One-to-one laptop program: Effect on boys' education

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CHAPTER 6.
Findings: Parent Perceptions

6.1 Introduction

Chapters Four and Five focused on the teacher and student participants’ views about the 1:1 laptop program. This chapter discusses parent perceptions. The discussion will focus on: (a) parent knowledge and use of computers; (b) time their son(s) spent using laptops; (c) views about student learning; (d) perceived impact on learning, engagement and motivation; and (e) monitoring laptop use. The emphasis of Chapter Six, is to examine critically parent data in relation to research question four: “What differences can be identified between junior and middle school implementation experiences in regard to research questions 1, 2, and 3?” However, the chapter also seeks to provide confirming/disconfirming evidence to deepen understanding of student and teacher perceptions of the 1:1 laptop program.

6.2 Parents’ Perceptions of the 1:1 Laptop Program

The introduction of the 1:1 laptop program had a significant impact on parents. Parents perceived a distinct shift in the learning paradigm at the School, and this change in learning was met with some conjecture in respect to how 1:1 devices impacted on learning. This section explores parents’ perceptions of the 1:1 laptop program starting with some background on their own ICT use.

6.2.1 Parent background information

Parents from both cohorts were asked to respond to the annual questionnaire for each of the three years of the study. At the conclusion of the first year questionnaire, themes pertaining to laptop use, gaming and inappropriate use of laptops arose as previously discussed in section 3.6.5.1 of Chapter Three (Methodology). Subsequently, additional items were added to the second year parent questionnaire; with no changes to the parent questionnaire in the third year. Table 6.1 shows the response rates for parents.
Table 6.1

Participant Response Rate for the Annual Parent Questionnaire

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Inception #</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Cohort A</td>
<td>62.5 (n=35)</td>
<td>87.5 (n=49)</td>
<td>80.4 (n=45)</td>
<td>82.1 (n=46)</td>
</tr>
<tr>
<td>Parent Cohort B</td>
<td>52.9 (n=72)</td>
<td>77.2 (n=105)</td>
<td>72.1 (n=98)</td>
<td>75.7 (n=103)</td>
</tr>
</tbody>
</table>

Note. Inception # = In the first year of data collection an initial data collection phase instituted at the commencement of the 1:1 laptop implementation (March / April).

Parents from both Cohort A and Cohort B were asked to respond to Item Nine of the annual questionnaire: “What computing platform do you use each day?” In the second year of the study, Item Nine was introduced to investigate whether parents’ preferences for ICT might influence how students’ use their laptops. Figure 6.1 shows the percentage of parent participants using their nominated platform.

Figure 6.1. Computing platform used by parents (Cohort A and Cohort B) for the second and third years of the study.

Parents from both cohorts predominately used a PC in both the second year and third year. However, there was an increase of 6.1 and 4.2 percentage points in the Mac computing platform for both Cohort A and Cohort B parents respectively.
between the second year and third year. Some parents were interested in finding out more about the Mac platform in order to support their son:

We were trying to work out what we could do so we went out and bought all Mac so we could actually understand the Mac system, and that’s what happened to our house. (Parent Forum Year Three)

The introduction of the Mac platform at the School had shown signs of penetration into the families of the students. Parents were prepared to familiarise themselves with the Mac platform.

6.2.2 Parent ICT competence and perceptions of student use of laptops

Parents from both cohorts were asked to respond to the Likert-type scale in Item Six of the questionnaire for their own knowledge and use of computers as either: non-user, novice, intermediate or experienced. Table 6.2 displays cross tabulations of these three knowledge groups with Item One of the questionnaire: ‘To what degree do you think that laptops are used in your son’s school?’

Table 6.2
Cross Tabulation of Item Six of the Parent Questionnaire, Parent Knowledge and Use of Computers with Item One, Laptop Use at School

<table>
<thead>
<tr>
<th>Type of user</th>
<th>Item 1 - To what degree do you think that laptops are used in your son's school?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very little</td>
</tr>
<tr>
<td>Novice</td>
<td>3.9%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>0.5%</td>
</tr>
<tr>
<td>Experienced</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Note. The data above was available only in the second and third year of the study.

Most parents (64.4%) indicated the laptops were being used the ‘Correct amount.’ Nearly a quarter of parents (22.6%) stated that laptops were being used too much. Of the three groups of parent users, the novice group recorded the highest percentage in the ‘Don’t know’ option (11.8%). The data suggests that parents with lower than average ICT knowledge and skills are more likely to feel uncertain about
their son’s laptop use at school and therefore perhaps more disconnected from their son’s learning.

Parents in the study were to a large extent, unaware of how laptops were used in classes for learning. However, many indicated that their sons used the laptop for a range of activities at home mostly involving social media, gaming and music. Most parents and educators are keen to make good educational use of ICT to improve student engagement and learning (Selwyn & Husen, 2010).

Figure 6.2 shows the annual mean scores for parent views about the extent of time their son’s spent using laptops whilst at the School. Parents from both Cohort A and Cohort B recorded a three year mean score of 4.0 ± 0.1 by consistently ticking the ‘The correct amount’ option.

Figure 6.2. Mean responses by parents to Item one: To what degree do you think laptops were used in your son’s School.

Figure 6.3 presents the mean scores for parents in both Cohort A and Cohort B relating to the amount of time their sons used laptops at home for school work. Cohort A recorded a three year mean score of 3.5 ± 0.2, whilst Cohort B recorded a higher mean score of 3.8 ± 0.1 (Ind. Samples t-test, p < 0.01). The mean scores for these three years indicate a gradual and statistically significant increase in the frequency in which both cohorts used their laptops at home (One-Way ANOVA, Cohort A: p < 0.05, Cohort B: p < 0.01).
Judgments pertaining to the amount of time students spend on learning tasks that involve ICT are subjective. What is “too much” for one parent may be “not enough” for another. However, qualitative data from the parent questionnaires reveals positive and quite sophisticated understandings of the 1:1 implementation:

The current laptop program complements the school curriculum and provides the students with more opportunity and access for research and information gathering. (Parent Cohort A, Second Year)

The 1:1 laptop program has provided a range of opportunities for my son to access greater amounts of knowledge and in turn, help with his understanding in a range of learning areas. (Parent Cohort B, Third Year)

Item Four of the parent questionnaire required parents from both cohorts to rate their son’s ability using a laptop. A Likert-type scale of 1 (Poor), 2 (Fair), 3 (Competent), 4 (Very good), and, 5 (Outstanding) was used.
Parents from both cohorts indicated their son’s were ‘very good’ in terms of their ability of using their laptops. Cohort A recorded a three year mean of 4.0 ± 0.1 and Cohort B recorded a three year mean of 3.9 ± 0.1. As seen above in Figure 6.4, both cohorts recorded little change in each year of the study (however this increase was not statistically significant in either cohort).

6.2.3 Parent views about student learning

Item five of the parent questionnaire asked them to gauge the extent to which they agreed with a range of statements about their son’s education at the School. These were in the form of 25 Likert items, part of a Likert-type scale: 1 (Strongly disagree), 2 (Disagree), 3 (Don’t know), 4 (Agree), 5 (Strongly agree). Independent samples t-Tests were conducted for each of the 25 Likert items to determine any statistical differences between parent perceptions from Cohorts A and B. Difference of the mean for thirteen of the Likert items were statistically significant and are now discussed in more detail.

Figure 6.5 shows the mean scores for Item Five (d): “My son is usually assessed on the work he does rather than by test and exams.” Cohort A recorded a three year mean score of 3.5 ± 0.1, significantly greater than that of Cohort B, 3.2 ± 0.1 (Ind. Samples t-test, p < 0.01).
Figure 6.5. Mean responses by parents to Item five (d): My son is usually assessed on the work he does rather than by test and exams.

These mean scores are low considering that one of the reasons for the School introducing a 1:1 laptop program was to customise learning tasks using ICT. Parents for Cohort A generally chose between the options of ‘Don’t know’ and ‘Agree’, whereas parents from Cohort B mainly resonated with the ‘Don’t know’ option.

Figure 6.6 shows the mean scores for Item Five (i): “Laptops are used at school to help my son to do work faster, more accurately or better in some way.” Cohort B increased between the first year \((3.3 \pm 0.2)\) to third year \((3.6 \pm 0.2)\).
Figure 6.6. Mean responses by parents to Item Five (i): Laptops are used at School to help my son to do work faster, more accurately or better in some way.

The steady increase in mean scores for Cohort B demonstrates an improvement about how ICT was being used. Parents perceived that laptops made their sons more efficient and productive:

I thought the laptop was challenging them with many different things through the different projects and school related tasks. The boys were doing lots of stuff, and they didn't even really realise that they were becoming more efficient in completing these tasks by using their laptops. (Parent Cohort A, Third Year)

This view held by parents indicates improvements in digital literacy skills. Digital literacy is discussed in Chapter Eight.

Figure 6.7 presents the annual mean scores for Item Five (m): “My son often seeks ideas from others at school or home.” A three year mean of 4.0 (Cohort A) and significantly lower 3.6 ± 0.1 (Cohort B) were observed (Ind. Samples t-test, p < 0.01). Parents from Cohort A generally agreed with the item.
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**Figure 6.7.** Mean responses by parents to Item five (m): My son often seeks ideas from others at school or home.

Figure 6.8 displays the mean scores for Item Five (n): “My son often does work in groups in class.” Cohort A recorded a three year mean score of 4.0 ± 0.1 and Cohort B, 3.7 ± 0.1, significantly lower (Ind. Samples t-test, p < 0.01).

**Figure 6.8.** Mean responses by parents to Item five (n): My son often does work in groups in class.
Cohort B mean scores decreased between the first year (3.9 ± 0.1) to third year (3.6 ± 0.1) indicating a significant (One-Way ANOVA, p < 0.01) decrease in parent perceptions of the amount of collaboration in class. This diminution could be linked to middle school curricula or approaches, which emphasize more individualistic tasks in contrast to junior school classrooms.

Figure 6.9 shows the mean scores for Item Five (o): “My son often has work specially organised for him.” Both Cohort A (3.0 ± 0.2) and Cohort B (2.5 ± 0.1) recorded low three year mean scores. The difference between the cohorts was statistically significant (Ind. Samples t-test, p < 0.01).

Another rationale for introducing laptops at the School was for the purpose of tailored learning for students; however, the data suggests that tailoring learning did not eventuate to any great degree. Both cohorts of parents were not convinced laptops provided their sons with work specially organised for them. Cohort A, who were in a junior school setting for the first and second year, experienced a consistent and significant (One-Way ANOVA, p < 0.01) decline in mean score from the first year to third year. The transition from junior to middle school indicates parents believed there was less work specially organised for their sons in a middle school setting.
Figure 6.10 shows the mean score for Item Five (p): “The School provides my son with plenty of opportunities to use his laptop.” Parents from both Cohort A and Cohort B in the main agreed with this Likert item recording respective three year mean scores of 4.2 ± 0.1 and 4.0 ± 0.1. These data suggest that parents believed the School provided adequate opportunities for their sons to use their laptops.

![Graph showing mean responses by parents to Item Five (p): The School provides my son with plenty of opportunities to use his laptop.]

**Figure 6.10.** Mean responses by parents to Item Five (p): The School provides my son with plenty of opportunities to use his laptop.

Figure 6.11 shows the mean score for Item Five (q): “The School gives me plenty of information about what my child is expected to do with his laptop.” The three year mean score for Cohort A was 3.5 ± 0.2 whilst Cohort B recorded a significantly lower mean score of 2.9 ± 0.1 (Ind. Samples t-test, p < 0.01).
Figure 6.11. Mean responses by parents to Item Five (q): The School gives me plenty of information about what my child is expected to do with his laptop.

These results show stark differences between Cohort A and Cohort B on the provision of information about the expectations of using laptops for learning. Parents from Cohort B (middle school) were mainly situated in the ‘Don’t know’ option whereas parents from Cohort A tended towards the ‘Agree’ option. There are undoubtedly opportunities for the School to enhance the provision of information about what students are expected to do when using laptops for learning.

Figure 6.12 shows the mean score for Item Five (r): “The laptop program has given my son the opportunity to become more creative.” The figure shows three year mean scores of $4.1 \pm 0.1$ for Cohort A and $3.7 \pm 0.1$ for Cohort B, significantly lower (Ind. Samples t-test, $p < 0.01$).
Parents from both cohorts believed their son’s creativity had improved since the implementation of the laptops. The following excerpt from a Cohort B parent participant is an example of this view:

I think one of the other things it does do, you could say it’s lower order, but it’s actually valuable, is to be able to convey their creative side. Whereas perhaps on pen and paper they wouldn't be able to do that. If you give a presentation like an iMovie and then embed that within PowerPoint or even some other form, then you bring over the top a music track and maybe the text, that’s a fairly complicated array of skills, and they’re doing that now. Their creativity has definitely improved. (Parent Cohort B, Second Year)

Improvements in students’ creativity may be an unplanned outcome of the 1:1 laptop implementation as the School did not either assess or report on creativity. There may be opportunities for schools to capture creativity outcomes both in multimedia and in the use of ideas and words, by developing assessment instruments and reporting methods explicitly targeting this construct.

Figure 6.13 presents the mean scores for Item Five (s): “The laptop program has given my son the opportunity to become more inquiring.” Cohort A recorded a three year mean score of 3.9 ± 0.1 and Cohort B, 3.6 ± 0.1.
Figure 6.13. Mean responses by parents to Item Five (s): The laptop program has given my son the opportunity to become more inquiring.

Whilst their son was in the Junior School, the following excerpt from the second year Cohort A parent forum reflects this increase:

I feel that my son now has the ability to access more information than previously. He was reluctant to go to the library whereas now he just searches the information. It is as if his knowledge levels in a range of areas have improved, whereas previously he was reluctant to find out information. (Parent Cohort A, Second Year).

These results indicate that information retrieval could be an area of knowledge/skill deficit that may need remedy as students enter middle school.

Figure 6.14 displays the mean scores for Item Five (t): “The laptop program has given my son the opportunity to become a more active citizen in our community.” Both Cohort A (2.9 ± 0.2) and Cohort B (2.5 ± 0.1) recorded low three year mean scores.
Figure 6.14. Mean responses by parents to Item Five (t): The laptop program has given my son the opportunity to become a more active citizen in our community.

The low mean scores seem to be at odds with one of the core values of the School, being service to others. The School, which is part of the Edmund Rice ministry, connects with various community and international organisations. However, mean scores from both cohorts indicated that parents did not think laptops were being used by their sons to become active citizens within the community.

Figure 6.15 shows the mean scores for Item Five (u): “My son spends too much using his laptop for gaming.” A three year mean score of \(2.9 \pm 0.3\) was recorded for Cohort A and \(3.4 \pm 0.2\) for Cohort B.
Figure 6.15. Mean responses by parents to Item Five (u): My son spends too much using his laptop for gaming.

As discussed in the methodology chapter, Item Five (u) was introduced in the second year of the study as a reaction to parent concern about excessive gaming taking place on laptops in the first year.

Figure 6.16 displays the mean scores for Item Five (v): “My son uses his laptop to access inappropriate sites.” Parents from both cohorts recorded low mean scores, with Cohort A recording a two year mean score of $1.9 \pm 0.2$ and Cohort B, recording a mean of $2.2 \pm 0.1$. 

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Parents from both cohorts expressed their concern at the Parent Forum at the conclusion of the first year about their son’s capacity to access inappropriate sites. The following excerpt provides an example:

I am concerned about the accessing of age inappropriate sites by my son. He tries to tell me that he can go on Facebook and view some of the content on YouTube. Pornography is another area I am concerned about because of the ability or temptation now that he has his own laptop (Parent Cohort B, First Year)

However, since the introduction of e-Safe monitoring by the School parents were evidently more comfortable with the School’s risk management approach and most did not believe their son was accessing inappropriate sites. The introduction of monitoring strategies by the School network was part of a committed approach by the School to ensure the safety of the students. The School was also dedicated to the objective of educating the students about ethical use of ICT.

Figure 6.17 shows the mean scores for Item Five (w): “When doing assignments my son has a cut and paste mentality when using his laptop.” Cohort A recorded a two year mean score of $2.7 \pm 0.2$ and Cohort B, recorded a mean of $2.6 \pm 0.1$.
Most parents from both cohorts tended to disagree with this statement. The quantitative data seems at odds with qualitative data collected at the third year Parent Forum, where parents from Cohort B expressed their concern about a cut and paste mentality:

The only one thing that really concerns me is the cut and pasting, because, I mean, we used to do it with a pen, you’d copy it out and just when I read some of their assignments I’m thinking, wow, that’s good, but I realised, because my wife says, ‘Oh, that’s cut from there, and that’s pasted there.’ So I suppose it’s no different from when we were at school, you know, a bit of plagiarism or whatever, it’s just a different format. (Parent Cohort B, Third Year)

It is interesting that parents admitted to plagiarizing when they were at school. On the one hand, it was a concern, but on the other, if parents were aware their children were cutting and pasting when completing assignments, they could at least do something about it.

### 6.2.4 Parent views of the impact on learning, engagement and motivation

Parents who perceived that their son spent too much time on the laptop were often critical of the types of activities in which their son engaged. A few parents reported an “obsession” with non-school related activities, for example:
My son is obsessed with using his computer purely for non learning activities, Facebook, games, and communication. He always hides behind his laptop. He must learn or do some work but instead plays and communicates hours on end if he could. (Parent Cohort B, Inception)

This comment is indicative that some parents were concerned with their son’s off task behaviours when they should have been using their laptops for learning. Perhaps, one of the reasons why some parents felt alienated from their son’s education, as a result of the 1:1 laptop implementation.

Gaming in particular was an ever-present concern across the two cohorts. The parent questionnaire included an open ended qualitative question (Item 18: ‘Do you have any comments about the program? If yes, please comment’). Parents used this item to share their views about gaming and the types of distractions linked with laptop use at school and home:

Need to make sure boys have no access to gaming. They are clever, not just them in particular, their friends are clever too or big brothers. They seek ways of getting onto gaming sites where parents do not know if it is a gaming site. (Parent Cohort A, Second Year).

I feel that there is too much distraction created by the laptops in class. I am continually told by my son about boys playing games, and mucking around on their laptops instead of listening and working. (Parent Cohort B, Second Year)

This concern is consistent with research from Kerawalla and Crook (2002) who found that computer gaming took priority over students writing, drawing and completion of homework. Parents were also aware that the laptops were used to investigate and present information but were concerned about the depth of research and the ability to complete handwritten tasks. For example:

Students should spend less time worrying about the appearance as opposed to the content. Teach kids how to research ethically and move away from cutting and pasting large volumes to complete set tasks. (Parent Cohort A, First Year)

I am concerned that my son’s ability to handwrite has slowed down to a detrimental level. He found himself unable to complete his NAPLAN English writing assessment. It concerns me that he may not be practising handwriting enough. Whilst exams are still to be handwritten, the boys need to practice this skill as well. (Parent Cohort A, First Year)

This feedback indicates that parents were concerned about the depth of learning taking place. There was also a consistent view of the importance of their
son’s ability in handwriting, particularly for tests or assessments, which did not require laptops.

The introduction of the laptop program changed the teaching and learning dynamics in the classroom. Teachers moved from being a teacher to more of a facilitator. With this shift, teachers were required to deal with issues arising from an increased temptation for students to be off-task. Interviews and classroom observations that took place in the three years of the study indicated there was some off-task behaviour that was not only being noticed by parents, but also by students:

I think the laptop program is great, and I think it enhances our learning each day. At times, we do take short cuts, and it creates sloppiness in our work when we want to play games and do things like Facebook instead of doing my homework. (Student Cohort B, Second Year)

Parent feedback tended to focus on their disconnect with the digital medium where they perceived that they were not keeping up with their son’s use of ICT. The main concern shared by parents was a lack of clarity in schoolwork use on laptops and to what standard? Parents, particularly from Cohort B, also felt that it was hard to understand where their son was at in relation to their overall understanding of the curriculum, for example:

I would like my son to have access to hard copy manuals, like it used to be, so I can have a better understanding of the overall material related to a subject, and I can work with him to consolidate the concepts done at school. The practice of having all homework and manuals electronically available only is severely limiting my capacity of understanding the overall picture of where my son is in a subject matter. (Parent Cohort A, Third Year)

I see far less of what he is doing in respect to homework and assignments. Much of the work is supposedly done at school. It is more difficult to monitor his progress with homework and progress on assignments. (Parent Cohort B, First Year)

I would like to see regular (maybe one or two times a year) information sessions regarding the laptops and how they are being used for lesson work. I feel that I don’t have the same ‘hands on’ knowledge about what my son is doing now that it’s all done on a laptop. … I feel rather ‘distant’ to his learning in this regard though. (Parent Cohort B, First Year)

These views further reinforce the theme that some parents felt a sense of detachment or alienation with their son in using the laptop including the extent to which it impinges on their home life:
We feel that the use of a laptop for our son’s school work has alienated us as parents from following our son’s progress through his subjects, homework and achievements. We have found it very difficult to monitor the Internet use of the laptop at home and in our circumstances, it has become more of a distraction than an aide for learning at home. (Parent Cohort B, Third Year)

This sentiment indicates that the device itself has an inherent potential to form a barrier between parent and student. This is consistent with the results of a study of 400 Australian parents (Green, Brady, Olafsson, Hartley, & Lumby, 2011) which found that 55% of parents felt they needed to do more in relation to their child’s Internet use. The views expressed by parents reinforce the underlying theme of parent alienation or a ‘digital divide’ with their son. This alienation is discussed further in the Chapter Eight, Discussion.

At the conclusion of the second and third years of the study, parents were asked to indicate the level of change they had witnessed or experienced since the introduction of the 1:1 laptop program. A Likert-type scale, divided into three types of impact: ‘negative’, ‘no impact’ and ‘positive’, for Item 12: “Impact on your son’s learning since the laptop program”, as shown in Figure 6.18.

\[
\text{Figure 6.18. Mean responses by parents to Item 12: Impact on son’s learning since having a laptop.}
\]

Overall, Cohort A parents perceived a fairly positive impact, recording an overall mean of 1.7 ± 0.3. In contrast Cohort B recorded an overall mean of 1.1 ±
Parents in Cohort A were more positive about their response to the impact on learning since the implementation of the laptop program.

Similarly to change in learning (Item 12), parent participants were asked to respond to the same Likert-type scale for Item 13: “Impact on your son’s engagement (towards learning) since he received his laptop” as seen in Figure 6.19.

![Figure 6.19. Mean responses by parents to Item 13: The impact on your son’s engagement (towards learning) since he received his laptop.](image)

Parents in Cohort A recorded an overall mean of 1.7 ± 0.3, whilst parents in Cohort B recorded a mean of 1.1 ± 0.2, significantly lower (Ind. Samples t-test, p < 0.01). Parent perceptions about their son’s engagement towards learning since receiving a laptop, was, therefore, reasonably positive.

Table 6.3 presents a cross tabulation of Item Six (parent knowledge and use of computers) with Item 13: “The impact on your son’s engagement (towards learning) since he received his laptop.”
Table 6.3

*Parent Participant Responses: Engagement (Towards Learning) Since he Received his Laptop Cross-tabulated with Parent Self-reported Knowledge and Use of Computers*

<table>
<thead>
<tr>
<th>Item number</th>
<th>User</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6: Choose the expression that best represents your knowledge and use of computers</td>
<td>Novice</td>
<td>2.9%</td>
<td>0.0%</td>
<td>5.9%</td>
<td>17.6%</td>
<td>23.5%</td>
<td>35.3%</td>
<td>14.7%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>3.7%</td>
<td>3.0%</td>
<td>11.1%</td>
<td>10.4%</td>
<td>23.0%</td>
<td>36.0%</td>
<td>13.3%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Experienced</td>
<td>0.0%</td>
<td>2.6%</td>
<td>5.1%</td>
<td>14.5%</td>
<td>23.1%</td>
<td>39.3%</td>
<td>15.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2.1%</td>
<td>2.4%</td>
<td>8.0%</td>
<td>12.9%</td>
<td>23.1%</td>
<td>37.3%</td>
<td>14.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

A total of 74.7% of parents responded in a positive way about the impact of their son’s engagement towards learning since receiving a laptop. There were 12.9% of parents who were neutral in their response, and 12.5% indicated the laptops had a negative impact on their son’s engagement towards learning. The cross tabulation did not uncover a relationship between parents’ knowledge and use of computers, and their perceptions of the extent to which the 1:1 laptop program engaged their son in learning.

Figure 6.20 shows the parent participant responses to Item 14: “My son’s motivation (towards learning) prior to the introduction of the 1:1 laptop program” (1 = *low* to 5 = *high*) as a mean for each year of the study.
Figure 6.20. Parent participants’ three year mean score responses to their son’s motivation (towards learning) prior to the introduction of the 1:1 laptop program.

Figure 6.21 shows the parent participants’ responses to Item 15: “My son’s current level of motivation (towards learning)” as a mean for each of the three years of the study.

Figure 6.21. Parent participants’ three year mean score responses to their son’s current level of motivation (towards learning).

Compared to previous motivation levels (prior to the laptop implementation), parents from both cohorts appeared to believe that motivation levels had increased with the introduction of the 1:1 laptop program. This belief is consistent with the
research of Keengwe et al. (2012) who reported learning with laptops can lead to increased motivation.

6.3 Monitoring of Student Laptops

The study informed school decision-making processes and led to the development of a two-pronged approach for managing student use of laptops by the School leadership team and the ICT committee, focusing on redefining expectations of appropriate ICT use. The key elements of this approach were the enhancement of parental controls and the introduction of a key-logging monitoring program: e-Safe. A framework of consequences was also introduced to support these initiatives. The enhancement of parental controls and the introduction of the key-logging monitoring program were introduced in the first five months of the laptop implementation. This structure helped the School to address many of the concerns expressed by students, parents and staff.

As discussed in Chapter One, the School conducted a thorough investigation of Apple and PC options in a range of school settings prior to the 1:1 implementation, ultimately deciding on the Apple platform. All students in Year Five (Cohort A) and Year Seven (Cohort B) were issued with an Apple MacBook. A key factor, which underpinned this decision, was that, contained within the operating system of the device, was a feature called ‘Parental Controls’. This parental control feature allowed each parent to set up a range of monitoring and time bound usage limiters as the administrator of the device, and was available at the point of laptop handover to the student. Two dedicated parental control information sessions were provided to help parents utilise the feature in their own homes. Time limits were the key feature used by parents as it allowed them to dictate when the MacBook could be used each evening. A default setting was set up for hours of operation between 8 a.m. and 8 p.m. Outside of these hours students were unable to log in to their machine without the parent overriding the parental control feature. Whilst parental controls could work well in the home environment with a parent as the administrator, they were essentially redundant in the networked environment of the School. A dedicated technical solution was sought for parental controls to work over the School network, and this was put in place as an enhancement five months after initial deployment. This solution involved enabling parents to be the primary administrator of the laptop,
which was not the case initially. The School systematically monitored laptop use through LAN School, which is a software application enabling teachers and administrators to see all screens and observe what students are doing to limit off task behaviours such as gaming whilst in class and on campus.

Figure 6.22 shows the mean scores for Item Five (x): “Parental controls are beneficial for our son.” Cohort A recorded an overall mean of $3.6 \pm 0.2$ whilst Cohort B recorded a mean of $3.5 \pm 0.2$, not significantly different.

Figure 6.22. Mean responses by parents to Item Five (x): Parental controls are beneficial for our son.

The use of parental controls was beneficial according to the parents of both cohorts. However in Cohort B this was less beneficial as indicated by the statistically significant decline in mean score of -0.4 between the second year ($3.7 \pm 0.2$) and third year ($3.3 \pm 0.2$).

Figure 6.23 shows the mean scores for Item Five (y): “Things have improved since the introduction of the parental controls and other monitoring processes adopted by the School.” Cohort A recorded an overall mean score of $3.6 \pm 0.2$ whilst Cohort B recorded a mean of $3.3 \pm 0.2$, significantly lower (Ind. Samples t-test, $p < 0.05$).
Figure 6.23. Mean responses by students to Item Five (y): Things have improved since the introduction of the parental controls and other monitoring processes adopted by the School.

The reference to ‘things’ in Item Five relates to how parents were dealing with the management of the laptop since the introduction of improved monitoring strategies. Cohort B remained constant with a mean score of 3.3 for the same period of time.

As the 1:1 implementation progressed, it became evident that students themselves acquired responsibility for the parental controls system, many becoming administrators of their own laptops. Parents who had not attended the initial session at handover and/or did not have adequate ICT knowledge and skills to configure parental controls on their son’s laptop, possibly conceded to their son’s apparent expertise. Many students were able to turn off the parental controls and use their laptop without monitoring conditions. With previous monitoring systems easily bypassed by students and the lack of detailed data about what was being accessed, this new direction was the catalyst for change in behaviour:

There are some parents who are strict and they have sites blocked like Facebook and all this kind of stuff, but most of the boys, their parents happily give them their passwords. (B162011)

No, not at all, my parents really don't have much of an idea about computers and found parental controls hard to use, so they turned it off. (B252012)
However, the most popular control used by parents was the setting of time limits to restrict laptop use during set times. Further to this, the introduction of e-Safe, the key-logging monitoring program at the School, also helped to send a clear message to all users about ethical use of ICT. Chapter Eight, Discussion, considers the impact of e-Safe, including a broader discussion about managing distraction.

6.4 Conclusion

This chapter has provided insight into parent perceptions of the 1:1 laptop program. Student participants had indicated that there had been a change in learning, for the positive and that they felt a greater sense of engagement and motivation towards learning. Teacher participants shared similar positive views; however, they maintained there was a need in maintaining a balance, and not over relying on the use of the laptops:

I would hope that boys become engaged in their learning, within the classroom. I would hope that boys would be able to access a deeper level of information outside of the classroom, and I would hope that boys would be able to balance the use of technology and learning patterns throughout their schooling career. (CL472012)

Distractions associated with the use of laptops were evident and had an impact certainly in the initial years of the laptop program. These behaviours may be attributed to the excitement of a new initiative, and student participants testing the boundaries with the use of a laptop. Digital gaming in class was apparent in the first year of the study but decreased over time for both Cohorts. Gaming occurred when students were bored, or the teacher was not active in the lesson. However with the introduction of stringent monitoring approaches and clear guidelines student participants believed that their focus for learning developed over time and helped to negate the negative impact on learning. Parents seemed to concur with this view:

I was not a great believer at the beginning, but I have slowly come around as long as one can control the game and movie side of use. (Parent Cohort, Third Year)

Parent perceptions of the laptop program indicated a concern for the impact of the laptops for their son’s learning. Parents felt disconnected at times and were unable to comprehend fully laptop use or how they benefited learning. Parents softened in this view over time; however, they remained cautious about the impacts
the laptops could have on assessment where it was required for their son to write pen in hand.

Parents indicated that motivation and engagement had increased since the introduction of the laptop program. The following account from a school leader indicates that the laptop had become more the ‘norm’ in terms of learning:

After three years, I would probably say that there is now a recognition that this is a device which can be used for learning. I think initially there was the honeymoon period and the excitement period and the unknown period, both for students, staff and parents. I think there was this nervousness, a slight tension around the School with these boys carrying them round. I think also there was some excitement, and there was also some trepidation in using the device. So that’s now all petered out. I think it’s now, after three years, it’s an acceptable behaviour. I think students understand the framework which they’re working in, staff are better equipped in dealing with the situations, I think there’s a greater use of the portal, the drive of the portal, and just an acceptance of using technology in the classroom. (CL462012)

Finally, parents from Cohort A, who are part of the Junior School setting at the commencement of the implementation in the first year, were more confident about the 1:1 laptop program than parents from Cohort B. Responses to the student learning questions in Item Five (a) to (y) highlight these confidence levels. Of the 25 Likert-items, there were 21 statistically significant divergent mean scores over the two or three year period between Cohort A and Cohort B. The following chapter discusses these differences in further detail.