

CENSUSATSCHOOL IN AUSTRALIA

Soo Kong

Australian Bureau of Statistics, Australia

Anthony Harradine

Prince Alfred College, Australia

soo.kong@abs.gov.au

The CensusAtSchool project is an initiative undertaken by the Australian Bureau of Statistics (ABS) aimed at meeting two key objectives: (1) the development of statistical literacy amongst 10 - 17 year old students across Australia; (2) to promote the 2006 Census of Population and Housing. The paper highlights the Australian experience to date, including an outline of how the project works in Australia; the processes involved; and the challenges/success and lessons learnt. It will also outline the collaborative arrangements with Australian education intermediaries and the development of support materials and activities for classroom use.

INTRODUCTION

The project will be introduced to schools from October 2005 and data will be released back to schools in July 2006. This will be achieved through providing a rich data set for learning and appropriate support materials on a dedicated web site.

The conduct of the CensusAtSchool project complements other international and local CensusAtSchool projects modelled on the U.K. initiative, <http://censusatschool.ntu.ac.uk>. The CensusAtSchool project in Australia, has previously been conducted in Queensland (titled CensusAtSchool) and a similar project conducted in South Australia (titled SeniorSchoolCensus-Online). For 2006, the organisations responsible for these two State projects have decided not to run their respective data collections and are working collaboratively with the ABS to develop the Australian-wide project.

ROLE OF THE AUSTRALIAN BUREAU OF STATISTICS

The role of the ABS is to “Assist and encourage informed decision making, research and discussion, within government and community, by leading a high quality, objective and responsive national statistical service” (Trewin, 2005).

The ability to understand, interpret and evaluate statistical information is recognised as an important life skill. At the same time, there is awareness of a growing shortage of statisticians to meet the recruitment needs of statistical agencies and organisations in other sectors. Significant employers of statisticians include all levels of governments, academic institutions, pharmaceutical companies and financial institutions.

ABS involvement in education seeks to encourage interest in statistics nationally amongst Australian students. By doing this, ABS aims to ensure that Australian school children acquire a sufficient understanding and appreciation of how data can be collected and used to informed judgements in their daily lives. Through instilling sufficient interest and enthusiasm for statistics in school students, it is also hoped that they will consider pursuing tertiary studies in statistics. This would help build a pool of statistics graduates to meet the employment demands of the ABS.

The National Education Services Unit (NESU), located in the Melbourne office of the ABS has prime responsibility for delivering this role. NESU’s key objective is:

“To encourage development of statistical literacy in students and teachers and to promote access, understanding and greater use of ABS statistics in the schools sector”

(NESU, 2004)

Statistical literacy is defined as the ability to interpret and critically evaluate data and information (Trewin, 2005).

OTHER KEY DRIVERS OF THE PROJECT

In pursuing this role, there are also a number of drivers behind this project, these being: ABS's strong interest in taking a leadership role in increasing statistical literacy amongst students; the encouragement of an effective and practical use of ICT in teaching and learning (a key learning outcome); the creation of a stimulating student centred learning environment; and the education of future users of ABS statistics.

BACKGROUND

CensusAtSchool was initiated in the United Kingdom (<http://censusatschool.ntu.ac.uk>) in 1999 through a partnership between the Royal Statistical Society (RSS), the Department for Education and Employment and the UK Office for National Statistics (ONS). Since then it has been taken up by other organisations, both locally: in South Australia by the Noel Baker Centre for School Mathematics and in Queensland by the Office of Economic and Statistical Research (OESR); and abroad: in the countries of Canada, New Zealand and South Africa.

Permission was granted from the RSS in UK for ABS use of the CensusAtSchool branding.

In Australia, agreement was gained from both the South Australian and Queensland projects for ABS to take the national lead in this project.

ABOUT CENSUSATSCHOOL

CensusAtSchool is an on-line, data collection project designed for Australian upper primary and secondary students, where students collect information about themselves using questions that reflect their own interests. Students will fill in an on-line census forms as part of a whole class activity and submit the data over the Internet. The information collected, is stored in a large database and made available for learning and teaching in the classroom. Students will have access to national raw data through a random sampler. The data can then be used for teaching and learning across a range of Key Learning Areas (KLAs), particularly in Mathematics; Science; Studies of Society and Environment (SOSE); and Human Society and Its Environment (HSIE). A range of activities will be provided on the CensusAtSchool web site to assist teachers to integrate the project into their classrooms. Data will also be provided to the international CensusAtSchool database to facilitate international comparisons.

The project commenced in October 2005 with a formal launch which was officiated by the Federal Minister responsible for the ABS, The Honourable Chris Pearce MP and The Australian Statistician, Dennis Trewin. The event was also attended by key education bodies including all the three State/Territory education intermediaries (State, Independent and Catholic), as well as 100 students from primary and secondary schools. A Public Celebrity Speaker was invited to endorse the project. To coincide with the launch, a national mailout of an Introduction Pack was undertaken to approximately 10,000 primary and secondary schools inviting them to register. On completion of a school registration form, an Information Pack consisting of information on how to participate is sent to the registered schools.

Following registration, the questionnaire completion phase runs from late January 2006 to 7 July 2006. The data usage phase commences on 11 July 2006 with the release of the Random Sampler.

KEY STEPS INVOLVED

- Initiated the project in February 2004 with the Australian Statistician's approval to run this project nationally.
- Developed detailed work program, promotion/communication plans in May 2004.
- Sought agreement from OESR and Noel Baker Centre to collaborate and support ABS in the project. This resulted in the two organisations ceasing to run their own respective projects.
- Sought agreement from UK RSS to use branding.
- Australian Statistician's letter was sent to all state/territory education intermediaries for seeking support, assistance and collaboration on the project.

- Received overwhelming positive response from all intermediaries. This was followed by personal visits to the intermediaries and the appointment of contact officers.
- ABS conducted visits to all intermediaries to seek collaboration on project.
- Established a Project Board consisting of senior ABS staff to steer the project.
- Set up a Reference Group consisting of five key representatives to advise the Project Team on operational issues, including the specific State/Territory learning requirements.
- A range of experts and key stakeholders have been involved to ensure that the project retains maximum value in the classroom (the Noel Baker, OESR, teachers, subject associations, Education Depts, WPI students).
- Appointed software company to develop software (GoVote).
- Developed an in-house website (tested continuously by teachers, elaborate on the release testing).
- development of support materials for classroom use.
- Students and teachers have played key roles in the development of the questionnaire, targeting areas of interest and refining the wording of questions, focus group discussions conducted.
- Teachers, education bodies and education departments have been involved in a consultative process for the development of the educational strategy and teaching materials.
- The CensusAtSchool Reference Group comprising of representatives from OESR, Noel Baker Centre and each from State Education Departments, Catholic Education Bodies and Independent Schools Association have convened 6 monthly to advise on project strategies.
- Experiences of CensusAtSchool projects from other countries were also drawn.
- Produced promotional items such as pens, tape measures, brochures, posters, T- Shirts and caps.
- Completed dress rehearsal in September 2005 with 2,800 questionnaires completed.
- Developed a Teaching Framework by structuring different versions of each activity to meet the skill level of teachers and technology access within schools.
- Promote the project. An extensive campaign was undertaken with quarterly Newsletter issued since September 2004. This will be intensified from 2006 to be on a monthly basis. There are notices in education intermediaries intranet and newsletters; advertisements in school/teachers/subject magazines/journals; links to major education websites; and presentation at conferences.
- Schools Poster competition is to be developed for 2006 in collaboration with the University of Southern Queensland and other education organisations.

CHALLENGES/SUCCESS/LESSONS LEARNT – TO DATE

The CensusAtSchool Project showed that a successful and innovative outcome can be achieved whilst working within the confines of a government organisation and across multiple jurisdictions.

The collaborative approach with key education stakeholders was critical for the success of the project. These organisations were ambassadors of the project and played a proactive role in promoting the project to schools. The high responses from schools were a result of their promotion in their own jurisdictions. Their feedback and views were sought in the course of the development of the project.

A significant amount of effort was dedicated to the professional development of teachers - a must if the project is to be successful. Early indications from teachers at workshops were that the activities developed were relevant and useful for classroom teaching. A training package called "Using CensusAtSchool data" for teachers (Train the Trainer) is being developed for teachers. The package provides simple guides to the use of *Excel* spreadsheets, this is a basic skill teachers would need but many do not have.

Involvement of teachers/students in the course of the development of the project is critical as it provided them with a sense of ownership of the project. This in a way attributed to the good response rate to this project so far.

Careful planning and high level senior staff input was critical to the short deadlines on this project. Working collaboratively with internal ABS staff was also necessary for progressing various critical stages.

Developing a project in an area that is not seen as core business for ABS, for a clientele that is not the usual clientele, was a challenge. The normal ABS procedures and standards were not applicable to some areas of the development, and new ways of working around these had to be found. This can be frustrating in a bureaucratic environment, particularly when working to a tight timeframe.

TEACHER MATERIALS

The teaching materials were prepared to support teachers in the classroom. A variety of activities was produced to cover a range of Key Learning Areas. Each activity was prepared in four versions to meet the needs of the range of teachers who would use them:

1. The first version is simply a question with a context for students to determine their own path to carrying out the investigation.
2. The next version directs students to taking a random sample and provides direction on how to carry out the investigation.
3. The third version also provides direction but includes a prepared data sample so that students do not need to use the Internet.
4. The final version allows students to use the CensusAtSchool data but, does not require the use of a computer to carry out the investigation (this version is more limited than the others).

Each version is a small, supported step, with an increased level of technological sophistication and can be used as a tool to increase teacher skills. Using the spreadsheet version is a small, safe step for teachers who presently use a textbook approach. The activities were also linked to the curriculum of each state and territory.

There are also a series in introductory *Excel* activities. This means that the other activities can focus on statistics, without the waters being muddied with instructions for use of *Excel*. In addition, prepared samples are planned to support teachers in schools where access to the Internet is problematic.

CONCLUSION

Given the importance this project has in meeting ABS's goal of increasing statistical literacy, ABS is committed to running this project on a regular basis, initially to tie in with the promotion and awareness raising of the 2006 Census with school students. Thereafter, ABS will run the project once in between Census years (conducted every 5 years). Hence ABS will run CensusAtSchool in 2006 and then again, in 2008 and 2011. It is anticipated that once the project is set up and going in its first year, it should be self-sustaining, that is, students requiring datasets can run random sample selections, and the datasets can be electronically provided to the students by the software. An evaluation will be conducted in 2006 to ensure refinements or improvements for the subsequent cycles. Beyond 2006, the random sampler will be added to the international site in the UK. Lesson plans and activities will be added on annually to cover other key learning areas (KLAs) not previously covered in consultation with education intermediaries. Consultation with the education community will be conducted in the preparation of future surveys and activities.

REFERENCES

- National Education Services Forward Work Program. (2004). Melbourne.
- Trewin, D. (2005). Australian Bureau of Statistics (ABS) Corporate Plan. Canberra.
- Trewin, D. (2005). Improving statistical literacy: The respective roles of schools and the national statistical offices.
- Worcester Polytechnic Institute, Massachusetts. (2004). Online forms for education services of the Australian Bureau of Statistics.