



**LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL
TERRITORY**

**STANDING COMMITTEE ON EDUCATION, TRAINING AND
YOUTH AFFAIRS**

(Reference: Educational achievement gap)

Members:

**MS A BRESNAN (The Chair)
MR J HANSON (The Deputy Chair)
MS M PORTER**

PROOF TRANSCRIPT OF EVIDENCE

CANBERRA

TUESDAY, 24 NOVEMBER 2009

This is a **PROOF TRANSCRIPT** that is subject to suggested corrections by members and witnesses. The **FINAL TRANSCRIPT** will replace this transcript within 20 working days from the hearing date, subject to the receipt of corrections from members and witnesses.

**Secretary to the committee:
Dr S Lilburn (Ph: 6205 0199)**

By authority of the Legislative Assembly for the Australian Capital Territory

Submissions, answers to questions on notice and other documents relevant to this inquiry that have been authorised for publication by the committee may be obtained from the Committee Office of the Legislative Assembly (Ph: 6205 0127).

WITNESSES

AINLEY, DR JOHN, Deputy Chief Executive Officer, Australian Council for
Educational Research.....**151**

Privilege statement

The committee has authorised the recording, broadcasting and rebroadcasting of these proceedings.

All witnesses making submissions or giving evidence to an Assembly committee are protected by parliamentary privilege.

“Parliamentary privilege” means the special rights and immunities which belong to the Assembly, its committees and its members. These rights and immunities enable committees to operate effectively, and enable those involved in committee processes to do so without obstruction, or fear of prosecution. Witnesses must tell the truth, and giving false or misleading evidence will be treated as a serious matter.

While the committee prefers to hear all evidence in public, it may take evidence in-camera if requested. Confidential evidence will be recorded and kept securely. It is within the power of the committee at a later date to publish or present all or part of that evidence to the Assembly; but any decision to publish or present in-camera evidence will not be taken without consulting with the person who gave the evidence.

Amended 21 January 2009

The committee met at 11.32 am.

AINLEY, DR JOHN, Deputy Chief Executive Officer, Australian Council for Educational Research

THE CHAIR: We will commence this hearing of the Standing Committee on Education, Training and Youth Affairs into the educational achievement gap. Thank you, Dr Ainley, for coming in today to speak to us. I draw your attention to the privilege statement which is in front of you, just so that you are aware of it, before we commence. Before we go to questions from the committee, I invite you to make an opening statement.

Dr Ainley: My opening statement is just to let you know who I am and where I come from. I am the Deputy CEO and head of the research division at the Australian Council for Educational Research. We are a national independent research organisation which does a lot of our work under commissions and contracts with government authorities throughout Australia and in other countries.

The particular part of the Australian Council for Educational Research that I head runs a number of studies, surveys, of the achievements of young people. In particular, we are involved in operating the national components of the program for international student assessment conducted by the OECD, known as PISA, the trends in international mathematics and science studies, known as TIMSS, and conducted by the International Association for the Evaluation of Educational Achievement, and next year, for the first time, we will be conducting in Australia the primary international reading literacy survey for IEA, which is known as PIRLS, and which will be conducted amongst grade 4 students.

In my part of the Australian Council for Educational Research, we also contribute to the national assessment program for literacy and numeracy and contribute to both the development of the tests and the central analysis of the data that come in from those surveys. We conduct sample studies of student achievement in particular areas for the national assessment program. In particular, we conduct the sample studies of achievement in civics and citizenship education at grade 6 and grade 10, and ICT literacy at grade 6 and grade 10. So I think I will be able to answer some of your questions by referring to that data.

THE CHAIR: Thank you. The first question I have got—I am not sure if you can answer it but I will ask you—relates to what one of the witnesses from the University of Canberra talked about, regarding research they are doing which looks at the age at which that achievement gap starts to play a part or gets to a point where it does influence what children are learning. They said that often starts very early, from kindergarten, and by the time they get to, say, grade 4 or 5, it has had a significant impact. They are already on the way to having that gap, as part of what happens. In terms of when you look at the data, is that something you have noticed when you analyse the data that comes through? Is that actually a factor?

Dr Ainley: There is not a lot of data that is truly longitudinal in Australia that is of nationally representative samples that would follow young people from the preschool years and follow the same young people through to later in school. But we do know,

from what is evident in the studies that we have done that are cross-sectional, when we look at achievement in early years of schooling, and at grade 4, grade 6, grade 8 and grade 10, which is where we do have points, that the gap that emerges early both maintains and in some areas gets a little wider as students go through school. That is not surprising because if the foundations for learning are not established in the early years then you would expect that, unless there is some intervention, that gap would widen. We will get more evidence of this as the various results from the national assessment program in literacy and numeracy emerge, because that does involve looking at not just representative samples but the population of young people in year 3, year 5, year 7 and year 9, at least in the areas of literacy and numeracy.

MS PORTER: Through you, Chair: will that fill some of your gap as far as longitudinal studies are concerned or is there additional work that needs to be done to address that particular issue?

Dr Ainley: It will be possible to use those data. In principle, it would be possible to use those data to follow the course of individual students through because it is the population of students that is studied at year 3, year 5, year 7 and year 9. Therefore, starting with those young people who were in year 3 in 2008, it will be possible to assess those students. Those students will be assessed again when they are in year 5 in 2010, year 7 in 2012 and year 9 in 2014. That means if we can link the students—and it is only a matter of access and linking the records from each cycle—it will then be possible to model the growth and to look at how rapidly students improve and under what conditions some students improve more than others.

MR HANSON: With that data do you then explore why there is the gap, or are you just looking at the gap? Do you look at the background causes of it? Is it ESL or is it socioeconomic factors? Are you looking at the cause or simply the outcome?

Dr Ainley: There is a little bit of both in what we do. Perhaps I can deal with it in two sections. In the national assessment program—literacy and numeracy, data are gathered about student background characteristics—various socioeconomic characteristics, geolocation, Indigenous status and language background. Therefore, it is possible to look at the correlates of achievement and, if we link the data over time, to look at the way in which those factors are associated in different growth trajectories. The answer is, yes, it is possible. The extent to which that will be able to be done will be determined by the bodies responsible for the national assessment program. Our job is to contribute to that in the ways that I mentioned earlier. We do not control the decisions. In principle, that can be done.

In our studies of PISA, which is reading, mathematics and science for 15-year-olds, we always collect extensive data about student background as part of those studies. Therefore, we have looked at that. Our national reports report on the way in which those background factors are related to student achievement in those areas—similarly with TIMSS and in future with PIRLS. There is always an intention in these studies to gather information about student background and characteristics and various aspects of their interests and attitudes.

MR HANSON: How long has this data been collected?

Dr Ainley: PISA, 15-year-olds, since 2000 and every three years since 2000; TIMSS, grade 4 and grade 8 in mathematics, since 1994 in Australia and every four years since 1994; NAPLAN, the first exercise was 2008 and that will be collected every year; the national assessment program sample studies, ICT, literacy and civics and citizenship education are surveyed every three years and the civics cycle started in 2004 and the ICT literacy cycle started in 2005.

MR HANSON: So it is pretty immature then, a lot of this data, in terms of establishing trends?

Dr Ainley: It is. And looking at trends requires that studies be established in a way that allows you to do that. So PISA and TIMSS and the national assessment program sample studies have been established in a way that there are sufficient common items carried forward from one cycle to the next, so that you can have enough stability to be able to confidently estimate the trends. That is an important part of the assessment design.

Basically what happens is that they follow a rotated assessment design so that a wider range of material is covered than you could reasonably ask any student to sit through, so you rotate it and then you make sure that from one cycle to the next you carry enough forward in a secure and common way that you can map the trends, and you can also use the non-common bit to be able to make adjustments and to take account of developments that might be occurring in the field.

THE CHAIR: And when will PIRLS first happen?

Dr Ainley: The data collection for PIRLS will be in the latter part of 2010. Unfortunately, because it is an international study, the data collection in the Northern Hemisphere takes place at the beginning of the 2011 calendar year and the report will be published in December of 2011.

MR DOSZPOT: You were saying that there are age groups of three, five, seven and nine. Are these international standards that we are adhering to by picking those particular years?

Dr Ainley: No. They really came out of what was the pattern that had emerged in the various state assessment programs prior to the introduction of the national program, so every second year rather than every year. That was just seen as a reasonable assessment load for schools to administer. There is nothing magical about the particular things, but let me say something a little more. With the IEA studies that are conducted at grade 4 and grade 8, the argument for doing that was to be at roughly the midpoint or past the midpoint of the primary school years and then into the early secondary school years.

PIRLS actually says that it is looking at grade 4 because it is the point at which students are making a transition from learning to read to reading to learn, so there is a little bit of a theoretical argument that that is a good choice. The OECD in establishing PISA for 15-year-olds had the intention of doing it at a time when across OECD countries that represented the year at which almost all 15-year-old students were still in school. The national assessment program sample surveys looked at grade

6 and grade 10, for which the argument is that one is the end of the primary school years and the other is the end of the compulsory years of secondary school as we used to think of them. So there is not a lot of consistency there.

MR DOSZPOT: My question, I guess, is related to a statement you made earlier on that the gaps that you discover—I am probably paraphrasing you wrongly here but you say that the standards are maintained—

Dr Ainley: Or widened.

MR DOSZPOT: or widened, yes. So my question is: are we going too far into the start of the education process or is it possible to track some of these anomalies or trends early, say in year 2, which would give you an earlier indication that there is a problem?

Dr Ainley: Yes, it is possible to do that, and it has been done in a number of areas within education systems. Across many education systems at the present time in Australia there is a move to develop assessment materials for students at the beginning of their school career, the first year of school. It is just that they have not been built into a national program of assessment at the present stage.

Some years ago, starting in 1998, I was involved in a study for the Catholic Education Commission of Victoria in which we were looking at the impact of a particular intervention in the teaching of reading in the early years of school. We actually followed samples of about 4½ thousand young people from the beginning of grade 1 through to the end of grade 5 and mapped their growth trajectories over that time. We were interested in what was the impact of a particular approach to organising the teaching of reading in the early years on the development of those young people.

We had two cohorts. One was the young people who were in grade 1 in 1998 and the other was those who were in grade 1 in 2000. We followed them both through in parallel. There are other studies of that sort that have been done, and they are very important for the reason that you imply—to look at young people early on. It is just that I was focusing on what were the big national assessment programs.

THE CHAIR: You mentioned earlier looking at the national programs and that trends can be shown in terms of particular groups that might have some issues around the process. One of the consistent groups that we have heard about more recently is people who have English as a second language. In some of the assessment that has been done, has that emerged as a group? I appreciate that it is something that might have come along more recently, because of an influx of different refugee groups coming in.

Dr Ainley: With respect to the perspective on those for whom English is a second language, or their language background is other than English, the story there is a little bit more complex than that. Let me come to that in a minute. In my view, the data that we have from the large-scale studies is fairly consistent in telling us what the big gaps are. The big gaps are with respect to socioeconomic background. So between the top and the bottom quarter of people, on socioeconomic background, the gap is about 0.8 of a standard deviation. I would not want to be held to that but it is a rough figure.

They are typically scaled with a standard deviation of 100, so it is about 80 points on that scale; that is the gap between the top and the bottom quarter of the socioeconomic distribution.

The second one that is about the same gap is between Indigenous and non-Indigenous students. Again, it is about 0.8; it could be 0.7 or 0.9, but it is of that order of magnitude—80 points on that scale.

The third one that comes up as an important gap is geolocation. This is less of an issue for the Australian Capital Territory, but across Australia there is an effect between metropolitan, provincial, remote and very remote. I think a number of us were quite surprised at something that came out of the NAPLAN data that had not been as evident before in sample studies—the gap for young Australians in very remote areas, and the interaction of Indigenous status and geographic location. For Indigenous students in very remote areas, that was where the gap was very large. For Indigenous students in metropolitan areas, the gap was not as large.

Your question was about a language background other than English. It does not appear to be as large, and it appears to be a little bit inconsistent, so let me explain. If you look at the results, for assessments that are predominantly about language and language use, students with a language background other than English do not do as well. But if you look at assessments of mathematics and numeracy, that gap disappears, and in fact in some cases reverses. It depends on the nature of the mathematics tests. The tests might be primarily what we call just naked numbers, and there is less language component. If they are more contextualised tests, where you have to read something in order to get to the mathematics problem, the gap is there.

The second one is that it does appear from some of the research evidence—and this goes way beyond what gets reported in these studies—that there is an interaction effect of socioeconomic background and language background. For students with a language background other than English whose parents are relatively high socioeconomic status, they actually do very well; they do better. For students whose language background is other than English whose parents are from low socioeconomic status occupations, they do not do as well.

So when we look at it overall, the language background does not show up as a big effect, but there are some variants. A lot of my colleagues who are education researchers would talk about it depending upon which language and so forth. I do not think that is as much the case as it is the interaction between socioeconomic background and language background that drives that.

THE CHAIR: So you see this as the deciding factor—the socioeconomic gap?

Dr Ainley: In my view, the socioeconomic gap is the one that is large and has endured over time.

MR HANSON: Has your data separated the ACT from the national average?

Dr Ainley: Yes. All of those reports report by jurisdiction. All of those sample surveys have reports by jurisdiction, and certainly the NAPLAN data separate out by

jurisdiction.

MR HANSON: I am not sure if you have looked at any details but, if so, have you looked at where the gaps are, where we are doing well and where we might not be doing so well?

Dr Ainley: It is relatively harder to do for the ACT because it is a small system and you are talking about dealing with a small sample of students and then dividing it up into smaller bits. What we do see is that across most of the jurisdictions the patterns of the big dimensions are roughly the same. There are some jurisdictions in which the performance of Indigenous students is relatively better than in other jurisdictions. Again, for some states, you get large confidence intervals around your estimates. For example, in Victoria, the numbers of Indigenous students are relatively small. Therefore, in sample studies you cannot be very precise. But, by and large, the patterns for the ACT do not differ a lot from those of similar states such as Victoria and New South Wales.

MR DOSZPOT: When you are making comparisons, I think the four categories you mentioned were metropolitan, rural, remote and very remote?

Dr Ainley: Yes.

MR DOSZPOT: So the ACT figures would fall into two categories out of that?

Dr Ainley: Yes, that is right.

MR DOSZPOT: Metropolitan and—

Dr Ainley: Metropolitan and provincial, but it is almost all metropolitan for the ACT.

MR DOSZPOT: So the comparisons with the other states would become quite difficult, wouldn't they?

Dr Ainley: Yes. Typically that is right; one has to be careful about that. The ACT on the NAPLAN results tends to perform fairly well compared with other states, so then one asks the question: is that about the quality of what is happening or is it about the fact that the students in the ACT are mainly from metropolitan environments and therefore have access to a range of community resources that are not available in remote areas? Is it because students from the ACT tend to come from relatively higher socioeconomic backgrounds on average than other jurisdictions? There is a series of statistical analyses that we typically do in the sample studies but have not yet done on NAPLAN that make adjustments for that and look for the net effects.

MR DOSZPOT: And the impact on that comparison for Indigenous students would also skew the results a fair bit too, wouldn't it?

Dr Ainley: Indeed. I should have said that the fact that the ACT has a relatively small percentage of Indigenous students makes any comparison with, for example, the Northern Territory a little bit—it is not that it is wrong; it is that that is the contributing factor.

THE CHAIR: But, even though we have a small population, I guess that, given what you have just been saying, the assumption is that the ACT might do better because they have access to certain programs or because of the way the system is structured, that Indigenous students presumably should be doing better, or performing even higher in a way, shouldn't they, if that is the structure of the system?

MR HANSON: In a relative sense.

Dr Ainley: Yes.

THE CHAIR: Yes, in a relative sense, so, even though it is a small population, you would expect that they would, based on everything that is part of the system—

Dr Ainley: You are touching on the sort of thing that we like to do with the data when we can, and we can do it with the large-scale sample surveys but we cannot yet do it with NAPLAN because we do not have access to that data. But it is to do with those multilevel regression analyses where you make allowance and then you say, "Other things equal, what is the performance? What would the ACT look like if its socioeconomic profile was the same as that for another state?"

THE CHAIR: Yes. Having looked through some of the information we have been provided with, one thing the data does show is that in the ACT, even though we do have fairly high achievement levels across the different areas, as that achievement goes up, the gap also increases—

Dr Ainley: Yes.

THE CHAIR: and that was largely a socioeconomic factor as well. Is that continuing along as the case?

Dr Ainley: Yes.

MR HANSON: What you are saying seems to be consistent with a lot of the evidence that we have had provided previously and that is that the socioeconomic factors are the main contributing factor. There will be other ones—it might be teachers or the individual student—but ultimately, if you want to look at the main reason there is a gap, it is the socioeconomic factors.

Dr Ainley: Yes. I probably should just clarify a bit. I was really talking about those things, about the characteristics of the individual students and what they bring to school and how they were associated. I did not actually talk, and I probably should have, about the extent to which there is variation between schools, which indicates that there is something about some schools doing better than others, because they have the same or similar characteristics of students, and seeing which of those schools, and what it is about those schools—

MR HANSON: What programs they have got or—

Dr Ainley: that do better. That is a very important part of it because it is true that not

just differences amongst schools contribute a lot; differences among classrooms contribute a lot in primary schools, so that actually gives you a powerful lever if you can understand the factors associated with that.

MR HANSON: I was certainly not suggesting that it is the only factor. Some of the evidence has shown the importance of individual teachers and headmasters, as well, as contributing factors. But, if you are talking about the standard of living essentially being a significant contributor, if you are trying to remediate that in the very long term, trying to raise people's standard of living, you are going to miss a whole heap of students if you wait for them?

Dr Ainley: Yes.

MR HANSON: So it suggests to me that if you want shorter term interventions, the sort of programs you want to target, based on what you are saying, if you want to get your bang for your buck, for want of another word, you should go for the earlier students. Every government has limited resources, so what you are suggesting from your evidence today is that if you can effect the programs early in the piece you are going to have a longer lasting effect than if you are trying to do it in year 10, 11 or 12. I am not suggesting that you do not at that end of the spectrum, but you have got to put an emphasis somewhere. Is that an accurate deduction?

Dr Ainley: We are talking about larger level inferences now, but I agree with that. That is my assessment of where, if you like, the intervention is best placed. In fact, policies of successive Australian governments and various state governments have moved to shift resources to the early years of school, and I think that is largely a correct thing to do, for the reasons that you have said, because you establish the foundation skills on the basis of which subsequent learning can be supported.

I think there is an emerging body of evidence, principally from the United Kingdom, about the importance of the immediate years before school starts—the quality of preschool education and provisions—so I think it all is part of the same characteristic: build up the students' expertise and competence in the foundation skills so that they can then develop further and benefit from other forms of learning.

The only caution I would offer is that there does appear to be an area in which some young people become disengaged with the schooling process. It is the latter years of primary school and the early years of secondary school. Therefore, I would always want to have some provision for interventions with students who are falling off the growth lines at that point.

MR HANSON: But I guess that in some ways you can be more selective because they might be easier to identify at that age as well. So if you are talking about blanket interventions it is more of a catch-all—do that early and then maybe some more specifically targeted at those later years, I guess.

Dr Ainley: I agree and I think that is what the evidence points to.

MR HANSON: Yes. That is consistent.

MS PORTER: There have been some other studies over many years, haven't there, about interventions with students from low socioeconomic areas, where it has been found that the quality of the particular teaching that you were referring to—you were saying that there are some areas, some particular schools or some particular classrooms, where children actually achieve or do not achieve in particular instances, where interventions happen with children of those particular characteristics from a particular area, where there have been huge gains with those children, and that comes down to the type and the quality of the teaching. So quality of teaching seems also to have a critical role in working with students wherever they are at. Would you not agree?

Dr Ainley: Undoubtedly, the quality of teaching and the way in which teaching is conducted are critical factors. I would suggest that, on my reading of the literature on intervention, it is probably more important where students need it most. That is, for kids of low socioeconomic background in relatively deprived areas the importance of the quality of the teaching is even greater because there is less opportunity for those children to pick up the skills, to learn the skills, from other experiences. If you have a lot of books at home and your parents are engaged in reading with you then it is less of an issue what happens in the classroom than if you do not have those resources. I agree with you; that is my reading. There have been a couple of studies that I know of that have looked at interventions in those areas.

One of the things about those interventions—and it has always been an issue in sustaining them over time—is that they often depend upon having committed people who are very much entrenched in making sure the thing happens and are in relentless pursuit of ensuring that it continues to happen. The program that I was involved in with the Catholic Education Commission of Victoria involved a lot of system level support for action and monitoring of what was happening—both monitoring of schools by the system and monitoring of individual students by the teachers and the schools so that resources were put in where the problems emerged.

MR DOSZPOT: It must be fascinating having all this data that is now becoming available and the knowledge that has been built on how to address some of these problems. You touched upon the differences between schools. You have smaller schools as opposed to larger schools and possibly smaller classes as opposed to larger class sizes. Is there a pattern emerging out of that as well?

Dr Ainley: I once had a considerable interest in the effects of school size. I have to say my conclusion would have been that it was not one of the big factors. There is an argument that small schools do better because there is closer watching and there is a greater sense of community. There is some evidence to that effect, but the size of the impact of those factors is not great compared to other things. In later years of school it is all compounded by the advantages of small school size settling around the question of knowing each other and having lots of opportunities to be involved in the school versus having a rich environment with a wide range of different activities to engage in. By and large I am not particularly convinced—though I once was—that school size is a big thing.

MR DOSZPOT: Would the particular location—the geographic location which we were talking about before, where you can have smaller schools in remote areas and

larger schools in remote areas—also have an impact?

Dr Ainley: It does. If you are doing the analysis properly, you need to make sure that you are comparing like with like. Fortunately, from a statistical point of view, in Australia there have always been a number of relatively small schools in metropolitan areas. Historically, schools grow up in particular locations, populations shift and you end up still having small schools in metropolitan areas. It is possible to look at the thing. Again, my conclusion is the effect is not a large one.

THE CHAIR: Could there also be the factor that individual students have different circumstances? Some might work better in an environment of a large school and some might work better in an environment of a small school. It is about the students themselves.

Dr Ainley: That is true. Overall, the fundamental thing comes back to the quality of the teachers and the teaching. That has a larger effect than the effect of whether it is a five-teacher school or a 70-teacher school. You touched on the issue of class size. It is interesting that this has been debated and discussed. There is probably no hotter topic in education politics. The evidence seems to be—as it was in the syntheses of a large number of studies for a long while—that the effects of class size tend to be noticed when you are operating at the very small end of class sizes. To put it bluntly, to move from an average class size of 30 to 20 does not have a big effect. To move from an average class size of 15 to 10 starts to have something of an effect.

My reading of the evidence is that that is true from what we call the meta-analytic studies done by Gene Glass Varse in the early 1980s. That is also my conclusion from the Tennessee intervention studies that were conducted in the late 1990s and early the 2000s. In Tennessee they gave a random assignment of students to classes and schools and did a very thorough design. I still think that it is when you get down into the very low end of the distribution of class sizes that you notice the effects.

The question then is: is it better to have some kids in small classes at particular stages of schooling—the early years, for example—and for particular activities? Are there imaginative ways in which you can bring about those sorts of dramatic reductions in class sizes for particular areas? It just happens that we lived in the San Francisco Bay area in 1982 when our eldest child started school. He was in a school where half the class started school at 8 am and finished at 1 pm and the other half started at 9 am and finished at 2 pm. Those two one-hour spots were when they did their reading instruction with the class reduced to half its size. That is the sort of thing where, within a range of resources, you can do that.

The other factor in class size reduction programs that I think one needs to be wary of is that in order to reduce class sizes dramatically you actually need to recruit more teachers. It sounds obvious, doesn't it? That means you may not be able to do that and maintain the standards you would want for teachers. The evaluations of the class size reduction program in California suggest that there has been a very big problem. It was mandated that schools had to reduce class sizes to particular levels. In order to do that I think the evidence is fairly clear that they recruited people for teaching spots who, in normal circumstances, they would not have recruited.

PROOF

There is a balance of how much class size reduction you go for versus maintaining the standards that you require of people entering the teaching profession. It is not a simple matter of just spending more money. There is a pool from which you can draw teachers into the teaching profession. I think class size is an issue for doing particular things with particular groups of students. Therefore, it is a matter of using your resources to achieve that where you wish to do it. I think that a blanket approach to reducing overall class sizes is unlikely to have the effect you expect, mainly because of all these complicated background factors.

THE CHAIR: Thank you. We are, unfortunately, out of time. I would just like to say on behalf of the committee that this has been extremely informative and has clarified a lot of issues. Thank you very much for giving us your time today, Dr Ainley. A transcript of today's hearing will be sent to you so that you can check its accuracy.

Dr Ainley: Thank you.

The committee adjourned at 12.15 pm.