 36 graduated in 2014 and over 50 students are currently registered for the 2014-2015 academic year.

The statistical educators in New Zealand continue to inspire on what is possible in this field. Forbes (2014) outlines the great work that continues to be done in New Zealand. Finally a really exciting development is Chris Wild’s (Wild 2014) ground breaking work, culminating with the University of Auckland launching Data to Insight: An Introduction to Data Analysis, a Massive Online Open Course (MOOC).

4. Seminar series

The CSO currently runs two seminar series: A Business Statistics Seminar series and an Administrative Data Seminar series along with occasional ad-hoc seminars (see for further details on these seminars: <http://www.cso.ie/en/newsandevents/eventsconferenceseminars/>). The philosophy underpinning these series has four central pillars:

- to make users and potential users aware of all the data already available ;
- to demonstrate how these data could be used by providing case studies or illustrations of analyses;
- to improve our relationships and develop a network of researchers, policy makers, academics and other stakeholders; and
- to market new products or datasets.

The seminar series has been running since 2008 and continues to promote awareness and use of statistics.

The seminars provide a forum where CSO staff, data users, respondents and policy makers can meet face to face to discuss matters of mutual interest. The forum showcases new and

interesting work by CSO staff, but also includes work from other researchers and policy experts. All are encouraged to raise issues about data and demonstrate existing and new ways that statistics can enrich us all. The presentations are hosted on the CSO website. Attendance varies depending on content, for example, 93 people attended the latest Administrative Data Seminar in February 2014, representing a broad range of data users and suppliers from academia, government departments and agencies (see the piechart in Figure 1 for attendance by guest type).

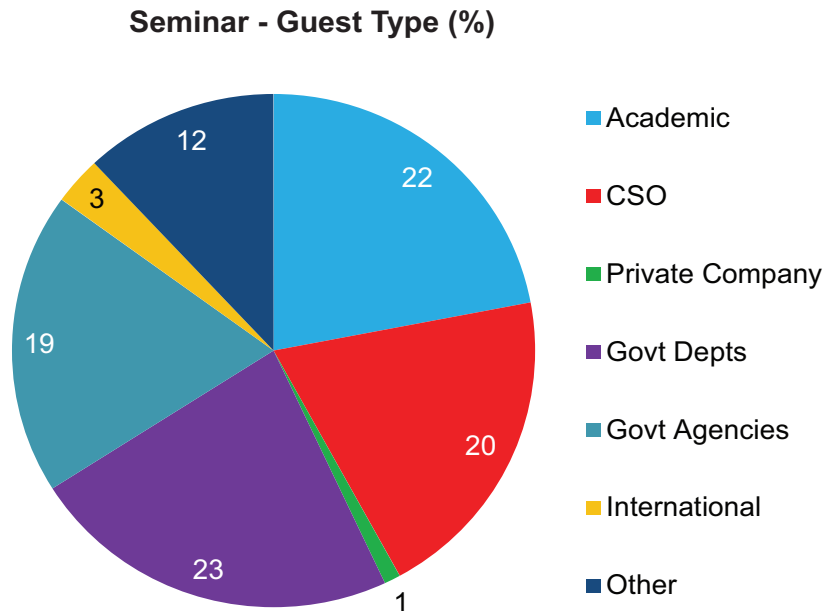


Figure 1: Attendance by guest type at the seminar series.

4.1. Stories, video and interactive visualisation

In October 2014, the CSO organised an in-house training course on visual storytelling for professionals. Helen Kuyper of 24/7 Storytelling.com led the group in exploring how to tell stories with numbers. Chris Wild's MOOC begs the question: are there newer ways to engage with numbers and statistical literacy. A large number of National Statistics Institutes are exploring the issue of visual engagement. There are countless examples of infographics¹, video² and interactive visualisation³.

Census Charlie (see Figure 2), was a character in the CSO Census 2011 story, part of the education resources for primary school teachers.

People are consuming information more visually through a myriad of devices and through an ever expanding list of media, this presents opportunities to improve engagement with data and

¹UK Labour Statistics: <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/may-2013/sty-employment.html>, New Zealand Census: <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/2013-census-infographic-chch.aspx>, Irish Transport Omnibus: <http://www.cso.ie/en/releasesandpublications/ep/p-tranom/transportomnibus2013/#.VKLAgs4A>

²Hans Rosling (2006) TED, Monterey California: <https://www.youtube.com/watch?v=hVimVzgtD6w>, Australia Census Spotlight (2011): <http://spotlight.abs.gov.au/Flash/>, Irish Census (2011) <https://www.youtube.com/watch?v=lrYN3yhbZXY>

³Family Spending UK (2013): <http://neighbourhood.statistics.gov.uk/HTMLDocs/dvc203/index.html>, Statistics Sweden, Statistical Atlas (2012): <http://www.scb.se/Kartor/Statistikatlas42KN201205English/index.html#story=0>, Job Churn Ireland (2013): http://www.cso.ie/visual/pyramids/jobschurnexplorer/n2pyramid/visualise_by_age_and_gender.html



Figure 2: Census Charlie – a character in the CSO Census 2011 story

in turn improve statistical literacy. Campos (2013) and the Portuguese Statistical Society's *Exploristica* itinerant exhibition, is a very interesting project in this regard. The CSO plans to translate *Exploristica* for an Irish audience in 2015.

5. Conclusion

The outreach programme '*Investing for the Future*' has two broad aims: (1) to promote the availability and appropriate use of official statistics and (2) to improve the general standard of statistical literacy among all cohorts of CSO data users. This programme is viewed as a long term investment, but an investment worth making, if it encourages the rational and sensible use of information to formulate and assess public policy and life decisions.

There are a number of key conclusions from the CSO outreach programme. Firstly, collaboration is critical to success. Secondly, different people and age-groups learn in different ways - no single solution will reach everyone.

From its humble beginnings in 2007 the programme has gradually expanded. New and interesting partnerships and collaborations have been formed. New courses and seminars, new competitions, new websites and new tools have been created, encouraging people to engage with CSO data and official statistics. The programme continues to evolve.

The three most important lessons learned to date are engage, engage, engage.

References

- Blastland M, Dilnot A (2008). *The Tiger That Isn't: Seeing Through a World of Numbers*. Profile books. ISBN 9781846681110.
- Campos P (2013). "Exploristica - Adventures in Statistics: a New Itinerant Exhibition for Teaching and Learning Statistics." URL <http://www.statistics.gov.hk/wsc/CPS103-P13-S.pdf>.
- Central Statistics Office (2008). *Statement of Strategy, 2004-2006 : Statistics for a Modern Ireland*. Central Statistics Office Ireland.

- Davies N (2011). “Developments of AtSchool Projects for Improving Collaborative Teaching and Learning in Statistics.” *Statistical Journal of the IAOS: Journal of the International Association for Official Statistics*, **27**(3), 205–227.
- Department of Education and Science (2005). *A Brief Description of the Irish Education System*. Communications Unit, Department of Education and Science, Ireland.
- Eastaway R (2008). *How Many Socks Make a Pair?: Surprisingly Interesting Everyday Maths*. JR Books Limited. ISBN 9781906217594.
- Forbes S (2014). “The coming of age of statistics education in New Zealand, and its influence internationally.” *Statistical Journal of the IAOS: Journal of the International Association for Official Statistics*, **22**(2), 1–19.
- Gustavsson J, Sonesson U (2011). “Global Food Losses and Food Waste.” *Technical report*, FAO, Rome, Italy.
- Institute of Public Administration (2014). “Annual Report 2013.” *Technical report*, Institute of Public Administration, Dublin, Ireland.
- Malik K (2014). “Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience.” *Technical report*, United Nations Development Programme (UNDP), New York, USA.
- National Council for Curriculum and Assessment (2012). “PROJECT MATHS. Responding to Current Debate.” URL <http://www.projectmaths.ie/about/>.
- Palmer P (2009). *The Courage to Teach: Exploring the Inner Landscape of a Teacher’s Life*. Wiley. ISBN 9780470469279.
- UNESCO (ed.) (2014). *Lifelong Learning for All: Inclusion, Prosperity and Sustainability in Cities. International Conference on Learning Cities*. UNESCO Institute for Lifelong Learning, Beijing, China. ISBN 978-92-820-1184-3. Conference Report.
- Wild C (2014). “Middleware for Middle Earth.” In *ICOTS9*.

Appendices

Appendix 1 – The CSO education outreach programme. A list of collaborations.

To improve statistical literacy in Ireland the CSO has collaborated with many organisations nationally and internationally. In primary and post primary education, the CSO has collaborated with:

- (a) the Department of Education and Skills (DES) ([Department of Education and Science 2005](#)) and the Department of Education Northern Ireland (DENI), to promote and develop statistical literacy.
- (b) Project Maths ([National Council for Curriculum and Assessment 2012](#)) – a project team dedicated to revising the post primary mathematics curriculum, changing what students learn in mathematics, how students learn mathematics and how students mathematics skills are assessed. Project Maths work with CSO on all our post primary projects
- (c) the Professional Development Service for Teachers, in particular the PDST Technology in Education team, to promote the role of technology in mathematics and statistical literacy

- (d) CensusAtSchool (<http://www.censusatschool.org.uk/international-projects>) internationally and the Royal Statistical Society Centre for Statistical Education (RSS-CSE), who helped the CSO to set up the Irish CensusAtSchool website (www.censusatschool.ie) with our Irish partners: Project Maths, PDST Technology in Education and the National Council for Curriculum and Assessment
- (e) HEAnet Ireland's National Education and Research Network, who act as web hosts for the Irish CensusAtSchool data
- (f) CoderDojo (<https://coderdojo.com/about/>), an open source, volunteer led, global movement of free coding clubs for young people.

At third level and for Continued Professional Development the CSO has collaborated with:

- (a) The Institute for Public Administration, where The Professional Diploma of Official Statistics for Policy Evaluation was launched in 2012
- (b) University College Dublin, who awards a level 8 National Framework Qualification special purpose diploma worth 20 credits to those who successfully complete the diploma
- (c) Dublin Castle, which currently hosts the CSO seminar series (<http://www.cso.ie/en/newsandevents/conferenceseminars/>)
- (d) the International Statistical Institute and other international statistical bodies including the International Association of Statistical Education (IASE), the International Association of Official Statistics (IAOS) and the International Statistical Literacy Programme (ISLP).
- (e) Insight: The Centre for Data Analytics has worked with the CSO on our linked open data projects and the apps4gaps competition
- (f) The Science Foundation of Ireland Discover Programme (<http://www.sfi.ie/discover-science-engineering-dse/>), which has promoted and part funded the apps4gaps competition (www.apps4gaps.ie)
- (g) The Open Government Partnership Ireland (<http://www.ogpireland.ie/>), who part fund the apps4gaps competition and promote CSO open data initiatives.

Appendix 2 - international statistical literacy project (ISLP) – poster competition (2012-2013). A list of participating countries

Here are all the countries that organised the ISLP poster competition 2012–2013. The numbers represents the participating students from each country.

Argentina	46	Indonesia	2	Russia	448
Australia	41	Ireland	1,281	Slovakia	21
Bangladesh	12	Italy	98	South Korea	16
Bhutan	5	Japan	3,849	Spain	2
Brazil	20	Kazakhstan	5	Sweden	85
Bulgaria	3	Kuwait	10	Togo	3
Czech Republic	530	Mexico	11	Ukraine	18
Finland	233	New Zealand	38	United Arab Emirates	5
Hungary	65	Poland	115	United Kingdom	95
India	3	Portugal	123	USA	8

Source: International Statistical Literacy Project (ISLP)

http://iase-web.org/islp/Poster_Competition_20122013.php?p=Participating_countries

5.1. Appendix 3 – CensusAtSchool questionnaire

Responses by country/region to 2013.

Country/Region	Years	Responses	Responses Remarks
United Kingdom	2000 - 2013	247,983	Run annually
South Africa	2001, 2009	1,500,152	Partial sample (over 3m took part in 2001)
Queensland	2001 - 2003	30,789	Became part of Australia-wide project
New Zealand	2003 - 2013	121,606	Run every two years
Canada	2003 - 2013	206,756	Statistics Society of Canada hosting from 2012
Australia	2005 - 2013	225,923	Run four times
South Australia	2003	21,557	Became part of Australia-wide project
Ireland	2009 - 2013	22,637	Run annually
Japan	2009 - 2013	635	13 schools
USA	2010 - 2013	7,967	39 States, 364 registered teachers
Total		2,386,005	

Source:

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