EDUCATION, EMPLOYMENT AND TRAINING COMMITTEE

Members present:
Ms KE Richards MP—Chair
Mr MA Boothman MP
Mr N Dametto MP
Mr JP Lister MP
Mr BL O'Rourke MP
Mr JA Sullivan MP

Staff present:
Mr R Hansen—Committee Secretary
Ms R Duncan—Assistant Committee Secretary

PUBLIC BRIEFING—CONSIDERATION OF AUDITOR-GENERAL REPORT 1: 2021-22 *ENABLING DIGITAL LEARNING* (QUEENSLAND AUDIT OFFICE)

TRANSCRIPT OF PROCEEDINGS

MONDAY, 14 MARCH 2022

Brisbane

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The committee met at 9.30 am.

CHAIR: Good morning. I declare open this public briefing. I am Kim Richards, the member for Redlands and chair of the Education, Employment and Training Committee. I would like to respectfully acknowledge the traditional custodians of the land on which we meet and pay my respects to elders past, present and emerging. We are very fortunate in this country to live with two of the world's oldest continuing living cultures in Aboriginal and Torres Strait Islander people. With me from the committee are: the deputy chair and member for Southern Downs, James Lister; the member for Theodore, Mark Boothman; the member for Hinchinbrook, Nick Dametto; the member for Rockhampton, Barry O'Rourke; and the member for Stafford, Jimmy Sullivan.

The purpose of today's briefing is to provide the committee with an opportunity to examine in more detail the results of the Auditor-General's performance audit of how the Department of Education is connecting learners and staff of state schools to digital resources and online content as outlined in Auditor-General's report no. 1 of 2021-22 titled *Enabling digital learning*.

I remind everyone present that the committee's proceedings are proceedings of the Queensland parliament and are subject to its standing rules and orders. The proceedings are being recorded by Hansard and broadcast live on the parliament's website. Those present today should note that it is possible you may be filmed or photographed by the media, and images of you may appear on the parliament's website or social media pages. The media rules endorsed by the committee are available from committee staff if required. Please ensure mobile phones are turned off or switched to silent mode.

FLEMMING, Mr Patrick, Assistant Auditor-General, Queensland Audit Office

REARDON, Ms Michelle, Senior Director, Queensland Audit Office

WORRALL, Mr Brendan, Auditor-General, Queensland Audit Office

CHAIR: Welcome and thank you for agreeing to brief the committee today. I invite you to make some opening comments, after which the committee will have questions for you.

Mr Worrall: Thank you for the opportunity to brief the committee on our report titled *Enabling digital learning*, which was tabled in July 2021. Since the arrival of COVID-19 we have seen a significant increase in remote working, online businesses and online education. These trends highlight the imperative of a workforce that is proficient in using digital technologies. Innovation is important for Queensland to be nationally and internationally competitive and for our continued economic wellbeing.

To prepare students for the workforce, schools introduce digital literacy from an early age and learning is evolving to be online, self-directed and on demand. Given the increasing use of wireless access, laptops, tablets and mobile phones, learning no longer needs to occur within a school building or on a school day. For this to work well, the Department of Education needs to ensure students and teachers across the entire state have access to reliable and affordable internet services and devices in schools and at home. The department also needs to provide robust technology infrastructure.

The objective of this audit was to share key facts about how the department is reliably connecting learners and staff of state schools to digital resources and online content. We focused on three important factors. The first was student access to the internet and devices. We found that the department needs to make significant improvements in providing internet services to schools. Some students do not have access to a device. The department needs to work with schools to address this. The second was the department's technology infrastructure for connecting students and teachers to digital resources. We found that the department needs to consider its options for increasing its network capacity and its network performance. It also needs to ensure their technology can support digital learning. Thirdly, the audit looked at the department's plans and investments for continually improving internet speeds and its technology. We found that the department needs to revise its digital strategy to what is achievable in the current economic environment.

As part of the audit I updated our interactive dashboard for the education sector. The map of Queensland allows you to not only explore the financial performance of education entities in different regions but also compare internet speeds per student by region, school information technology funding and if students had access to internet and what types of devices they have access to. Along with benefits, digital technology brings risks that range from cyberbullying to online security and privacy. These security aspects were not part of the scope of this audit, but we have planned an audit of the effectiveness of cyber safety in schools in our forward work plan.

I note the committee has received an update from the Department of Education outlining their progress to implementing the recommendations. I think that update occurred last year. The committee may benefit from hearing from the department on any further updates as to progress on the recommendations. We are happy to take questions.

Mr LISTER: Thank you, Mr Worrall and your officers, for coming to brief us this morning. I notice that the report distinguishes between the best case internet being fibre and the rest. Should we interpret that literally as being it must be a fibre connection or are there other emerging technologies? My colleague the member for Theodore said to me that he has a little satellite dish that he takes out in his ute and anywhere in Australia he can get high-speed internet. Is that something valuable to consider?

Mr Worrall: I do not think we are prescribing a particular technology. I think fibre might work in a lot of settings, but there might be potential settings where fibre is not the best option depending on the cost and the nature of the setting. What we are advocating in the report is the department updating its minimum baseline of internet speed. The baseline was quite low in terms of its target. The average speeds were higher than the target, but they need to work in upgrading the infrastructure to have faster speeds and more equity around speeds and devices. They are the other things that we talked about in this report.

CHAIR: How much of that is reliant on having access to good NBN for our schools across the state?

Ms Reardon: I will expand a little bit on the previous question about fibre. It notes in the report that about 83 per cent of Queensland schools have access to fibre. When you compare that with other states, they are more towards 99 per cent or even 100 per cent on fibre. What that means— and I note that the Darling Downs is probably a good example—is that a lot of schools in that area are not on fibre. Instead they are using more satellite technology. They are getting good internet speeds, but it is not always consistent. The benefit of fibre is that it can be more consistent. If you are on a Teams meeting, for example, the freezing and pausing means that your internet speed is not consistent. That is the benefit of fibre over satellite. You might have a faster speed, but it is not necessarily as consistent, which is then a challenge for videoconferencing and that sort of thing, which is increasingly what we are seeing in the digital learning environment. NBN is one example of fibre.

CHAIR: Is one reason some schools are using satellite that they do not have access to fibre to school premises?

Ms Reardon: Absolutely. The challenge within Queensland is our very widespread locations. The areas within Queensland that do not have access to fibre tended to be the Far North and the outback. They are using alternative technologies to be able to deliver that from a cost perspective. Our recommendation was back to the department to consider: is there a cost benefit here? It might be that, given the number of students within those schools, it is appropriate to use satellite technology and that will give them what they need. It probably requires further engagement with the schools to determine the right option for them and whether it is worthwhile investing in fibre to get that.

CHAIR: They would be looking at the department and the state picking up the expense of fibre to the school which traditionally I would have imagined falls into the sphere of the federal government providing?

Ms Reardon: There is also a project that is going on within the Queensland government. If we are connecting the school with fibre technology then there are benefits for the broader community as well. You do not just consider one service within the community; you consider it more broadly because there can be other employment opportunities and things that arrive from that region having access to fibre connectivity as well. The Queensland government is certainly looking at that and what they need to invest in that space.

Mr BOOTHMAN: My question is around the department's benchmark internet speed of 25 kilobits per second. Can you explain what that allows students to do in this modern era?

Mr Worrall: Probably not a lot, I suspect, at that speed. That is a target, but the reality is better than the target I think pretty much across the board. The target is very low. We are saying that you need to strive for a better target. One of the challenges we point out in the report is: as technology continues to evolve—and we have seen it in our own lives—there is a greater thirst for faster speeds. That will obviously happen in the education space like it happens in all aspects of society.

The state will need to continue to strive for faster speeds because there will be better devices, a greater ability to crunch data and things like that. Those speeds will be required. The department needs to uplift its goals for that because the demand will be there from the students and staff for smarter devices, more speed and more data. That is a natural thing that will happen.

Mr DAMETTO: At the start of the pandemic I remember my office being contacted by a number of teachers saying, 'We've got to go online. We've got to go home.' It was funny, about two months after we had sent all of our children home and started to work from home and learn from home those same teachers were getting in contact with my office saying, 'We've got to get them back in the classroom.' It was not because the pandemic was over; it was that we did not have the required internet speed regionally. We could not support what we were trying to achieve.

I get a lot of internet and phone issues through my office, but I note it sits within the federal jurisdiction. How much more investment is necessary from the federal level to ensure regional Queensland is brought up to speed? Although kids are back in the classroom, I think it was mentioned earlier that learning is not confined to the classroom.

Mr Worrall: We did not seek to answer that question. We do not know what investment would be required by the federal government to bring the entire state up to a baseline level. What we did say is that the department itself has a strategy to uplift its own capability and capacity across the school network. They have a planned investment of $754 million over six years to uplift that. We did not seek to answer what the federal government may need to do to improve infrastructure more broadly beyond schools.

Mr SULLIVAN: Your report states that 28 per cent of students were receiving mainly paper based materials during the lockdown. Did the report cover both primary and high school?

Mr Worrall: Yes, it did. Michelle can correct me if I am wrong, but I think that data came from a survey of schools that Education Queensland did.

Mr SULLIVAN: Was there any breakdown of who that 28 per cent represented? Was that more regional students or was it more preppies and year 1s and 2s, whose work is more paper based than that of year 10 students?

Ms Reardon: I do not have the data to hand to confirm that specifically. Certainly they were anecdotally the conversations we were having with principals at the time. In that primary school environment there was a lot more paper based interaction, which is probably more appropriate at that younger level.

Mr SULLIVAN: In the last couple of years we have seen more direct parent involvement in teaching. We obviously want parents involved in schools, but personally I know way too much about year 8 maths. I think you just said that the student data is from an Education Queensland survey. Did you have any engagement or submissions from P&C peak groups and that sort of thing? Was there any input from the other end of it for that particular time?

Ms Reardon: It is an annual survey that is sent out. It goes to the parents of students, and this year it was available to the students as well from grade 4 to grade 12 to sort of answer from that perspective as well.

Mr O'ROURKE: The internet speed is 25 kilobytes per second per student in Queensland and the benchmark from New South Wales is 5,000 kilobytes. Is New South Wales achieving that level of access?

Ms Reardon: That is the benchmark. We did not look at what sort of reporting is occurring, whether or not they are achieving that, but certainly in the southern states there has been significant investment—in the hundreds of millions—in very recent years. I think the early statistics in the report talk about where Queensland sits more generally against other states. We have been falling behind, whereas New South Wales is now pretty consistently sitting at the top of the ladder in each of those years. I think that is a reflection of the investment they have put into that space and where they are sitting more generally. As to that specific education benchmark, I could not tell you whether they are actually achieving that or not.

Mr O'ROURKE: With the technology—the NBN, the fibre to the node and things like that—are we comparing apples with apples with Queensland and New South Wales?

Ms Reardon: I think we are. In terms of considering whether it is fibre or not, I think about 83 per cent of Queensland schools are on fibre whereas other schools in New South Wales are at 99.9 per cent on fibre. For those ones I think we are comparing apples with apples. That said, our internet speeds are only as fast as our slowest point. We have the arrangement that we are purchasing internet through our carriage provider; there is then the infrastructure that is at the department and then also the infrastructure at the school. Depending on how much they have been invested in recently, at each one of those the slowest point will be our fastest internet speed. There are a few different factors that go into that as well.

Mr Worrall: I think geography comes into it as well. We all know that we are the most decentralised state on the continent and we are the second largest state, so we have a lot of territory to cover even compared to New South Wales. If you then look at Victoria or South Australia, South Australia's population is very concentrated just around Adelaide and Victoria is not very big. There are natural disadvantages when we are talking about fibre as well because of the distance and because we have large regional populations up and down the coast and in cities like Toowoomba, so it is not exactly the same sort of make-up as New South Wales or another state. That probably comes into play a bit.

Michelle also touched on that digital government readiness progress, and that is table 2B in the report. Michelle made the comment that Queensland has been losing ground over the years. In July 2016 the No. 1 state ranked was New South Wales, with a score of 9.4; No. 2 was Queensland, with a score of 7.4. Progressively, Queensland has sort of started to lose its spot. The most recent was January 2021—I think it was most recent at the time we published the report—where New South Wales had gone from 9.4 to 9.8 in terms of digital readiness and Queensland had gone from 7.4 to 8, so we had improved our digital readiness over that time but we had not improved it at the same rate as other states. Whereas New South Wales is top at 9.8, Queensland is actually ranked eighth. Our readiness has gone up, but not at the same rate as the readiness of the federal government, New Zealand, ACT, South Australia, Victoria and NT. They have all climbed. They have all improved at a faster rate; that is what has happened over that five-year period.

CHAIR: I think you pointed to the fact that geography is a major barrier here in Queensland. I will go back to comparing apples with apples. There obviously is disparity in terms of our challenges and constraints in delivering where we do not have that fibre to the network in the first instance, so when comparing you actually need to look at what access other states have in their networks compared to what Queensland does as a decentralised state.

Mr Worrall: You can probably see that in those numbers. In January 2021 the bottom state is actually Western Australia. Again, it has a concentrated population in the south-west but it still has communities. Those distances are massive so I suspect it faces a similar challenge, but it is even more exasperated because it would not even have half the population of Queensland.

CHAIR: It would be reasonable to suggest that that plays a substantial part when you look at rankings and when you are doing a comparison to other jurisdictions.

Mr Worrall: Yes.

Mr LISTER: When I look into the dark recesses of my memory, I seem to remember a report that you did on shared services and the potential for efficiencies and better service provision. Do you see—particularly in the context of IT hardware, laptops, tablets, modems or whatever at each school—there being a shared service for the provision of the item, the through-life support and the disposal on renewal, not just for Education but also for other Queensland government users in those locations? I ask that because in my electorate, for instance, where there is a school that might have an isolated connection there has also been a police station and there might be a QGAP office or something like that. Is there value in that—considering the scope and value of what we are talking about—in terms of this equipment?

Mr Worrall: I think Michelle alluded to some of that earlier when she said that, in terms of increasing capacity to schools, it is probably not just about schools. I think it is about increasing capacity not just to other Queensland government service providers in those communities but to the communities generally. I think that sort of makes sense. If you are going to do something, just do not do it for the school but bring the community along as well. In terms of this report, we did not really contemplate shared services in terms of the provision of some devices and things like that. We do say in the report that—Michelle can correct me—maybe a quarter of the devices were actually home provided as well. I think you should not really discount that as a legitimate way of delivering devices in the world that we live in, because I think most kids from maybe 11 or 12 probably have their own

mobile phone. It would make sense that there are some apps on that phone that they can use for education purposes, rather than the state having to provide a phone for that purpose. That is probably part of the answer.

As I said, we did not contemplate shared services in this context, but I do remember that report because it was issued about four years ago. The report sort of highlighted that around shared services there probably needed to be more of a framework for government to get more benefit out of shared services. I think you mentioned QGAP. That is just one aspect. That is really just a physical shopfront that people can go to, but there are probably other opportunities around shared services and the digital economy and digital service provision that could be better explored. As you have suggested, maybe there is an opportunity to get more out of infrastructure in communities beyond the education bit. We did not go there, but it is an interesting concept.

Mr BOOTHMAN: During your investigations did you find a minimum kilobits per second that would be suitable for learning environments as an average; for instance, to do videoconferencing or interactive software online?

Mr Worrall: Yes, we did. I think there is a table in the report, table 3B, which is the set recommended download speeds: online learning, 250 kbps; email and web browsing, 500 kbps; to download one megabyte of digital book in 5.3 seconds you would need 1,500 kbps; high-definition quality video streaming—which I guess is sort of like your Teams type environment—4,000 kbps; Skype group video session, seven to 10 people, 8,000 kbps. You can see that as the delivery gets more demanding and more sophisticated you need higher kbps.

Mr DAMETTO: From your investigations while putting the report together, do you believe we are keeping up with our infrastructure upgrades in our education system to keep up with technological advances and the demand on services?

Mr Worrall: I think I would probably come back to table 2B, where we have improved. We went from a 7.4 score in 2016 to a score of 8 in January 2021, so I think the capability has improved; otherwise that score would not be there. The state has a sizeable investment that I mentioned earlier over that six-year period, that $758 million I think it was, but I would still come back and say that other states presumably have been investing at a faster rate over the five-year period of that survey. I cannot comment about whether that planned investment will lift us up through the ranks or just maintain us. I do not know if Michelle has anything to add.

Ms Reardon: Just reflecting on the particular challenges that are being faced in this space, when you think about the way that education and learning have changed over even just the last five years, it is really a significant change. The ability to learn online on demand is just expected now, whereas I do not think that was really the case five years ago. While for a period of time we have been continuously investing, all of a sudden it is a whole new strategy. The department certainly had a digital strategy in place and could see this coming, but it is now at that point where they need to revisit that strategy again, and I understand that is what they have undertaken to do.

Mr Worrall: The experience over the last two years has probably turbocharged all of this in terms of expectations about digital education delivery in schools, no matter the age of schoolkids. I think the technology was there. As we know, in our everyday lives everything has been amped up over the last two years in terms of expectations, so I think there is probably a need for accelerated investment. It will be interesting when the next rounds of studies come through whether investment across various jurisdictions is sped up as a result of the last two years.

CHAIR: Absolutely. It would be very fair to say that COVID has made us far more agile, adaptable and nimble when it comes to digital technology. I know that with the schools on the ground in my space we are all very rapid in mobilising to deliver a curriculum across the board.

Mr DAMETTO: I guess it is not just the education department that is driving this; it is also external forces not even in our own country that are developing these data-hungry applications, these data-hungry platforms that we are using. I guess that is the reason we get a number of calls coming through to our office saying, 'We had better service 10 years ago or five years ago.' Well, we were not chewing so much data five to 10 years ago, so I completely understand where you are coming from there.

CHAIR: I thought you might have been talking about TikTok in terms of its application, member for Hinchinbrook!

Mr SULLIVAN: I cannot top that, Chair! I have a question in relation to the department's internet capabilities at the height of the pandemic. I understand that a lot of material the department developed was obviously shared by schools, individual teachers and individual families. I also understand,

though, that some other jurisdictions used or replicated a lot of our work that we had done because we did it so quickly. Is that under consideration as to whether that draws on Education Queensland's internet capacity or its ability to share that information?

Mr Worrall: I am not really aware of that. If you go back around two years ago, when the lockdown started, across not just education but all industries there was a bit of a scramble to adapt. Education, like other sectors, had that initial scramble, but that scramble was not a long scramble by any means. During subsequent lockdowns I suspect there was probably very little drop-off in delivery, that they were able to go from just physical learning to online learning. That sector probably coped just as well as any other sector in that transition. Everybody was caught off-guard at the start but quickly came up with workarounds. You are right: some of those initial workarounds in different sectors were not great. We have all probably experienced a bit of that. I think this sector coped as well as any other sector. That would be my impression.

Mr SULLIVAN: My impression is that Education did a fantastic job, both at a principal and leadership level and at the level of individual teachers, who did what they needed to do because they wanted to make sure the kids got their education.

Mr Worrall: When you put it in the context of how big that organisation is, how many schools there are and how dispersed they are across the state, being able to respond is quite a task.

CHAIR: Parents did an amazing job, too, picking up very quickly.

Mr O'ROURKE: I do not know if you would be able to answer this question—I have limited knowledge of the network requirements behind the scenes—but with the increase in streaming of online material, is there still plenty of capacity within the fibre network for advancements?

Ms Reardon: My understanding is that that is limited to an extent by whatever contract the department has entered into. Obviously if you are entering into a contract at 25 kilobits per second, that is what you will get. Individual schools were purchasing individual capacity. That then increased their internet speed and download ability. I believe that the department has just recently entered into a new contract which will therefore increase the capacity across the state. We will be looking to gather that information and update our online dashboard that shows those internet speeds for each region in our Education 2021 report and dashboard. In terms of the capacity, I understand it is there. Again, it is dependent on the slowest part of your own arrangements.

Mr BOOTHMAN: You briefly mentioned that the internet is as slow as the slowest point, which is certainly logical. The South-East Queensland area obviously has some schools which are not fibre connected. How are they connected? Is it through wireless? What type of technology is it? What type of speeds are they getting?

Ms Reardon: For example, in the Darling Downs area they are using things like satellite technology. Oftentimes you will have different types of technology that you can use, but you might then purchase a certain arrangement for a school. This then reflects the speed per student within the school. Some of the Darling Downs schools have only 10 students within the school. If you purchase the same capacity as another school that has 100 students, the rate per student will appear much higher for those Darling Downs schools because they have a smaller number of students in those schools.

Mr BOOTHMAN: The department as a whole does not do the purchasing; it would be individual schools? Therefore, you do not have the purchasing power of the whole department?

Ms Reardon: They are leveraging the purchasing power of the whole department, but individual schools can also choose to upgrade their access depending on their needs.

Mr BOOTHMAN: Why would we not use the purchasing power of the department? Why would a school go off and do its own internet, so to speak?

Ms Reardon: It depends on the needs of the individual school. If they feel like they are not getting the speeds that they need, they can then go through the department and leverage additional capacity within the network.

Mr Worrall: I think what Michelle is saying is that there is a baseline of service set by the department and they leverage their purchasing power to bring that about. Michelle is saying that individual schools can then seek to go over and above that, if that is what they want to do.

Mr BOOTHMAN: In other words, the baseline of 25 kilobits per second is just not adequate?

Mr Worrall: The 25 is still the target, and we are saying the target needs to go up. I think 1.9 per cent of school sites would only have up to 25 kbps. That is, 2.3 per cent of students have only that speed. The report at table 3C lays out the various speeds in different bandings and the

percentage of students getting that speed. The reality is that only 2.3 per cent are getting 25 or less. It is not great but, conversely, 97.7 per cent are getting above the standard. Clearly, the standard is out-of-date.

Mr Flemming: In the report we make the comment that during the lockdown period the department upgraded the internet speeds for 118 different schools, but once that was over they asked those schools to purchase that additional, upgraded internet for themselves. They could go back to their baseload or they could purchase. Some 57 per cent of those decided not to do it, because they had to pay for it themselves. The others kept that upgraded level.

CHAIR: That works similarly in terms of when you are talking about devices as well—that schools often self-determine the needs based on their school community. The department provided some pretty comprehensive responses, particularly to that issue, to the report around that upgrade. Did you have any further comments on the department's advice back to us in terms of their action plan?

Ms Reardon: No, I think that was appropriate. I think the thing to note in their recent correspondence is that they have changed that benchmark now to 1,000 kbps, which is obviously a significant improvement. I believe they have recently awarded a contract that was cognisant of that target. We will be looking to see how they are actually tracking against that in our next report.

CHAIR: Terrific. Thank you very much for sharing all of that information with us today. We know how much digital technology continues to influence the way we live every part of our lives— from our schools to our homes. That concludes today's briefing. Thank you to the Auditor-General and officers for the information you have provided today. Thank you to Hansard and the broadcasting staff. A transcript of these proceedings will be available on the committee's inquiry webpage in due course. I declare this public briefing closed.

The committee adjourned at 10.09 am.