SCHOOLS HAVE TRADITIONALLY HAD RATHER LARGE SITES AND IT IS GOOD FOR THE SCHOOL TO BE A COMMUNITY HUB. WE WOULD LIKE OUR SCHOOLS TO BE USED MORE FREQUENTLY OUT OF HOURS. MOST OF OUR SCHOOLS ARE VERY OPEN.

EDITORS’ PREAMBLE: Educators, designers, education departments and governments support innovation in school design in a variety of interconnected ways. Peter Stewart describes a key moment for Victorian schools when the state government committed to renew or rebuild every state school over a ten year period. This meant the Victorian education department was able to plan for longer terms innovation which hadn’t been possible in the past when budgets were normally from year to year. The commitment of state government funds was eclipsed earlier this year with the Federal government’s economic stimulus package. Peter describes the impact of that spending commitment and the development of templates for school facilities as a way of getting documents quickly to tender. Other points discussed in this interview include ICT, ESD and the role of research

INTERVIEW: July 31, 2009

PS: Peter Stewart, General Manager, Infrastructure Division, Economic Stimulus Plan Team, Department of Education and Early Childhood Development

TAKE 8 Peter, can we begin by talking about the role of the education department1 in the provision of education in Victoria and particularly the role of the Infrastructure Division which you manage?

PS Infrastructure is the provider of new spaces, the organisation that looks at refurbishment and the organisation that manages innovation in infrastructure delivery. It also has a role in the state budget provisions and the Economic Stimulus package2. We maintain building stock as well. We look after the lifecycle of educational facilities from the time we nominate an area where we need a new school, purchase the land, build the new school, maintain the new school until we dispose of the site when it closes.

TAKE 8 What kinds of people do you have working in the Infrastructure Division?

PS Everybody from property planning people and demographers. We have architects, engineers, contract administrators, financial people and a whole range of different groups. We also bring in people with the skills that we need at a particular time.

TAKE 8 To an outsider, the DEECD seems a complex body with many different divisions. How does the Infrastructure Division relate to some of those other sections and when do you tap into their expertise?

PS All this time we have to be very much linked into the Innovation and Next Practice area. We have to link into the regions and our stakeholders and our clients; the 1,600 schools.

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1 Department of Education and Early Childhood Development (Victoria)
2 This refers to the Federal funding initiative called ‘Building the Education Revolution (BER)’. The BER initiative was announced by the Australian Federal Government in February 2009.
We deal with those schools through the regions almost every day. We deal with the other offices such as Darrel Fraser’s Office of Government School Education everyday because things like information technology innovation are a critical part of what they are currently driving. We are trying to make sure the infrastructure we provide supports that and we talk with other areas such as our IT section that works on provision standards. Therefore, we work across all the areas from our clients in the schools into the policy and delivery area. You are right, it is very complex.

TAKE 8 What is the relationship between the department and the decisions that government make? How do the two influence each other?

PS The state government’s Labor Financial Statement was probably the most important document at the last election, which set out the pathway for the following four years. It guaranteed a minimum spend on infrastructure, which was very important for us. It gave us certainty for the next four years and set out a fairly strong commitment to renew or rebuild every school in the state over the next 10 years. It gave us an entry into a longer term planning and innovation strain which we hadn’t had in the past. In the past, budgets have normally been year to year. There was no certainty of funding and so it was a lot harder to build in a longer term innovation plan in the way we are doing now in Infrastructure. That has all been eclipsed in the last few months by the Economic Stimulus Plan which brought our state commitment of $1.83 billion over 4 years up to over $4 billion because there is now $2.5 billion to be spent in 2.5 years. That will touch every school in the state, particularly primary schools. We have 1,400 projects with significant value in most primary and specialist schools.

TAKE 8 The Economic Stimulus Plan must have had an enormous impact for the department. You had been working methodically through a process of gradual change and then the sudden influx of money could mean that perhaps there is not time for designers, educators, and the department to work together.

PS I don’t think it was as hard for us because we had been working on a number of projects for a number of years, so we probably have a five-year pedigree in the area.

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3 The Department is organised into four central offices and nine regional offices. The central offices are: Office for Government School Education; Office for Children and Portfolio Coordination; Office for Policy, Research and Innovation; and Office for Resources and Infrastructure.
By the time Building the Education Revolution, BER, was announced, all it did was to bring forward the work we would have done in the future. It has been very good for us. It has given us the extra capital to now do what we would have liked to have done over maybe a more extended period. Based on previous work we have now produced 33 different design templates. The templates, in our minds, and in the minds of others, are representing best-practice designs. We are now able to take a concept and put it into practice. That means that almost every school will have an innovative facility which means the whole role of professional development in schools, the whole role of monitoring the successes if you like of that design will be much easier because we will have hundreds of case studies out there. It also means we don’t have to think about an incremental professional design process. We can roll that out across the state because we know that in two years there will be 1,400 new library and learning centres and multipurpose spaces.

**TAKE 8**

That anticipates another question. The relationship between space and pedagogy, one would think is hand in glove. One would hope that the learning spaces accommodate the teaching methods perfectly. What you are suggesting though is that the innovative learning spaces are built and the teaching must therefore fit into those spaces. Is the innovative teaching already happening or are you anticipating that the innovative learning spaces will actually start to demand that teachers think differently about the way they practice?

**PS**

The spaces can be traditional and they can be innovative. They are designed to be flexible enough to be able to be closed up if a school preferred to move more slowly in terms of introducing new methods of teaching. It also allows a school that is already part way down the path to use those spaces for whatever they like—large group spaces or small group spaces. But you are right, it is an exceptionally large workforce. The workforce will have to undergo a whole range of professional development training to be able to best use those spaces and some people will be more comfortable in the new spaces. So the spaces have to flexible enough to allow for both.

**TAKE8**

Some would argue that the template design is a midway solution if we compare them with the Australian Science and Math’s School which has no classrooms. Could the teaching methods that are used over there be precluded by being able to divide back into classroom size spaces?

**PS**

It could be. But what you are talking about is one school which has a particular cohort of students. What we are talking about is rolling out the design templates across a range of regional and metropolitan areas and different community groups that have different expectations about what a school is. You have to create a space that can cope with the variety of expectations of the school’s community as opposed to creating a one-off school where you are almost selecting students for their attendance at the school. This is a general rollout of spaces across all schools. There is a difference between the two. We have the examples of the South Australian model in John Monash⁴ or in the select entry but again, it is drawing a particular cohort of students who are comfortable in those spaces and parents who are happy to have students in different spaces. But if you are talking about replicating that in 1,300 or 1,400 new primary schools there are a range of new issues that you have to deal with which would almost prevent them from being rolled out en masse. But maybe in five or ten years we will be there.

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⁴ The John Monash Science School is a specialist school to be linked with Monash University, Melbourne, Australia.
Originally when schools were first being delivered, policy was being driven by two aspects—teaching methods and quality assurance and accountability. From the 1960s there were other social drivers for equal access to education by disadvantaged groups or other minority groups. From the seventies economic drivers have become more important. What do you see as the factors which are currently driving change in school design?

The fundamental factor driving change is school improvement. There has been a nation-wide focus on education outcomes, and the economic drivers probably steer that in part. We want a well-educated workforce. This means getting the best out of the spaces so that students learn and the best out of delivering education into communities. We have moved away from the individual school into the concept of the network. We have around seventy regional network leaders who are working on school improvement in networks of 20 to 25 schools. They are focused on the network rather than individual schools and the pathways between early education into primary school through secondary school and into tertiary.

That suggests that schools are shifting towards being community resources, particularly in relation to lifelong learning.

You can see that community use of school facilities has gone up markedly in the past four or five years. We have hundreds and hundreds of joint-use agreements which mean that communities are using our facilities. We quite often build a community gymnasium and that is used out of hours by sporting clubs. We have at Broadmeadows, for example, places where the public come in and use libraries and they can use computer spaces for learning as well. We are seeing more examples of schools becoming community hubs and providing a range of services outside of traditional primary or secondary schools.

Is the opposite happening also where the school is using what is effectively a shared community facility? An example in South Australia is Mawson Lakes Primary School where they share a resource centre with the University of South Australia and the local community.

That is happening, but in Victoria we tend to focus on looking at the land and the available resources. Schools have traditionally had rather large sites and it is good for the school to be a community hub. We would like our schools to be used more frequently out of hours. We won’t have to move down the path as in some of the other states where vandalism has caused them to put up 2.4 metre fences around the outside perimeter. Most of our schools are very open.

In the United States and in the UK the fences are not just about vandalism but are about a perceived security issue for students. Is that going to become more of an issue in Australia, do you think?

We will try to resist it and we will try to make sure that we put in place other mechanisms to ensure the risk to students on-site is minimised. We have been successful. If you look around our schools, you will see that most schools are fairly open and are inviting. The way that the design is being rolled out now, we are putting community facilities on the edge to try and encourage people to come in. If you look at our PPP schools you will see that they all have a community flavour; they all have gymnasiums and some of them have early learning centres. They are designed so that we can bring the community into those spaces.

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5 Public Private Partnership schools. These are similar to PFI schools in the UK and PB schools in the US.
TAKE 8 Thinking about what happened in the seventies and eighties, one of the big differences is students’ access to information through computers. ICT is having a big impact on teaching methods and also on the design of school.

PS ICT has certainly had an impact on even just the standard infrastructure that you need to put into the backbone of the schools, the size of servers, the server provision, the hardwiring and the wireless networking but it is also evolving in itself because the devices themselves are changing. There is far more freedom from being tethered to a fixed connection for the network. Wireless networks are critical and are being used through the schools. We have gone well above what our normal provisions for IT are in our schools to ensure the each of our BER design templates has a higher level of IT provisions. One of the barriers we are trying to remove is the fact that we have a limited number of computer plug-in points and a limited number of computers that can connect wirelessly. Government is looking at a ratio of one to one but it may be greater than one to one if community needs are included.

TAKE 8 We have spoken about the provision of building and provision of ICT but what we haven’t spoken about the provision of informal learning within the school environments such as the school playground and school facilities for students to work in collegiate ways which are not so teacher directed. That is an area of growing interest and research and has spatial implications. Has the department in Victoria addressed those issues of informal learning particularly in the playground and how the playground might support the students more fully across their school?

PS I think we have in part but not in total. We have done a lot of work in the last four to five years on buildings and I think we are now moving outside the doors. There has always been a natural plan for indoor/outdoor areas and we have a number of covered outdoor learning areas under way. I think it is more a focus on how all spaces will be used rather than the individual outdoor learning areas which are a substitute for indoor learning areas.

"WE HAVE DONE A LOT OF WORK IN THE LAST FOUR TO FIVE YEARS ON BUILDINGS AND I THINK WE ARE NOW MOVING OUTSIDE THE DOORS."

Peter Stewart

A Sample BER Template for Victorian Schools
Image: DEECD
You have been a supporter of research and we have been beneficiaries of that with two Australian Research Council Linkage Grants in which the department has been a partner. Why have you been a supporter of research, particularly when the research happens over such a long time, such as the ARC process, and is very different to a consultancy?

I think we have an obligation in serving the government to be drivers of new research. When I joined here four and a bit years ago, it would have been very easy to have adopted what we had and to continue it forward. Interestingly enough, the documents that I saw, which demonstrated our facilities provision, were probably ones that I had seen much earlier. They hadn’t changed greatly. There hadn’t been much of a reflection on how well those spaces worked and what the requirements were going forward for those spaces. It was also four or five years ago that there was more thinking about pedagogy and space particularly through Europe and the UK with the amount of investment into education. Also people like Prakash Nair were driving people down the path of considering change. All of those innovators have enabled us to consider the future, bearing in mind these facilities are going to be there for 30 to 40 years.

You have partly answered the question about why Australia is considered to be an innovator in learning spaces but also in methods of teaching.

There are a number of people who have looked at spaces, such as Kenn Fisher. You could do something as simple as a post-occupancy evaluation but all that does is look at the building as built versus the teaching as is. What we wanted to do with the research was to look forward rather than backwards. The post-occupancy evaluation approach is an incrementally improving approach and what we needed to make was the discontinuous step or big step from where we were to where we needed to be. The design processes that we got involved in were all about unlocking the thoughts about continuing what was already there and examining what sort of spaces could be there. How could we move forward with the changes in pedagogy that were occurring? If there are changes in pedagogy that were not supported by spaces, then they would have great difficulty in introducing those spaces. We saw in a number of schools that they were actually pulling out the walls in some of the older buildings. They were experimenting or playing with space themselves. We had to provide spaces, which were flexible enough to close up or open up. The other thing I notice is that we tend to have cycles of investment and we are in that new cycle of investment into school provision. With that new cycle, it is important or incumbent on us that we are building the sorts of facilities we need for the future.
Things like introducing substantial improvement in terms of environmentally sustainable design, ESD, or IT are critical as part of that. IT is probably the more difficult one because that is moving so quickly. Whatever we provide today is out of date in a year of two. With ESD we are setting up fundamental building blocks for students and therefore for the community in the long term.

TAKE 8 Can you go into more detail about ESD setting up fundamental building blocks?

PS I am considering the reduced use of air-conditioning, introducing natural light which improves learning, looking at key ventilation levels through the spaces, looking at ways in which we might innovate to not require the use of gas or electricity for heating. We have some examples where we are using in-ground warming of the air. Looking at water harvesting, we are driving thinking into how the harvested water is best used. We are putting it into the building rather than in the field. In each of the BER design templates we are going to have an LCD screen which will show the performance of the building at different times of the day. Students will begin to understand the relationship between the design and the environment they are enjoying every day. Photovoltaic cells and solar hot water are now the expectations of students which they will take home and will probably embed in their own home lives.

TAKE 8 Peter, we haven’t spoken about the furnishing of the BER spaces. Is that part of the BER package?

PS We are commencing another piece of research on the furniture side and talking with a university and getting sponsorship from a cooperative research centre. We will be doing some detailed research work on the types of furniture that we need in the spaces, the combinations and the flexibility within the design of those pieces of furniture. That group will also include some manufacturers. I am not sure that going out to the market place at the moment will provide all of the furniture that we need for our new spaces. Given we have BER, we can probably go out and buy large numbers of pieces of equipment and furniture for those schools. Over the next two years, 1,300 or 1,400 schools will receive new innovative furniture and equipment that will go into those spaces.

TAKE 8 We have spoken about BER. It has been an amazing year—in many ways exciting but also confronting because of the rate of expansion. Our text is focused on both teachers and architects and we are trying to communicate to both groups. As a conclusion, would there be any pieces of advice that you would give either group or comments about this moment in time?

PS There is almost a tension with the rollout of BER and the interests of architects in that BER came out with guidelines that talked about templates which would suggest standardised design. We have not tried to replicate the same design across 1,300 sites. What we have come up with is a range of templates that are going to be customised for particular sites but in the period we have to roll these out, the level of customisation is restricted. We have to take them from announcement to tender within a month or two. Architects cannot react that quickly. If we had an architectural profession which could do a lot of the design development in a very intense period of discussion with clients and systems in place to be able to develop the documents for tender very quickly, we would have used architects exclusively. What we have had to do is pick a middle ground where we know we have good innovative spaces, so we have had to produce flexible designs. We couldn’t roll out 1,300 individual designs nor would it make sense. We have to work with the profession to come up with some core design templates for the future which we can then use as launching platforms for the customisation for the community. We are talking about a change in how we might be delivering our facilities into the future from the individual one-off designs into a series of bases which we will customise and make useful for the community. There is an interesting discussion and tension there. We need to work with the architectural profession to ensure that we have clients that are comfortable, a design process which is reactive and able to produce high-quality designs very quickly, and that match the innovation that can be brought in with the use of architects in these buildings.