

The Use of Census and Other Data in Australian Catholic Education

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Introduction

I would like to start by thanking the ABS for the opportunity to present at this conference, and believe the concept of bringing experienced census users together is an outstanding initiative. Over the last two days we have seen some excellent uses of census data; and although we are almost at the end of the conference, I hope that my presentation will be of interest and relevance to you as census data users; and that this presentation will provide ideas to you, whether you are inside and outside the education sphere. For while the focus of our census data – especially our customized census tables – relate primarily to schooling, the application of the data can most likely be translated to your own sphere of research.

Catholic Education is an extensive user of census data, and I will posit that our application of census data places us in the upper echelon for our diversity and comprehensiveness in the collection, analysis and distribution of census data across so many geographical levels. While this may be a brave call given the audience I am presenting to, I believe that you will agree that the examples to be shown in this presentation will validate my claim. Then again, perhaps not, and I look forward to discussing my bold claim at the end of today's presentation.

During this presentation, I will outline the background to the extensive collection of census data which commenced in 2000, and how a web-based data storage and analysis tool which we have called the Australian Catholic Education Statistics, or ACES, database was developed to enable Catholic education across Australia to easily access and analyze the extensive census and other time-series datasets. I will also show how the data has, and is, being used in a variety of ways – from the planning of an individual school, to policy formation, to political lobbying, and to affecting cultural change in the non-Government schools sector, and perhaps even beyond schools in the broader Catholic Church. Importantly, I would like to show how the ABS census is one part of the data jigsaw – albeit an important part, and that the census data has been an important instrument in the development of understanding of ourselves in Catholic education, and how useful our own data can be, when used for more than simple administrative purposes.

Given today's audience, it is hardly necessary for me to reinforce the importance and validity of the ABS Census, for in this forum, I am simply 'preaching to the converted'. I will assume that you are familiar with the more common ABS concepts and terminology, but please stop me if there are any terms you are unfamiliar with. And importantly, let's make this an interactive presentation. It is our sharing of ideas and opinions that will make this presentation worthwhile – especially now that we are in the 'home straight' of the conference.

About Catholic Education

There are just over 3.3 million students in schools in Australia, of which one-third are in non-government schools. Catholic education comprises two-thirds of the non-government sector with 677,000 students. The national budget for schools from state and Commonwealth governments is \$27 billion annually, of which the non-government schools allocation is \$5.2 billion. Catholic schools receive \$4 billion of this non-government allocation – or \$5,965 per

student – for the education of the students in the 1,700 Catholic schools in Australia. In addition to government funding, Catholic schools receive \$1.57 billion from school fees and other income every year. Catholic education in Australia employs nearly 75,000 people.

While all Catholic schools are considered by many to be under the one single entity, the administrative and ownership arrangements within Catholic education in Australia are quite diverse, as there is no single hierarchical arrangement across all Catholic schools in Australia.

To explain, while the National Catholic Education Commission (NCEC) is appointed by the Bishops of Australia to develop and represent Catholic Education at the national level for the Church's work in education, it administers no schools itself, and the Secretariat of the NCEC comprises just three staff. Each State Commission is represented on the NCEC and again, the State Commissions do not administer any schools. In my own State Commission in NSW, which has a staff of thirty, our role is to provide leadership and representation for dioceses, religious congregations, parents and students. In the main, Catholic schools in Australia are administered through the twenty eight dioceses, but while some of the dioceses may have a centralised administrative model for school administration, other dioceses may encourage independent administration of schools, or the administration by the local parish. In addition to these differing arrangements, there are a number of schools which are owned and administered by religious congregations rather than the diocese's Catholic Education Office. In summary, there is no one overarching administrative arrangement for Catholic education in Australia.

Importantly, states and diocese are independent (within legislative, educational and funding constraints), and perhaps an appropriate analogy for Catholic education might be that of local government – where every municipal council is independent of all other councils (but subject to legal requirements). Councils may share resources or collaborate; but within the LGA boundaries, the council has autonomy for determining their own priorities, resource allocation and organisational arrangements. Regional bodies may lobby on behalf of, or represent groups of councils, but cannot direct or override the wishes of individual councils. And as occurs in local government, the use of census data in Catholic education has, until quite recently, varied from extensive, detailed analysis and using census data in some organisations, to negligible awareness of the ABS Census's existence in other organisations. But importantly, until the initiative of the ACES database, there was effectively no national application of census data in Australian Catholic education. And it is against this diverse background that I will present on the use of census data in Australian Catholic education.

The Australian Catholic Education Statistics (ACES) Database

In 2000, the NCEC raised concerns about the perceived changing pattern of enrolments of Catholic school-age children; in particular, that fewer students from Catholic families were enrolling in Catholic schools, while Catholic schools were enrolling more and more non-Catholic students. The NCEC initiated a Working Party to explore these issues on a national basis with a view to determining trends in enrolment patterns, and to identify any policy implications for Catholic educators and the Catholic community more generally.

The Working Group had the foresight to recognize that the investigation of these questions would, in turn, lead to further questions about Catholic schools; and that the study should not be considered to be a one-off project. Rather, the project needed to be the catalyst for national research from that point onwards. It was also recognised that the data which would be required for such a study would require data from different sources, and would need to place the national 'story' in a temporal context (using time-series data) as well as providing Catholic education with

the tools to ‘drill down’ below the national level to understand and implement policy change locally within the dioceses and schools.

The Working Group believed that once collected, the data would be an outstanding resource for other projects such as school planning, and so it was decided that national comprehensive datasets at the SLA and CD levels, rather than summary national census tables, should be purchased and incorporated into a web-based interface to enable all dioceses in Australia equal access to the data. In 2000, ABS Census data was not free and accessing detailed datasets were an expensive project, but as planners in dioceses outside of the capital cities were at a disadvantage for accessing ABS expertise for census and other data, the strategy was seen to be the most equitable for all census data users in Australian Catholic education.

The Catholic Education Commission, NSW took carriage of the development of this project and created the web-based interface which we called the Australian Catholic Education Statistics – or ACES – database. This database, and the collection of the data, was entirely created and developed by only two people. ACES enables Catholic education users to access data across a number of geographical regions using the ASGC as a template, and combines large detailed time-series datasets in a ‘quick charting’ format to allow quick and easy trend analysis – from an individual school’s enrolment trend to a national demographic profile almost instantly.

What data is in ACES

ACES incorporates the data from every Catholic school in Australia from the annual DEST Schools Census, and the time-series of this dataset includes the entire data from every year since 1985. This annual Commonwealth Census, which determines non-government school funding, and is the basis for the ABS Schools publication, includes (amongst many things) the count by individual school of all students by grade and sex, as well as the specific counts of targeted student groups such as Indigenous students, and Students with Disabilities. The annual Schools Census also provides counts of teachers and other staff in each school. In conjunction with the Commonwealth School Census (a web-based census), the CEC, NSW (like other State Commissions) collects additional data such as the number of Catholic and non-Catholic students enrolled. However, state collections are not nationally complete or comparable between states.

While the annual Schools Census data is an outstanding data source, it provides little illumination for the questions which NCEC were concerned with, as the data relates only to Catholic schools. Consequently, the Working Group decided to purchase ABS standard and customized data relevant to Catholic education. To explore the questions relevant to NCEC, Basic Community Profile (BCP) data, as well as customized census tables were incorporated into the ACES project.

BCP data was restructured into thematic tables relevant to Catholic education, and these themes included population, dwellings, religion, work, ethnicity, qualifications and students. Data from the different BCP tables were brought together under the different thematic tables. However, BCP data, which in itself is a rich source of data for understanding population characteristics, could only provide part of the puzzle, and so customized tables were purchased to help Catholic education understand the emerging questions in Catholic education. To this end, Census data was purchased which cross-tabulated students from Catholic (where one parent was Catholic) and Non-Catholic families, by school level (primary/secondary) and sector (Government, Catholic and Other Non-Government (ONG) schools), by income groupings (Low, Medium, High). This table can be illustrated as:

By SLA	Students from Catholic Families				Students from Non-Catholic Families			
	Low	Medium	High	Not Stated	Low	Medium	High	Not Stated
Primary								
Government								
Catholic								
ONG								
Secondary								
Government								
Catholic								
ONG								

This data immediately enabled the analysis of several issues at the national level, as well as for local geographic analysis (at the SLA or higher levels), and for analyzing time-series trends, as datasets for the 1986, 1991 and 1996 Censuses were also obtained (as has the 2001 Census since, and will occur for the 2006 Census when available next year). The immediate questions which this data examined included:

- What schools do children from Catholic families attend?
- What school do Catholic children attend in terms of income?
- Who attends Catholic schools in terms of religion?, and
- Who attends Catholic schools in terms of family income?

A similar dataset – excluding the income cross-tabulation was also purchased to enable analysis of these questions at the sub-SLA level or for non-ASGC areas. The income dimension was excluded as ABS confidentialising negates the usefulness of the income dimension at this level.

From this beginning, the Working Group expanded the research into other aspects of social and policy issues in contemporary Catholic education to include other cross-tabulations from Census data. ‘Single and two-parent families’ data cross-tabulated the number of children in school by one or two parents, by school type (Government, Catholic, ONG) and/or combination of school types (Catholic and Government, Catholic and ONG, ONG and Government, and all three combined). ‘Family size’ data cross-tabulates the number of families (not children) by the number of children in the family attending school (1, 2, 3, 4 and 5 plus children) by types of school and combinations of school types for families, by family income. Both of these datasets were purchased at SLA and CD levels for the 2001 Census.

The Working Group has also examined the issue of Indigenous student trends and obtained even more customized Census data. This data cross-tabulated Indigenous students by religious identification (Catholic and Non-Catholic) by school sector, to identify (in conjunction with BCP data) questions of:

- Is the proportion of Indigenous students in Catholic schools representative of the broader Indigenous community?
- What proportion of Indigenous students are in Catholic and non-Catholic schools? and
- What proportion of Catholic Indigenous students are in Catholic schools?

And for Federal and State elections, the ACES database has obtained customized census data to explore the questions of where teachers in Government and non-Government schools choose to send their children to school.

The reporting of these research projects are really topics for other forums, and if you are interested, you can obtain a copy of any report from the Working Group, as well as summary extracts of these topics in the statistics section of the NCEC website. The address is www.ncec.catholic.edu.au. However, as a taster of some of the findings in these reports:

- Just over half of Catholic families have their children in Government schools, but when we examined earlier censuses, it has been this proportion since the 1976 Census. And even back at the 1933 Census, the proportion of Catholics in Government schools was 35%.
- With regards to family income, there is a relatively higher proportion of high income families, than there is of low income families in Catholic and Other Non-Government schools, than in the Government school sector.
- A larger proportion of high-income Catholic families are enrolled in either Catholic or Other Non-Government schools than are enrolled in Government schools.
- Half of the overall growth in the number of Catholic students between the 1996 to 2001 Censuses has been to the Other Non-Government schools.
- Eighty percent of families have only one or two children at school, and this applies regardless of school sector.
- One-quarter of teachers in Government schools have their children enrolled in Non-Government schools.
- Eighty-six percent of Indigenous students are in Government schools. Only one-quarter of Catholic Indigenous students are in Catholic schools.

And for those of you interested in Indigenous statistics, I would like to draw your attention to the Working Group's report on *Indigenous Students Trends in Catholic Schools 1985-2004*. I think you might be quite surprised by the comparison between the ABS and DEST Census counts for Indigenous students – especially in primary schools.

Applying the Data

The above tasters provide an insight into the questions which census data is being used to help Catholic education understand how Catholic schools are placed in contemporary society. The findings have highlighted some of the central questions about Catholic schools – are Catholic schools continuing to achieve their mission? Do we embrace or disenfranchise the marginalized? Do we ensure that Catholic schools are relevant and sustainable?

Census data is used at the CD level as one element in identifying the viability of schools – for example, should a school in a country town be renovated or relocated? Geocoding of student addresses to CDs enables the identification and analysis of non-contiguous catchments, and this identification of the CDs in which students live enables detailed demographic profiling for individual schools and understanding emerging student populations from both an educational and community perspective. Understanding the demographic profiles of specific student catchments for example enables Catholic schools to help identify the proportions of students from low and high socio-economic backgrounds, or identify different cultures and communities.

Demographic profiles and customized electorally-focused census data has enabled, and will continue to enable, the sharing of relevant information between Catholic schools and communities and their elected representatives, and within the entire non-government education sector.

Those of you who attended Chris Duncan's presentation on the use of census data for non-government school funding this morning will be aware of how the census is used to create a socio-economic index for allocating Commonwealth funding. Within Catholic education, we

have rigorously examined this index and the underlying data so that we can effectively utilize and understand the purpose of SES funding within our own funding redistributions. In effect we have unpacked the data – not for administrative purposes – but to understand, and equitably apply census data within our schools. And we have unpacked this data – not in broad terms – but have specifically examined the characteristics of the CDs in which our students actually live.

These illustrations are but a sample of the diversity of the use of census data in Catholic education. Importantly for us in Catholic education, census data is accessed and used from the lowest level of the CD to the national level.

Issues

The combination of several datasets at CD and SLA levels raised a number of methodological and conceptual issues. Methodologically, we adopted (but modified) the AGGC hierarchy as a model as this is the most logical for utilizing the extensive census datasets. School locations are geocoded to a CD, which allows for the linking of the annual school data with census datasets to any geography required. Catholic diocese and parish boundaries have been ‘aligned’ to CD and SLA boundaries for statistical purposes, and Jervis Bay (Other Territory) has been recoded to ACT at the State level, and Wollongong Diocese at the diocesan level for the purposes of statistical analysis.

While the ABS confidentialising of small cells is an annoyance for balancing datasets, the more significant issue is the ABS’s policy of randomizing to either a three or a zero. While the logic of randomizing cells with either 1, 2 or 3 responses is appropriate, the logic of randomizing a nil response eludes users in Catholic education. Zero is an absolute and legitimate response which has significantly different significance to low responses needed to be coded for confidentiality purposes. At the time of preparing this paper, Bruce Frazer’s research paper on the *Review of Confidentiality Protections for Statistical Tables* (1352.0.55.072) does not indicate the final decision for the ABS review of this issue, but no doubt Bruce will have provided us with more clarification on this issue in his presentation yesterday.

The inconsistency of SLAs between states is a significant issue. While Statistical Local Areas may have some consistency within states, the great discrepancy between SLAs in different states is an issue of equity for census and other ABS data users, and is an issue which I strongly believe ABS does need to address. Historical differences between councils in the Sydney and Brisbane metropolitan areas are a seemingly poor argument for not having a nationally consistent and fair dissemination for ABS annual statistics, especially in an era when the ABS tantalises us with the possibilities available from the mesh block. The significant differences between SLA population sizes in Sydney and Brisbane, or between Melbourne and Canberra have had – and will continue to have – significant impact for national policy and the distribution of resources in the education sector.

Commonwealth funding to non-government schools requires all students in non-government schools to be geocoded to a CD, and the socio-economic score of the CD determines the allocation of funding to non-government schools. While mesh blocks will no doubt provide advantages for many census users, the mesh block will provide methodological concerns for the future of DEST’s ABS Census derived SES funding model. This is an issue which has been raised by the NCEC with both the ABS and DEST, and one which require further understanding and analysis before the 2011 Census.

The most important census issue for Catholic education, and indeed the entire non-government sector, has been the ABS's resistance to updating the income categories for the three censuses from 1986 to 2001. The lack of discrimination for the highest income categories has become a critical issue for the allocation of SES funding for schools; and is a central impediment to the refinement of an SES-based funding reallocation within the Catholic sector. We are relieved that the ABS's has finally updated the income categories on the 2006 Census form, and for the household and family income categories for dissemination. I would suggest that this has been a most uncharacteristic methodological approach from the ABS which has now been corrected, and hope that these categories will continue to be updated for future censuses.

Conclusion

Catholic education in Australia is a prodigious user of ABS Census data, and is an advocate for the ABS and the Census. At the start of this presentation, I posited that Catholic education is in the upper echelon for our diversity and comprehensiveness in the collection, analysis and distribution of census data across so many geographical levels. I hope this presentation has illustrated this to be so.

The census is only one part of our data project, but an important one nevertheless. The development of the ACES database, in conjunction with the collection and analysis of census and other data has facilitated a cultural shift in Australian Catholic education. Our own data is viewed as more than an administrative product, and data is now considered to be an integral aspect of policy formulation and cultural understanding. This would not have been possible without the detailed cross-tabulated data from the ABS censuses.

Importantly now, we are improving the understanding of, and quantity and quality of our own data collection; and this year for the first time, we will be collecting national statistics on Catholic and non-Catholic student enrolments by grade and sex and other data for every Catholic school in Australia. There will be an annual collection and analysis of this data by the ACES Working Group in the overarching, ongoing project of using data – from many sources – to help Catholic education better understand itself, and maintain an awareness of the changes to education in contemporary Australian society. And there is little reason to doubt that the ABS Census has, and will continue to play an important role.

I thank you for your interest, and thank the ABS for initiating and sponsoring this conference. I now ask if there are any questions.

Endnote: A Powerpoint slideshow accompanied this presentation to illustrate the uses of census and other data in Australian Catholic education.
