

Students' experiences of learning in virtual classrooms

Final report prepared for the Ministry of Education

Rachel Bolstad and Magdalene Lin
New Zealand Council for Educational Research

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Executive summary

In 2008–09 the Ministry of Education contracted the New Zealand Council for Educational Research (NZCER) to undertake research about students’ experiences of learning in virtual classrooms. Virtual classrooms were established to enable secondary schools in New Zealand (particularly those in rural and remote areas, and small schools) to overcome issues of distance and resourcing which might otherwise limit the breadth and quality of the curriculum offered to their students. In these classes, students learn through videoconferencing (VC) with teachers, and often other virtual classmates, who are at another location. Other information communication technologies (ICTs) such as emails, content management systems and relevant websites may be used to support learning throughout the week. All virtual classes are managed by the Ministry’s Virtual Learning Network (VLN). Within this network, there are 13 e-learning clusters receiving funding from the Ministry. Hundreds of New Zealand students are learning in virtual classrooms.

Why study students’ experiences of virtual learning?

Virtual classrooms have the potential to be quite different from conventional classrooms. First, they are a shift away from the “norm” of having one teacher and a group of students all in one place at one time. In a virtual classroom, students may be in a different location from their teacher, or from other students in their class. Second, teachers and students in virtual classrooms may be using a range of ICTs to facilitate learning, communication and collaboration in ways that may not be typical in a conventional classroom. What are the implications of these features of the virtual classroom for students? Are virtual classrooms more, less or equally engaging for students compared to conventional classes? Are virtual classrooms better, worse or just as good for supporting learning compared to conventional classes? Finally, are virtual classrooms just a different way of doing the same things, or do they provide particular affordances that might be better for supporting 21st century learning? The research reported here provided an opportunity to go beyond previous smaller studies to investigate the experiences of a large sample of students learning in virtual classrooms across New Zealand. The ultimate goal of the research was to inform the development of teaching and learning approaches that support student engagement and learning, increase 21st century learning opportunities and align schooling with the intentions of *The New Zealand Curriculum* (Ministry of Education, 2007)—both in virtual and conventional classrooms—across New Zealand.

Methodology

The research included both qualitative and quantitative data collection. The research was carried out over one year, and involved four key phases:

- six initial student focus group interviews (via videoconferencing)
- an online survey completed by 250 students learning in virtual classrooms
- a second round of five student focus groups (via videoconferencing) designed to discuss the survey findings with a new cohort of virtual classroom students
- a series of four teacher workshops (via videoconferencing) designed to discuss emerging research findings with those who teach virtual classes and the implications of these findings for practice.

This report draws together data from all phases of the research, integrating the findings around key themes that emerged during our analysis.

The survey: Key findings

Overall, the survey data suggested that students were having a range of different experiences (some positive, and others less positive) with learning in virtual classes. These experiences seem to correlate with students' interest in learning in a virtual classroom again in the future.

In terms of teaching and learning practices, students rated the frequency of most practices in their VC classes as lying somewhere in between those of their most and least favourite conventional classes, and generally more like favourite than least favourite classes. It is positive that students are more likely to think their VC teacher trusts them, that they are learning more useful study skills and that the learning is at least as interesting (if not more interesting) than in other subjects. However, students had more mixed feelings as to whether they felt supported by their school, and whether they worked harder and were more motivated in these classes compared with their other classes. These findings suggest that students may be experiencing different degrees of success and comfort in the more independent learning environment of the virtual classroom.

It appears that many students' VC lessons are primarily teacher-directed and concerned with transmission of information, and it appears there may be less scope for student interaction, group tasks and assessing/giving feedback on other students' work.

While students use ICT more in VC classes than other classes, it appears that this is mainly for searching and retrieval of information. In VC classes, as in other classes, most students appear to have few opportunities to use ICT to author and share or convey their own learning and knowledge to classmates or to a wider audience.

Four key themes were identified through the survey data, and these were discussed in the second phase of teacher and student focus groups. These four themes were: independence and support; shared learning; e-learning; and personalising learning.

Independence and support: What is the right balance?

The research suggests that both students and teachers tend to see the virtual classroom environment as requiring greater learner independence and self-motivation than most conventional classrooms. However, some students manage in virtual classes better than others, and there are differing views about what can be done to support students who are not coping, and whose responsibility this is.

Some students and some teachers tended to think that sufficient support and resources were already available to virtual learners, and that it is mainly the students' own responsibility to make the best use of these. They suggested that virtual classrooms were best suited to more mature students who were already capable of working well in the independent environment, and that it was in students' best interests if virtual classrooms were not offered to those who would not or could not display these capabilities.

However, other teachers saw themselves as having a much more proactive role in supporting virtual learners, and this included adapting their teaching approaches and using different strategies to try to support and engage all students. Some of these teachers appeared to be going "the extra mile" to create an environment that worked for their particular students. An important dimension of this seemed to be the development of a supportive relationship in which the teacher demonstrated through his or her actions that they cared about each student and their learning, worked with the student to set achievable personal learning goals and used different strategies to follow up with students when things were not going well (or when communications with the student seemed to have dropped off for any reason).

Being at a distance from each other, VC students and teachers both indicated the importance of the home school, particularly in helping to support virtual learners who were having difficulties. In some cases, VC teachers were able to stay in touch with a support teacher at each student's home school, and this helped the virtual teacher keep tabs on any relevant issues. However, in other cases VC teachers had little or no contact with teachers at the students' home school.

Shared learning: Getting students talking

The research suggests that communication and collaboration between students, especially students from different locations, is an aspect that is lacking in some VC classes. Many of the teachers and students in our focus groups were aware that their classes were not actively thinking and learning together, particularly outside their VC sessions. Lone students had less interaction with their peers, and while some did not mind this, for others it was an issue and it had an impact on their achievement.

Some students had reservations about discussing their learning with their peers because they did not feel as though they knew each other well enough. Some teachers explained that ensuring students have opportunities to establish relationships or have group discussions during their VC lessons was not a priority due to time constraints. For them, their weekly sessions were their one

chance to ensure that their students covered the content and got what they needed from their teachers.

ICT can help to facilitate collaborative learning between students outside VC class time, but the technology itself does not ensure that shared learning occurs.

E-learning: New ways of learning?

Our research suggests that while VC classes may utilise ICT for information-orientated purposes, the more innovative applications of e-learning as stated in *The New Zealand Curriculum* appear to be the exception rather than the norm across many classes. Some teachers and students could see the possibilities and advantages of e-learning, such as allowing learning to take place anywhere and at any time, and facilitating the creation of new learning communities. A few teachers and students had begun to experience some of these possibilities in their VC classes. However, many classes appeared to be using ICT in ways that reinscribe traditional teaching and learning approaches, rather than exploring new and different ways of learning. Discussions with students and teachers suggested that some VC classes did not make use of any online resources for practical reasons (e.g., lack of computers and broadband Internet access). However, even with easy access to online sites, some students did not see the need to extend their learning beyond their weekly sessions because this had not been an expectation in their other face-to-face classes, and some teachers had found it difficult to engage their students in using e-learning even when these facilities were at their disposal. Several students and teachers suggested that e-learning should become a more everyday aspect of *all* school learning, not just virtual class learning. However, they saw relatively few examples of this occurring in practice at present. A few VC teachers appeared to be “electric teachers” (Gibbons, 2008), demonstrating a passion and reflectivity for their teaching that they felt enabled to pioneer new ways of teaching and learning that would ultimately provide workable models for whole schools to build on as they move to more “blended” learning or 21st century learning approaches.

Personalising learning

The New Zealand Curriculum highlights the importance of adopting teaching approaches that help each student to learn best and develop their full potential, taking into account their individual needs, interests, contexts, cultures and aspirations.

Focus group students had experienced differing degrees of personalisation in both their virtual and face-to-face classes. They suggested the degree to which learning could be personalised, and the degree to which students could be involved in decisions about the content and structure of their learning, depended on the teachers’ preferred teaching styles, the nature of the subject and/or the amount of content that needed to be covered. Some teachers (like some students) suggested that the logistical constraints of NCEA-level subjects presented a major barrier to personalisation of VC classes. Other teachers highlighted the VC survey findings as indicative of a wider issue. In

their view, personalised and interactive learning was something that should be happening consistently through all schooling. For this to be achieved in virtual classes, a system-wide shift is needed in the culture of schooling.

Conclusion: What can virtual classrooms teach us?

Virtual classrooms provide an adequate solution to a need

- Though some limitations have been identified, VC is generally experienced as a satisfactory way to learn for most students.

The degree of shared learning, e-learning and personalisation in virtual classes varies

- On average, VC tends to have less peer collaboration and shared learning than conventional classes.
- ICT is used more in VC than other classes, but Web 2.0 practices are still rare.
- Some teachers and students reported ways learning is being personalised, but others believed there was limited flexibility for more personalised approaches (e.g., due to time constraints, content coverage issues etc.).

Conventional assumptions tend to underpin students' and teachers' expectations about what could or should happen in virtual classrooms

- Most students and teachers tend to think virtual classes require students to be able to be more independent than what a conventional classroom might demand, and that students who are good at managing themselves and their own time are best suited for this learning environment.
- International research has found similar views permeate different manifestations of virtual schooling (Barbour & Reeves, 2009), yet this type of idealised model of the virtual learner may become increasingly unhelpful as a wider range of students take up virtual learning.
- Students' dependency on their teachers is generally taken for granted in conventional classrooms, to the extent that it becomes invisible. But this dependency is brought into high relief when constraints of distance and time are brought into the equation.
- There are several possible responses to this new environment. First, teachers and students may seek to re-create essentially the same kind of learner-dependent relationship, but adapt this to fit within the new medium.
- A different response to the shift to virtual classrooms could be to rethink the roles of both teachers and students, and consider how the new environment could be used to cultivate a different kind of learning culture—one in which the goal of learner “independence” is matched by pedagogies and resources that are genuinely designed to cultivate learners' independence—as well as their ability to think and learn collaboratively.

Virtual classrooms are a microcosm for “bigger picture” issues for secondary education

- Many of the issues raised in this research on the microcosm of virtual classrooms point towards a variety of “bigger picture” or macro-level issues for the secondary education system as a whole.
- Several VC teachers believed that what they have been doing in their own practice is quite innovative, and yet much of what they have learnt about teaching and learning is “invisible” to other staff in their own schools.
- Several focus group VC teachers believed all teachers, not just those teaching in virtual classrooms, need to be part of the conversation about the bigger picture issues discussed in this research.

Recommendations

The following recommendations are made in view of the findings discussed in this report.

For virtual teachers

Teachers who teach virtual classes could be encouraged to:

- seek opportunities to share with, and learn from, other virtual teachers
- try using practices that other teachers (and students) have found helpful in supporting students’ independence, fostering a classroom culture of collaborative learning, utilising ICT to support collaborative learning and knowledge exchange, and personalising teaching and learning to meet particular student needs, interests and aspirations.
- share their VC teaching experiences with colleagues, including those who have not experienced the VC environment.

For virtual students

Students learning in virtual classes could be encouraged to:

- make the most of any opportunities to contribute to a shared learning culture in their virtual class
- make an effort to get to know other students
- seek out other students’ views and perspectives on the work they are doing in their VC class
- offer to facilitate learning discussions between students in their class
- share their ideas/feedback about their VC learning experience with their virtual teacher
- talk about how they learn, and how they like to learn, with other students, VC teacher(s) and face-to-face teachers
- if they have experience in online social networks, blogging, wikis or any other forms of Web 2.0, they could offer suggestions or advice to their peers or teacher about how these could be used to support their class’s learning.

For schools supporting virtual classrooms

Schools could be encouraged and supported to:

- rethink overall school structures and how these can be adapted to best support not only virtual teachers and students, but *all* teachers and students, to explore the possibilities of blended learning approaches (approaches that integrate e-learning with other forms of teaching and learning)
- use whole-school professional development opportunities to develop staff understanding about and ideas for the integration of e-learning and blended learning across the school curriculum
- discuss whether their school's approach to curriculum and pedagogy tends to reinforce students' dependence on teachers, or whether it is set up in ways that build students' abilities as "confident, connected, actively involved, and lifelong learners" (Ministry of Education, 2007, p. 8).

For policy

- Consider how to share examples of innovative and successful practice, and how to provide professional learning opportunities that help more teachers to develop these approaches.
- Resource or support professional development that focuses on pedagogy, not just technology.
- Align curriculum, pedagogy *and* assessment to fit with the 21st century learning intentions of *The New Zealand Curriculum*.
- Identify and modify systemic factors that may constrain the use of innovative e-learning, web 2.0 practices, and the social and collaborative knowledge-building that these technologies can support. For example, assessment requirements that demand paper-based documentation of learning and achievement may constrain teachers and students from utilising and exploring many other media which provide records of their learning in action (e.g., blogs, videos, wikis, podcasts, etc.)

1. Introduction

In 2008–09 the Ministry of Education contracted the New Zealand Council for Educational Research (NZCER) to undertake research about students’ experiences of learning in virtual classrooms. Virtual classrooms were established to enable secondary schools in New Zealand (particularly those in rural and remote areas, and small schools) to overcome issues of distance and resourcing which might otherwise limit the breadth and quality of the curriculum offered to their students. In these classes, students learn through videoconferencing (VC) with teachers, and often other virtual classmates, who are at another location. Other information communication technologies (ICTs) such as emails, content management systems and relevant websites may be used to support learning throughout the week.

The Virtual Learning Network (VLN)

All virtual classes are managed by the Ministry’s VLN. Within this network, there are 13 e-learning clusters receiving funding from the Ministry. Eight of the clusters are in the North Island, five are in the South Island and each is led by an ePrincipal. Every school within a cluster has to teach a VC class in order to access other classes. When students enrol for a particular class, priority is given to those within the cluster, but students from other clusters can still join the class if there are vacancies. VC classes are also offered by tertiary providers, The Correspondence School and Westmount School.¹

Most students in virtual classrooms are learning in Years 11–13, but some VC classes are also available to students in Years 9 and 10, such as “beginner” level (i.e., not yet NCEA level) language subjects. The typical arrangement for virtual classrooms is that teachers and students have one period of VC contact time per week,² and students have additional study periods during the week to work on assignments and homework for their VC classes. Depending on the school, students may be working in a library or learning centre, at the back of another classroom, in the VC suite or computer room or in some other space in their school. Each school is supposed to have a staff member onsite who is responsible for supporting VC students within their own school; for example, by supervising students in study spaces during their VC noncontact periods

¹ Westmount School is a private composite school (Years 1–15) that uses videoconferencing to teach across its 15 campuses. The school was informed about this research but declined to participate.

² During this research we spoke with some teachers and students who had more than one opportunity a week to meet through videoconferencing.

or providing a first point of contact for students if they need help.³

Why study students' experiences of virtual learning?

Virtual classrooms have the potential to be quite different from conventional classrooms. First, they are a shift away from the “norm” of having one teacher and a group of students all in one place at one time. In a virtual classroom, students may be in a different location from their teacher, or from other students in their class. Second, teachers and students in virtual classrooms may be using a range of ICTs to facilitate learning, communication and collaboration in ways that may not be typical in a conventional classroom. What are the implications of these features of the virtual classroom for students? Are virtual classrooms more, less or equally engaging for students compared to conventional classes? Are virtual classrooms better, worse or just as good for supporting learning compared to conventional classes? Finally, are virtual classrooms just a different way of doing the same things, or do they provide particular affordances that might be better for supporting 21st century learning?

A few New Zealand studies point towards some of the benefits and challenges students may experience as learners in virtual classrooms. For example, data from small numbers of students in studies by Boyd et al. (2005) and Waiti (2005) suggested videoconferencing/online classes were motivating and engaging, in part because they: gave students a wider range of subject choices; were more interesting than standard Correspondence School lessons; enabled them to use new technology and further develop their ICT skills; enabled more informal relationships with teachers; and gave them opportunities to connect with other students, hear their views and be part of a virtual community.

In de Villiers' (2007) small survey of 34 students learning online in the Wairarapa Electronic Learning Community (WelCom) only one of the students found the online course threatening, most felt comfortable with the technology and software involved and only seven students (21 percent) said they did not enjoy the online course. However:

- just over half the students indicated that the online course did not stimulate their desire to learn
- 13 students (38 percent) indicated that they would not register for another online course, and 16 (47 percent) were undecided
- over three-quarters felt they could not express their feelings or learn the feelings of others while engaged in the online course
- half the students felt they did not learn a great deal about the teacher, and over half felt they did not learn much about other students in the online class.

³ The research suggested that students' experiences of support from within their own schools varied (see Chapter 3).

The research reported here provided an opportunity to go beyond these smaller studies to investigate the experiences of a large sample of students learning in virtual classrooms across New Zealand.

The ultimate goal of the research is to inform the development of teaching and learning approaches that support student engagement and learning, increase 21st century learning opportunities and align schooling with the intentions of *The New Zealand Curriculum* (Ministry of Education, 2007)—both in virtual and conventional classrooms—across New Zealand.

Aligning with the intentions of *The New Zealand Curriculum*

The *Curriculum* states a vision for young people “who will be confident, connected, actively involved, and lifelong learners” (p. 8). As part of this vision, our research was designed to engage student participants in reflection and critical conversations about their learning experiences and what it means to be “engaged” with their learning, both in virtual and conventional classes. Our analysis and synthesis of data was designed to explore the extent to which teaching and learning practices in virtual classrooms align with the intentions of *The New Zealand Curriculum*, including the kinds of learning, and the kinds of learners, that New Zealand schools should be aiming to develop.

The *Curriculum* also provides a statement on the pedagogical possibilities of e-learning, reproduced in the table below. E-learning can be defined broadly as any kind of learning that is supported by ICT and/or digital content. While virtual classrooms can be considered a form of e-learning simply because of the use of videoconferencing equipment, the research suggests there is variability in the extent to which other ICT or digital content feature in students’ virtual class learning.⁴ Our research was designed to explore the extent to which students’ experiences in virtual classrooms (or in other classes) reflected the e-learning possibilities identified in the *Curriculum*.

⁴ See Chapter 5.

Table 1 ***The New Zealand Curriculum statement on e-learning and pedagogy (Ministry of Education, 2007, p. 36)***

E-learning and pedagogy

Information and communication technology (ICT) has a major impact on the world in which young people live. Similarly, e-learning (that is, learning supported by or facilitated by ICT) has considerable potential to support the teaching approaches outlined in the above section.

For instance, e-learning may:

- assist the making of *connections* by enabling students to enter and explore new learning environments, overcoming barriers of distance and time;
- facilitate *shared learning* by enabling students to join or create communities of learners that extend well beyond the classroom;
- assist in the creation of *supportive learning environments* by offering resources that take account of individual, cultural, or developmental differences; and
- enhance *opportunities to learn* by offering students virtual experiences and tools that save them time, allowing them to take their learning further.

Schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning.

Methodology

The research included both qualitative and quantitative data collection. The research was carried out over one year, and involved four key phases:

- student focus group interviews (via videoconferencing)
- an online survey for students learning in virtual classrooms
- a second round of student focus groups (via videoconferencing) designed to discuss the survey findings with a new cohort of virtual classroom students
- a series of teacher workshops designed to discuss emerging research findings with those who teach virtual classes and the implications of these findings for practice.

The Ministry of Education provided NZCER with a list of 92 schools that had students enrolled in VC classes. We sent consent forms to all of the schools, asking principals if they were willing to allow their students to complete an online survey and participate in focus group interviews. Out of the 92 schools, 59 agreed to both parts of the study, two agreed to the survey but not the interviews and five declined.⁵ The remaining 26 schools did not return their consent forms even after follow-up reminders from ePrincipals.

Each stage of the research is described in further detail below.

⁵ Reasons principals gave for declining included: having few or no students currently taking classes by VC in 2008, or a school being in its first year of VC.

Phase 1: Initial student focus group interviews and VC class observations (September 2008)

Six student focus groups were convened via videoconferencing. Each group was from a different cluster (Baylink, CoroNet, FarNet, OtagoNet, WelCom and WestNet), and they were chosen to reflect a range of locations and experiences in virtual learning. We interviewed a total of 29 students from 16 different schools. Most of them were in Years 11 to 13, had only started learning through VC that year, and all were studying a variety of subjects. The interview questions (shown in Appendix A) were designed to identify themes, issues and questions that could be explored in further depth in the online survey.

Phase 2: Online survey for VC students (October–November 2008)

In Term 4 of 2008, after students had experienced almost a year of learning in a virtual classroom, they were sent a link to the online survey. A total of 61 schools with 800 students in VC classes had agreed to participate in the survey, and we received 250 responses from students at 54 schools. This was a very good response rate considering the survey was occurring during the month leading up to the beginning of NCEA exams. The maximum number of surveys received from a single school was 22. Seven schools returned between 10 and 15 surveys, 31 schools returned between two and nine surveys and 15 schools returned only one survey. The students who responded to the survey were mainly in their senior secondary years (see Table 15, Appendix C) and this is typical of the students enrolled in virtual classrooms.

The online survey elicited students' perspectives on:

- the kinds of learning opportunities typically available in these classes (including the role of the learner, ways of learning, learning with others, learning contexts and opportunities to develop key competencies etc.)
- teaching approaches typically experienced in these classes (including the role of the teacher, teacher's interactions with students, relationship between teacher and students)
- the role of ICT in these classes
- students' overall views of learning in virtual classes compared with conventional classes
- their interest in continuing to learn through VC, and views on how learning in virtual classrooms could be improved.

The survey questions are given in Appendix B, and a full profile of the survey respondents is given in Appendix C.

Phase 3: Second round of focus group interviews with a new cohort of VC students (May 2009)

The second round of focus group interviews involved 26 students from 11 schools in five clusters (SILC, Cantatec, Volcanics, Taranet and Mana-Ota-Tikei). We presented some of the survey

findings back to students, organised around a series of themes.⁶ The discussions generated during these focus groups allowed us to expand and explore certain themes and patterns in greater depth, and to test the validity of our synthesis of survey findings against the experiences of a new cohort of virtual students.

Phase 4: Workshops to engage VC teachers in a discussion about the student survey and focus group findings (mid-year 2009)

Invitations to participate in videoconference teacher workshops were sent to VC teachers within each eCluster. During the week of 15–19 June, four after-school workshops were convened. eTeachers, ePrincipals and other staff involved in the eClusters who wished to participate could register and sign into the videoconference session. A total of 13 staff from 12 locations took part. During these sessions, we presented research findings to teachers organised into five key themes⁷ and initiated discussions about how the findings resonated with their own experiences, and how the research findings could inform their practice and the provision of virtual learning in their clusters.

Analysis and reporting

We used an iterative analysis process. After each phase of the research, we analysed the data to identify patterns and themes, and each stage of analysis informed the subsequent phases of data collection. Quantitative data were analysed using SAS. All closed questions from the survey were cross-tabulated by the relevant responses in order to identify any significant differences between:

- students who were the only ones from their school in the VC class,⁸ and others
- students whose VC teacher was based in their school, and those whose teacher was based elsewhere.⁹

The research team provided ongoing feedback to the Ministry of Education about emerging findings from the research throughout the project. In late December 2008 we presented survey findings to the Ministry and a group of eMentors,¹⁰ and in early March 2009 we presented these findings via videoconference to a group of ePrincipals. Each feedback session sparked additional questions or areas that were investigated in subsequent phases of data collection.

⁶ The themes were: teaching practices in the VC environment compared with face-to-face classrooms; what makes an “ideal” VC teacher; communication/contact with VC teachers and other VC students; ICT and e-learning; independent learning; and redesigning virtual classrooms to make learning better for students.

⁷ The themes were: teaching practices in the VC environment; independence and support for VC learners; creating environments for shared learning; e-learning; and personalising learning.

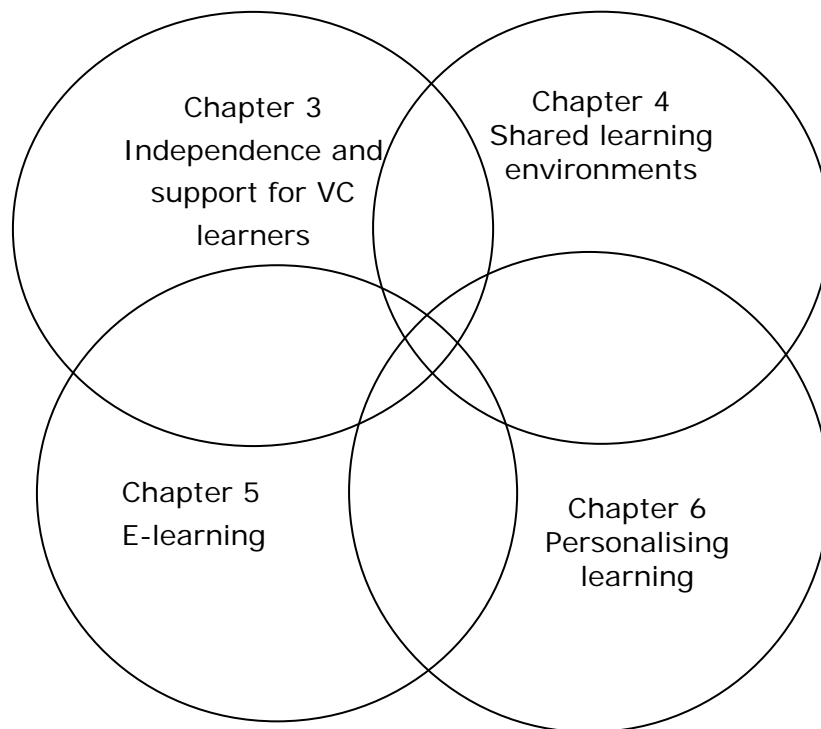
⁸ In this report we refer to these as “lone” students.

⁹ Few differences were found between these different groups of students.

¹⁰ The eMentors is a group who provide leadership and advice to support e-learning in the virtual clusters.

A full report on the survey findings was completed in early 2009 (Lin, Bolstad, & Schagen, 2009), and this report was made available to ePrincipals on the VLN. We also provided individual cluster data to the five eClusters in which 20 or more students completed surveys.

This report draws together data from all phases of the research, integrating the findings around key themes that emerged during our analysis. Chapter 2 begins by providing an overview of the main findings from the student survey.¹¹ This background chapter provides a context for the more practice-focused chapters that follow (Chapters 3–6). In each of these chapters we discuss what the data showed about students’ experiences in relation to four key themes: independence and support for learners (Chapter 3); creating environments for shared learning (Chapter 4); e-learning (Chapter 5); and personalising learning (Chapter 6). As the figure below shows, these four themes overlap with one another. In each chapter, we draw on the survey and focus group data to provide insights for practice.



Chapter 7 synthesises the report findings and discusses their significance in relation to *The New Zealand Curriculum* and considers what virtual classrooms can teach us about directions for curriculum and pedagogy in the 21st century.

¹¹ For further detail on the student survey, see Lin et al. (2009).

2. Survey findings: What is it like to learn in a virtual classroom?

This chapter presents a selection of findings from the online student survey. The first section presents a snapshot of a typical week in the life of a VC student, including what usually happens during their weekly videoconferencing session, and what happens during the rest of the week in relation to their VC learning. The second section discusses students' views about how their VC classes compared with their other face-to-face classes. The third section looks at students' interest (or disinterest) in learning in a virtual classroom again in the future. Overall, the data presented in this chapter illustrate that students were having a range of different experiences (some positive, and others less positive) with learning in virtual classes. As discussed in the final section, these experiences seem to correlate with students' interest in learning in a virtual classroom again in the future.

A week in the life of a VC student

What happens during a typical VC class

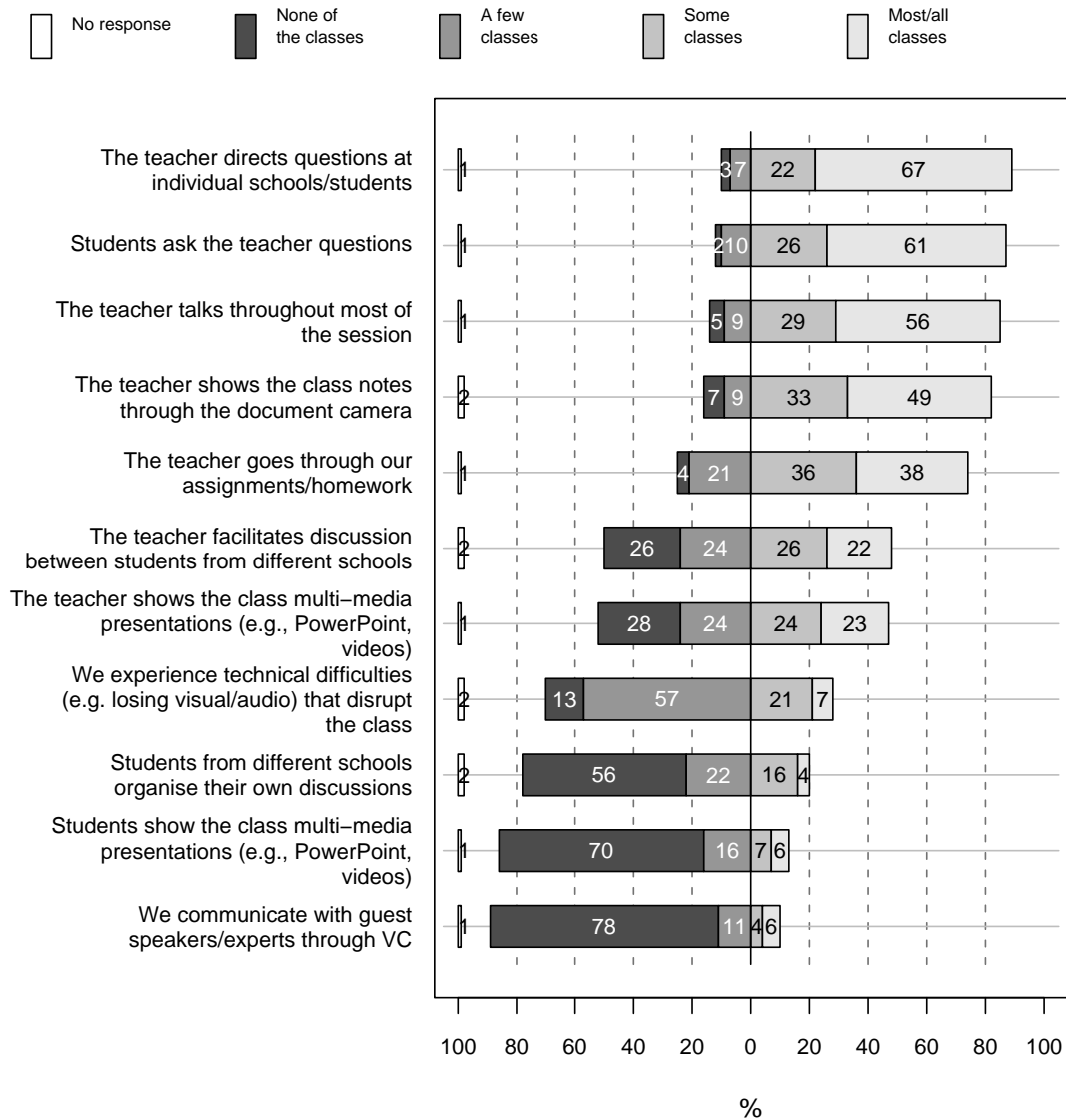
We presented students with a list of things teachers and students might do during a videoconferencing session, and asked them to rate how often each of these occurred during their classes (Figure 1).

For each of the activities listed, the blocks to the right of the central line show the proportion of students saying that it happened in some/most/all of their classes. The data suggested that videoconferencing sessions were reasonably teacher-directed and involved transfer of information from teacher to students, and question exchange. The most common activities were the exchange of questions between teacher and students (occurring in most or all classes for over 60 percent of students). Teachers were slightly more likely to direct questions at their students rather than vice versa. More than half the students reported that the teacher talked through most of the VC session in most or all classes. It was also relatively common for teachers use the session to go through homework or assignments.

Exchanges between students were less common. Just under half of the students said that their teacher facilitated discussion between students from different schools in some/most/all of their classes, and only one in five had similarly frequent opportunities to organise their own discussions

with students from other schools.¹² On a positive note, technical difficulties were relatively rare; more than half of the students said that few of their classes were disrupted, and a further 13 percent said that none of them were.

Figure 1 **What takes place during a VC class (2008 student survey, n=250)**



With regard to the resources that VC teachers used, the students noted that teachers were almost twice as likely to show notes through the document camera as to give multimedia presentations. Few students had opportunities to show multimedia presentations to their class, or to have interactive conversations with guest speakers/experts.¹³

¹² Students' interactions with one another in virtual classrooms are discussed further in Chapter 4.

¹³ The use of ICT and e-learning in virtual classrooms is discussed further in Chapter 5.

What happens during VC study time

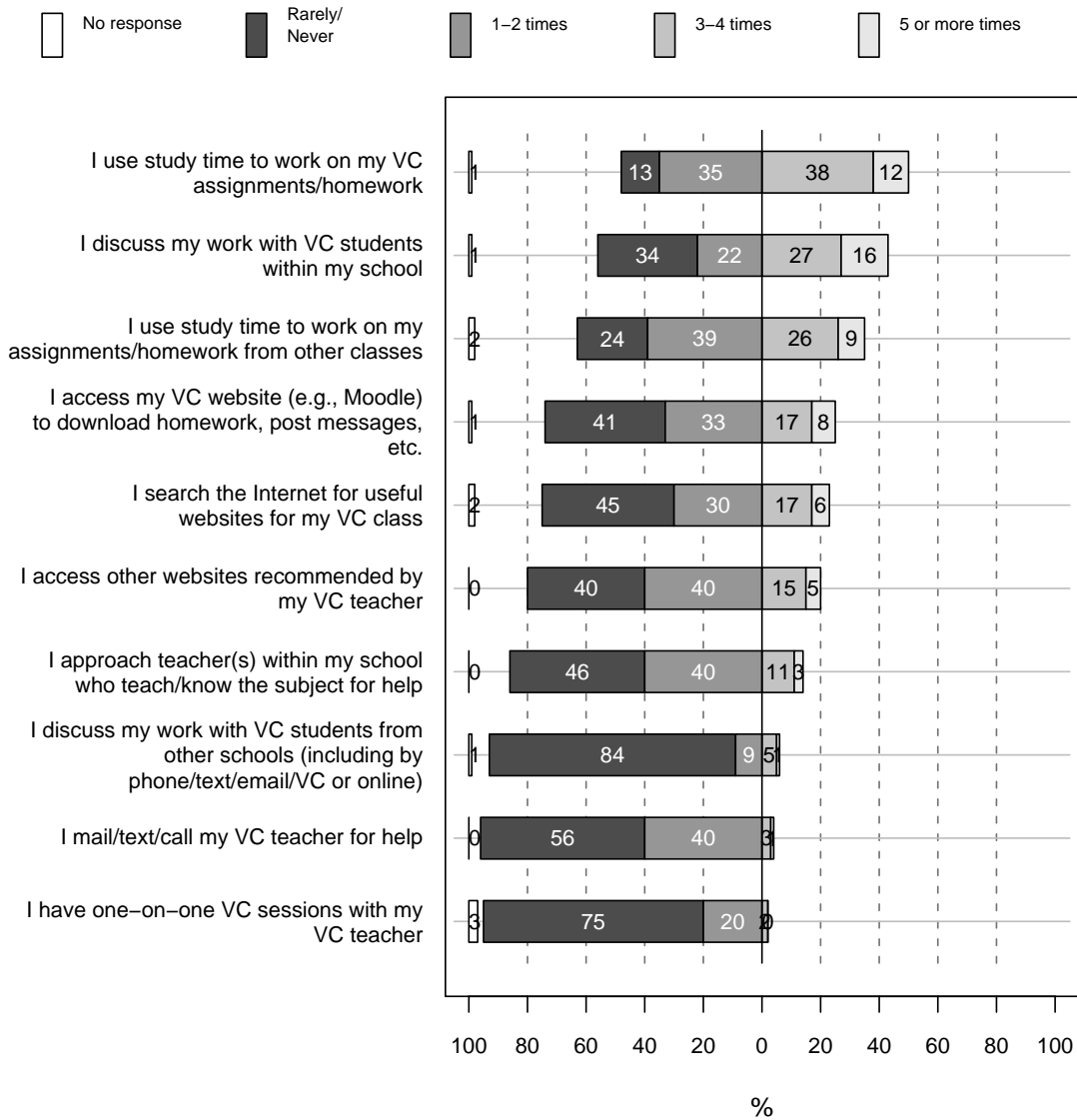
Since most videoconferencing lessons only occur once a week, virtual classes typically have scheduled study periods during the school week. The number of scheduled study periods may vary according to the virtual class and/or the students' own school timetable. Asked where they usually went for the study time allocated for their VC class, most students reported that they went to either a study room, library, computer room or another classroom in the school. Nine percent joined another class. About a quarter of the students reported more than one place they could go during study periods. However, three percent claimed they had no study time. Of these eight students, there was one cluster of three students from the same school doing the same Level 1 NCEA virtual class, two students from another school doing a different Level 1 NCEA virtual class, two students from different schools but doing the same Scholarship Mentoring Initiative class, and one student from a different school doing a different Level 4 NCEA virtual class.

To develop a picture of how students use their study time, they were given a list of possible activities and asked to say how often they did each of them in a typical week (Figure 2).¹⁴ As expected, the most common things that took place were the completion of homework or discussing the work with classmates. Many students also used their study/homework time at least once a week to complete assignments/homework for other classes. Slightly more than half of the students used the Internet at least once a week to access their virtual class page on the VLN, search for useful websites or access websites recommended by their teacher. When they needed help, students were more likely to approach teachers within their school than contact their VC teachers. Focus group students explained that this was because it was easier to access the teachers within their own schools. However, just under half the surveyed students said they rarely or never approached a teacher in their school, and more than half rarely or never contacted their VC teacher for help during study times.¹⁵ Students who had VC classmates in their school were less likely than "lone" students (those who were the only student from their school in the VC class) to contact their VC teacher outside their videoconferencing sessions. The majority of students rarely/never discussed their work with students from other schools during a typical week through any means (for example, phone, text, email or VC).

¹⁴ The question asked about study/homework time to allow for the fact that students might choose to do some of their study or research at home; for example, if they have better Internet access at home than at school.

¹⁵ This finding is discussed further in Chapter 3.

Figure 2 **What takes place during study/homework time (2008 student survey, n=250)**



Comparisons between virtual and face-to-face classes

This section compares students' experiences of learning in virtual classrooms with their experiences of learning in conventional classes. We asked students two kinds of questions to make these comparisons. First, they were asked to compare certain aspects of their VC classes, and non-VC classes in general.

Comparison between VC class and non-VC classes

Figures 3 and 4 show the direct comparisons students made between their VC class and all their non-VC classes. Again, the items are ordered by the proportion of students agreeing with each statement. Allowing for the fact that about 14 percent did not respond to each item and at least as

many were neutral, the majority of students responding said that in the VC class (compared with their other classes):

- they learnt more independently
- they had more flexibility in when they completed and handed in their work
- their VC teachers showed more trust in them
- their VC teachers were better prepared/equipped for the lesson
- they learnt more study skills that would be useful when they left school
- they learnt things that were more relevant to their life and interests.

However, the majority of students responding also noted that they had less quality time with their teacher, and less interaction with other students, in their virtual classes (Figure 4). Students who were the only ones from their school participating in their virtual class were particularly likely to say they had less interaction with other students in their VC classes, compared with their other classes.

The majority of students **disagreed** with the statement that “I find the [VC] work less interesting”, implying that they found VC classwork at least as interesting, if not more interesting, than work in other classes. For other items, the proportions agreeing and disagreeing were similar. It appears that the students were evenly divided as to whether, in their virtual classes, they:

- worked harder and felt more motivated, or had better achievement (Figure 3)
- struggled more, felt less supported by their school or were less likely to complete homework (Figure 4).

In each of these statements, about a quarter of the students “sat on the fence” by choosing the neutral option. Overall, students’ responses indicated that virtual classes can support greater learning independence, but for some students this comes at the expense of feeling supported, successful and confident that help is available when they need it. Students’ and teachers’ views of these findings are discussed further in Chapter 3.

Figure 3 **Students' views about VC classes compared to non-VC classes (positive statements) (n=250)**

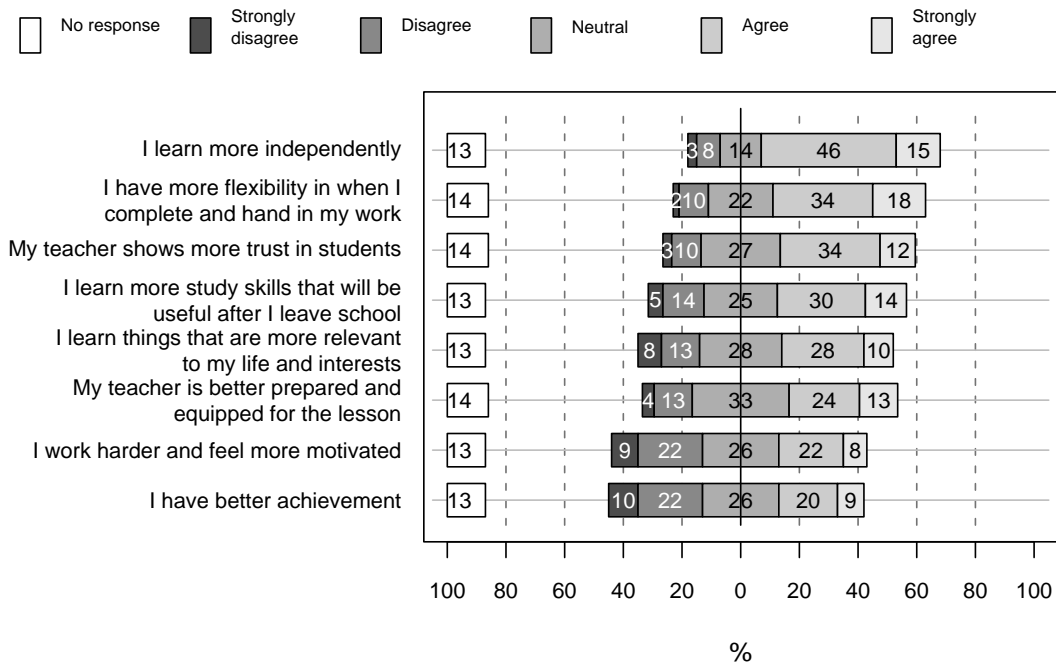
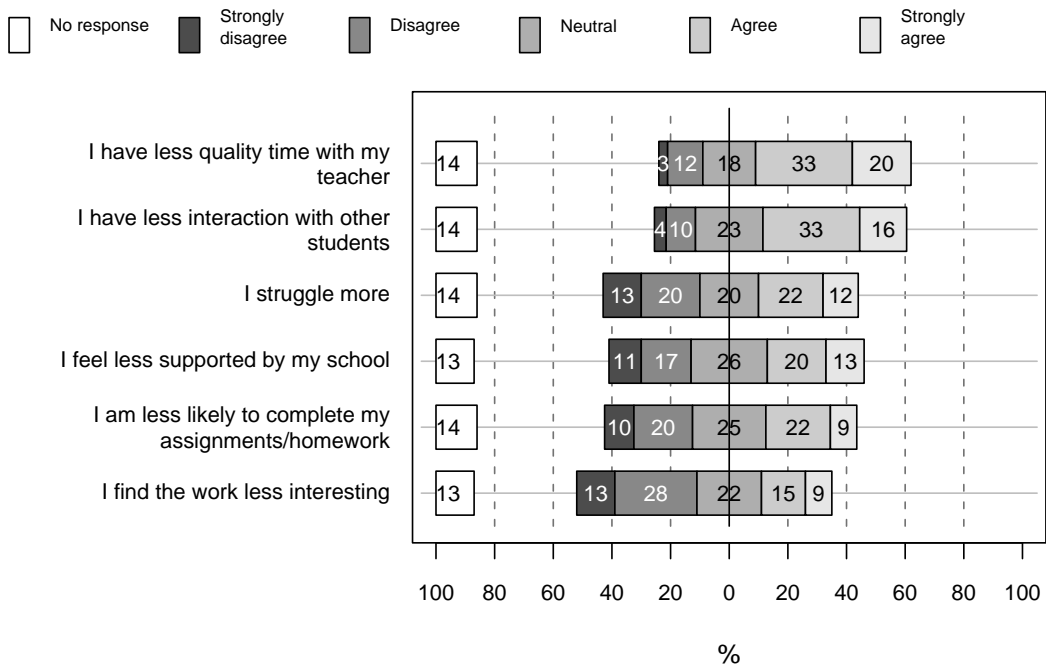


Figure 4 **Students' views about VC classes compared to non-VC classes (negative statements) (n=250)**



Students' ratings of VC class and most/least enjoyed face-to-face class

To provide a more detailed view of how virtual classrooms compare with other classes, we asked students to nominate their most and least enjoyed conventional (face-to-face) classes, and to respond to particular statements in relation to their virtual classrooms and each of those two conventional classes. A similar methodology was used by Wylie, Hipkins, and Hodgen (2008) to explore the learning experiences of 448 16-year-old New Zealand students. Their study found that students' enjoyment of a particular class or subject, rather than being only about the subject itself, was linked to the particular kinds of practices and learning opportunities they encountered in those classes.¹⁶ Practices which were linked with enjoyment included feeling they had engaging and relevant learning opportunities, a teacher who responded to their learning needs and opportunities for self- and peer-assessment.

On average, VC class ratings tended to sit between those given for most and least enjoyed classes. Of particular interest, therefore, were those items where the rating for VC classes was either better than/close to the rating for most enjoyed conventional classes, or worse than/close to the rating for least enjoyed conventional classes. Full details of these survey findings are provided in Lin et al. (2009). Below, we highlight key findings from the comparison between VC classes and most and least favourite face-to-face classes.

Teacher practices and rapport with students

We asked students to rate each of the following statements on a 5-point scale from strongly disagree to strongly agree for their VC class, and most and least favourite conventional classes. As shown in Table 2, all responses relating to VC classes were closer to the responses for most enjoyed classes than to the least enjoyed classes, suggesting that most students perceived their rapport with their VC teachers, and the teachers' qualities, to be fairly similar to an enjoyable face-to-face class. The exception was the final statement, in which 21 percent of students said they did not like asking the teacher questions in virtual classrooms—closer to the 24 percent of students who said this of their *least* enjoyed face-to-face classes. However, asking questions does not appear to be a problem for all virtual learners, since almost half the students *disagreed* that they had any problem asking questions in their virtual class.

¹⁶ In other words, students' "most enjoyed" subjects were spread right across the curriculum, and subjects which were most enjoyed by some were least enjoyed by others.

Table 2 **Teacher practices and rapport with students (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
The teacher gives us clear expectations of what we are to do	72	67	41
My teacher keeps teaching till we understand	72	66	34
I can count on the teacher for help when I need it	72	65	49
The teacher uses examples that are relevant to my experience	66	64	32
The teacher gives useful feedback on my work that helps me see what I need to do next and how to do it	72	64	41
My teacher is interested in my ideas	71	62	33
I don't like asking my teachers questions	14	21	24

Thinking and collaborating with peers

Students' views of their classes in relation to thinking and discussing views and ideas with other learners are shown in Table 3. Encouragingly, students were just as likely to say that they could make mistakes without getting into trouble, or safely express views different from other students' in their virtual classes as in their favourite classes. However, in items relating to collaboration and interaction between students (for example, the statement about students helping and supporting each other) ratings for virtual classes were closer to those for *least* enjoyed classes. Perhaps not surprisingly given the small class sizes and physical separation of students over distance, students were less likely to say of VC classes that they worked with other students on group tasks, or that they assessed each other's work and gave feedback (or, conversely, that other students were distracting). These findings are consistent with data reported earlier suggesting that most students have relatively few opportunities to organise or lead discussions or interactions with other students during their videoconferencing lessons. These findings and their implications are discussed further in Chapter 4.

Students who had classmates in their VC class were twice as likely as "lone" students to agree that students helped and supported each other, and gave feedback on each other's work. Students with classmates in their VC class were also twice as likely to agree that other students were distracting (although it is not clear whether they were referring to the students in their class, or students at other locations in their VC class). Students with VC classmates present were five times as likely to agree they worked on group tasks in their VC classes. This suggests that when collaboration does occur, it is most often between students at the same physical location (see Chapter 4).

Table 3 **Thinking and collaborating with peers (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
I can make mistakes and learn from them without getting into trouble	69	68	49
Students can safely express different views from each other	65	65	46
I gain knowledge that will be useful for my future	73	63	38
I get time to think about ideas and problems in new ways	63	53	30
Students help and support each other	62	49	38
I work with other students on group tasks	58	32	38
We assess each other's work and give feedback	40	24	25
Other students are distracting	29	20	38

Managing time and workload, and absorption in learning

The data in Table 4 suggest many students take their learning in their VC classes seriously. Students were as likely to say “When I’m doing something in this subject, I think about whether I understand what I’m doing” with reference to their VC class compared with their most enjoyed class, and they were more likely to say of their VC classes than either of their face-to-face classes that “I feel that I must do my assignments/homework in order to keep up” (perhaps because they only have one VC class per week and are expected to work on assignments in the periods in between). Students who were the only person from their school in their VC class were even more likely to say this than students with classmates. Lone students were also less likely to say they “mucked around” in their VC class.

Students were also most likely to say of VC classes that “We get too much homework”, but in this case the difference between the three classes was small, and more than twice as many students *disagreed* (49 percent)¹⁷ as agreed (18 percent) with the statement.¹⁸ In all other statements, ratings for VC were between those for most and least enjoyed classes.

¹⁷ Table 3 only shows the proportions of students who agreed or strongly agreed. Other responses they could give were disagree, strongly disagree or neutral. Some students did not respond to the question. Complete data are available in Lin et al. (2009).

¹⁸ Students’ views about what constitutes “too much homework” are subjective, and this question did not ask students to specify how many hours they spent on homework in their VC or conventional classes. Virtual classes generally involve three hours of classwork plus homework equivalent to a conventional class.

Table 4 **Managing time and workload, and absorption in learning (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
When I'm doing something in this subject, I think about whether I understand what I'm doing	64	68	46
I feel that I must do my assignments/homework in order to keep up	53	64	44
I organise my time so I get things done	51	44	27
I set and meet my own learning goals	52	43	28
I get totally absorbed in my work	55	30	16
I muck around	18	28	34
I enjoy doing the homework I get	36	26	10
We get too much homework	8	18	11
We keep doing the same things without learning anything new	7	12	15

Relevance of the learning

The data in Table 5 suggest that VC students tend to see their VC subjects as being of similar real-world relevance to their favourite conventional classes. In terms of seeing connections with things outside school, and doing projects about real things related to this subject, ratings for VC subjects were close to, but not quite as positive as, those for favourite face-to-face classes. However, the number of students who felt they were doing well in their VC class was about halfway between the responses for most and least enjoyed conventional classes. Twenty-two percent of students planned to drop their VC subject as soon as possible, compared with only 4 percent for most enjoyed class. Other New Zealand research has found that some secondary students will persist in certain subjects, particularly mathematics and the sciences, even when they are not enjoyed (Hipkins, Roberts, Bolstad, & Ferral, 2006; Wylie et al., 2008), and it is possible that some students may be taking their VC subject for “strategic” reasons; for example, to gain credits in approved subjects to gain entrance into university or another course or programme of their choice.

The data suggest that although students tend to think their VC subjects are relevant and interesting, opportunities to do hands-on practical work or real-world problem solving may be more limited compared with their favourite face-to-face classes. For example, students were least likely to say of their VC class “We have a lot of hands-on/practical activities”. With regard to the following two items, “We learn things outside the classroom” and “We can choose what topics we want to do”, VC class ratings were similar to those of *least* enjoyed classes.

Table 5 **Relevance of the learning (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
I see connections with other things outside school	54	47	26
We do projects about real things/issues related to the subject	49	44	25
I do well in this subject	66	43	26
I plan to drop this subject as soon as I can	4	22	31
We can choose what topics we want to do	29	20	20
We have a lot of hands-on/practical activities	41	17	16
We do real-life projects that involve doing something to meet a genuine need	21	15	8
We learn things outside the classroom	29	15	9

Use of ICT

For many people, the words “virtual classroom” conjure images of students learning in an environment that depends on ICT. In terms of using Web-based technologies, students were much more likely to say of their VC class than of either their most or least enjoyed conventional classes that they went to specific websites recommended by their teacher, and searched the Internet independently to look for information for a project/topic. However, activities involving “Web 2.0” practices (that is, the use of the Internet as a tool for publishing, communicating, collaborating and networking), and more interactive/communicative uses of ICT, were relatively uncommon in virtual *and* face-to-face classes. Although 31 percent of VC students used ICT to communicate with people outside their class (more than twice as many as in conventional classes), the number of students who published on the Internet,¹⁹ or made multimedia presentations to communicate ideas or information with the class or other people, was very small. These findings are consistent with those from NZCER’s 2006 national survey of secondary schools (Schagen & Hipkins, 2008). In that survey, only 12 percent of teachers reported that their students occasionally or often published on the Internet, showing that this is still not a common classroom activity (see Chapter 5).

¹⁹ The survey question about publishing on the Internet included the following prompt: e.g., build Web pages, blog, contribute information to Wikipedia. Although some students might have classified this as publishing on the Internet, the survey did not include a specific question about whether students contributed to discussion forums. However, as discussed in Chapters 4 and 5, qualitative data suggest this is uncommon for many virtual learners.

Table 6 **Use of ICT (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
We use the Internet to independently search for information for a project or topic	46	58	26
We go to specific websites suggested by our teacher	39	52	18
We use ICT to communicate with people outside our class	14	31	9
We create multimedia presentations to show to our teacher and/or classmates	17	13	10
We publish on the Internet	5	6	1
We create multimedia presentations to show to audiences outside our class	10	6	4

Gaining NCEA credits

The survey included a section about NCEA, which only students doing NCEA-level VC classes were asked to answer. The questions were designed to identify whether students saw their VC class as having high strategic value for NCEA, and/or whether they perceived VC classes to be easier or harder in terms of gaining NCEA credits. Overall, the data suggest that NCEA credits alone were not the main reason students chose to take a subject via VC (although as noted in an earlier section, the strategic value of these subjects may play into the decision to study via VC, if they provide credits in approved subjects necessary for entrance to university). Thirty-one percent of students said they were taking their least favourite face-to-face class *only* for the credits, compared with 16 percent who said this for VC classes, and 17 percent who said this for their favourite classes. Regarding how easy credits were to get, only 17 percent said their VC subject credits were easy, similar to the responses for least favourite subject (18 percent), but in contrast to the 39 percent of students who thought credits in their favourite subject were easy to get. Similarly, students were almost as likely to disagree that “I can get more Excellence than Merit NCEA credits” in their VC class as in their least enjoyed class.

Table 7 **Gaining NCEA credits (n=250)**

	Agree or strongly agree (%)		
	Favourite	VC	Least favourite
I can choose what assessments I want to do for NCEA	28	17	20
The NCEA credits are easy to get	39	17	18
I am only doing this class for the NCEA credits	17	16	31
I can get more Excellence than Merit credits	28	10	6

Interest in learning through VC again

One indicator of students' overall experiences of learning in a virtual classroom is their willingness to learn through VC again in the future. Encouragingly, three-quarters of students would or might learn through VC again (see Table 8). However, almost a quarter said they would not. Not surprisingly, when students' responses were cross-tabulated with their comparisons of their VC and non-VC classes, the picture that emerged from the data clearly showed that those who would learn through VC again had more positive VC experiences, those who would not had less positive experiences and those who answered maybe were somewhere in between.

Table 8 **Learning through VC again**

Responses	Students (n=250) %
Yes	36
No	24
Maybe	39
No response	1

Compared to those who would not, more of those who would learn through VC again had organised discussions with others in some/most/all classes. Other studies have reported that students find videoconferencing/online classes engaging because they enable them to connect with other students, hear their views and be part of a virtual community (Boyd et al., 2005; Waiti, 2005).²⁰ Those who would learn through VC again experienced fewer technical difficulties and more of them noted that their VC teachers went through their work during the class. They were also more likely to contact their VC teacher for help and were less likely to work on non-VC assignments/homework during their VC study time.

Receiving support and feedback on their work and assignments appears to be important to students, underscored by the fact that of those students who said they would take VC classes again, the majority (88 percent) reported that the teacher went through assignments and homework in some/most/all VC classes, compared with a 60 percent response for students who said they would not consider taking VC classes again.

The majority of students said that they would be motivated to choose this medium if it was the only way to do a subject they wanted (see Table 9). Almost half said they would be encouraged if they had enough support from their schools, or if they had a good teacher. Slightly more than a third would be motivated by more VC sessions in a week or knowing the VC equipment/connections would be reliable. Other responses included comments about better

²⁰ Chapter 4 further discusses findings related to the creation of a shared learning environment in virtual classrooms.

teaching, better timetabling or helping students catch up in classes they miss and helping students be more motivated and less easily distracted.

Table 9 **Factors that would motivate students to learn through VC again**

Factors	Students (n=250) %
If it was the only way to do a subject I wanted to do	80
If I have adequate support at my school	45
If I know that the VC teacher is good	43
If I could have more than one VC session with the teacher per week	38
If I knew that the VC equipment/connection was reliable	36
Other response	4
No response	2

NB: Percentages add to more than 100 because multiple responses were possible.

Suggested improvements to virtual classrooms

We asked the students how they thought their VC class could be improved. Nearly a quarter of students suggested improvements related to having more interaction and communication with VC teachers, either by having more than one VC session per week (the most commonly suggested solution) or by having more opportunities to communicate or receive feedback from the VC teacher in between VC sessions.

The second most common type of suggestion (made by 9 percent of students) related to having better or more interesting teaching, and/or clearer information about what students could expect from the course or what was expected of them.

About 8 percent of students commented on having connections that were not reliable or too slow. While the percentage of students complaining of technical problems was reassuringly low, for those students who were affected, these issues appeared to be frustrating. Students complained that losing audio and visual reception and the lagging time difference between conversations made it difficult for them to communicate and learn.

Other areas for suggested improvements included more support from the school, such as subject books and better VC rooms, and working with VC providers to ensure that VC classes are included in the timetable so that the students do not have to miss out on their other classes. Some students wanted access to an on-site support teacher, or someone who could help them with internal assessments that required teacher supervision. Students also suggested better-structured assignments or homework, or more time or support available to help students complete their assignments or homework.

With regards to their VC classmates in other locations, some students explicitly wanted more contact with them and suggested things such as meeting up with them at the end of the term. They also felt that it would be good to have more students in one school so that they could have their own discussions.

Summary

Overall, the survey data presented in this chapter suggest that students were having a range of different experiences (some positive, and others less positive) with learning in virtual classes. These experiences seem to correlate with students' interest in learning in a virtual classroom again in the future.

In terms of teaching and learning practices, students rated the frequency of most practices in their VC classes as lying somewhere in between those of their most and least favourite conventional classes, and generally more like favourite than least favourite classes. It is positive that students are more likely to think their VC teacher trusts them, that they are learning more useful study skills and that the learning is at least as interesting (if not more interesting) than in other subjects. However, attention should be paid to the students' mixed feelings as to whether they felt supported by their school, and whether they worked harder and were more motivated in these classes compared with their other classes. As many students seemed to feel quite positive as those who felt quite negative about their VC classes in comparison with other classes, and around a quarter of the students gave ambivalent "neutral" responses. These findings suggest that students may be experiencing different degrees of success and comfort in the more independent learning environment of the virtual classroom. Questions around the balance between independence and support for VC students are discussed further in Chapter 3.

It appears that many students' VC lessons are primarily teacher-directed and concerned with transmission of information, and it appears there may be less scope for student interaction, group tasks and assessing/giving feedback on other students' work. Questions about the extent to which virtual classes represent shared learning environments are discussed further in Chapter 4.

While students use ICT more in VC classes than other classes, it appears that this is mainly for searching and retrieval of information. In VC classes, as in other classes, most students appear to have few opportunities to use ICT to author and share or convey their own learning and knowledge to classmates or to a wider audience. The role of ICT and the degree to which virtual classrooms are realising the possibilities of e-learning are discussed further in Chapter 5.

In terms of relevance and connectedness of the learning, students tended to say their VC classes were of similar relevance and connectedness to real life as their favourite conventional classes. Chapter 6 considers the opportunities, contexts and challenges for personalising teaching and learning to meet the needs, interests, abilities and aspirations of students.

3. Independence and support: What is the right balance?

Data from the survey (see Chapter 2) indicated that many students believed they learnt more independently in virtual classrooms. If virtual class students are working (or are expected to work) more independently, does this also mean that they either need, or expect, less support from their teachers? Or do virtual students simply need different *kinds* of support than students in a conventional classroom? In this chapter we report focus group students' and teachers' experiences around issues of independence and support, and their suggestions for achieving the appropriate balance for different students. We begin by discussing the kinds of learners that *The New Zealand Curriculum* suggests New Zealand schools should be aiming to develop, and the opportunities and challenges that virtual classrooms appear to present for learners and their teachers.

Developing independent learners through *The New Zealand Curriculum*

The New Zealand Curriculum articulates a vision for young people who will be “confident, connected, actively involved, and lifelong learners” (Ministry of Education, 2007, p. 8). Among the qualities listed under the heading “confident” are motivated and reliable, resourceful and resilient. The *Curriculum* also identifies *managing self* as one of five key competencies which all students should be developing through their school learning. Students who develop this competency “establish personal goals, make plans, manage projects, and set high standards. They have strategies for meeting challenges. They know when to lead, when to follow, and when and how to act independently” (Ministry of Education, 2007, p. 12).

There are several reasons to think that a greater degree of independence may be both expected of, and experienced by, students learning in virtual classrooms compared with conventional classrooms. At a purely logistical level, students are responsible for getting themselves to their virtual classes on time,²¹ bringing along any materials or equipment they need, logging into the VC session and managing the VC equipment. The physical separation of students and teachers in virtual classrooms also affects the dynamics of interpersonal interactions that might occur in a “normal” classroom. For example, VC teachers can't physically hand things to their students, and vice versa; nor can teachers walk around the classroom to watch students as they work and have spontaneous individual or small-group conversations with students that aren't addressed to the

²¹ Due to timetabling issues in their schools, some students have to leave other classes in order to attend their virtual class.

whole class. Finally, students in virtual classrooms typically have only one hour a week of face-to-face contact with their virtual teachers—significantly less than they would have in a typical secondary school subject class. During the rest of the week, there is an expectation that students will continue to work on the projects, assignments or other learning tasks for that class without needing to have their teacher there to check that they are doing what they are supposed to (though a supervisor teacher may fulfil this role in some schools). For all these reasons, VC could be seen as both *encouraging* and *requiring* students to develop the capacity to learn and work more “independently” than they might need to in a conventional face-to-face classroom setting.

Key survey findings about independence and support

Key findings from the survey relating to the notions of independence and support are shown below.

- While many students (61 percent) think they learn more independently in virtual classrooms than face-to-face classes, students appear more ambivalent on other issues, such as whether they: feel more supported by their school, work harder, feel more motivated or have better achievement in their virtual classes.²²
- Almost a quarter of students suggested VC classes could be improved by having more contact with their VC teachers (suggesting students wanted more direct support from teachers), yet more than half rarely or never contacted their VC teacher for help during study times and many students rarely or never approached a teacher in their school for help in a typical week.
- Overall, students’ individual experiences of virtual classrooms seem to vary considerably. Some expressed positive views and willingness to learn this way again in the future, while others expressed negative views and indicated they were unlikely to learn through VC again if they had a choice.

We presented these findings back to focus groups of VC students and VC teachers and asked specific questions to further explore their views about the balance between support and independence:

- Do students perceive themselves as more “independent” in virtual classes simply because they have no other choice (i.e., is it a case of sink or swim)?
- Whose responsibility is it to ensure students can manage in this more independent learning environment, and what happens to students who are struggling?
- What can VC teachers do to support their students?
- What can students’ own schools do to support them?

²² Students were as likely to agree as disagree with these statements, and about a quarter of the students “sat on the fence” by choosing the neutral option.

Students' views about independent learning

All the focus group students agreed that VC helps learners to become more independent. For example:

I agree with independent learning statement, it's about self management, you have to manage your own time to achieve in the subject. (Student)

One student offered the following definition of what it meant to be an independent learner:

Independent learning is going from the school's responsibility to you taking it on yourself, taking responsibility for your own achievement. I think it works really well, lets you learn time management skills. (Student)

Some students enjoyed feeling more independent. They liked being able to choose how to spend their time, and some liked having course notes, plans and expectations clearly laid out (for example, on the virtual class website or learning management system) so that the students could regulate their own learning more easily. Others found the virtual classroom environment a challenge because they believed they had poor time management skills and motivation. Overall, students tended to think that the independence of virtual classrooms could be positive or negative “depending on the student”. However, in the focus group students' discussions, it was clear that students sometimes interpreted *independent* learning to mean “learning on your own without any help”, and some pointed out that in this sense VC didn't require complete independence because “it's still a classroom environment ... [and] you can still come back to your teacher if you need help”. Some students suggested that learning through correspondence was much more “independent”—as in socially isolated—than learning through virtual classrooms. For example, one student said that in one correspondence class he didn't even know who his teacher was; he would just send his completed work away and it would come back marked.

We asked students why they thought the survey showed that many students did not typically contact their VC teachers or other teachers for help during the week. Some students suggested that it was likely that many learners would seek help from their classmates rather than a teacher. Some said that in their opinion, once a week was enough time with their VC teacher, and several mentioned that they found it very easy to contact their VC teacher by email if and when they needed help or advice:

I found emailing my teacher was quite good. Like saying ‘This is what I understand, this is what I don't understand’... Kind of through the email it was good because you could talk to someone and they could write down a response that you could read later. (Student)

However, it was clear that other focus group students were not in contact with their VC teachers at all outside their VC session times.

Whose responsibility is it to ensure students are coping with the independent learning environment?

The different ways of thinking about the meaning of “independence” could have significant consequences for the ways teachers and students think about their roles. If teachers and students see independence as students largely carrying out work on their own, under their own motivation and accessing the resources at their disposal, then both teachers and students might form the view that it is up to teachers to provide resources and opportunities (including delivering as much content as students will need to complete their learning tasks during the week), and it is up to students to be proactive about making the most of their learning opportunities. Indeed, most focus group students felt it was the students’ own responsibility to manage themselves in the virtual classroom environment. Interestingly, even those students who appeared to be struggling tended to think that this was ultimately their own responsibility. Some students suggested learners may not contact their VC teachers or other teachers in their school for help because they were “too lazy or unmotivated”, and some thought that the schools’ main responsibility was to make it clear to students from the beginning that they would need to be capable of working independently:

If student is aware of what’s required, then it shouldn’t have to come to that. They should know clearly what’s required. (Student)

The focus group teachers had differing opinions about the degree of independence that ought to be expected of VC students, and the nature of support that students required to be successful in this learning environment. Some teachers suggested that VC might only be suitable for certain students—namely, those who were older (e.g., Years 12 and 13), more mature, more confident and more academic. They suggested VC was not suitable for students who were younger, and particularly unsuitable for any students who were known to be unreliable (e.g., those who were already wagging their face-to-face classes). This perspective suggests a view of “independence” as something students need to bring with them into the learning situation.²³

In their review of literature about virtual schooling in North America, Barbour and Reeves (2009) conclude that virtual schooling does tend to be implicitly underpinned by this view about the kind of students that virtual schooling is “intended” for (or at least best suited for), namely, “highly motivated, self-directed, self disciplined independent learner[s] who could read and write well, and who also had a strong interest in or ability with technology” (p. 410). Barbour and Reeves suggest that this “ideal” virtual student has been modelled on theories of distance education, and is more consistent with the characteristics “more often attributed to adult learners who, according to Knowles (1970, cited in Barbour and Reeves), are more self-directed and independent in their orientation to learning than adolescents” (p. 410), and “probably represents a small percentage of high school students in general ... in other words, it is not the description of the typical student” (p. 407).

²³ An alternative perspective voiced by some VC teachers (discussed below) is that all students can learn in virtual classes, and that these classes can help them to develop the skills to become independent learners.

However, other focus group teachers saw it as their responsibility to ensure *all* students were getting the support they needed, rather than seeing the students' age level or maturity as the problem. For example, one teacher had been teaching a class of Years 9 and 10 students via VC and felt that younger students could successfully learn in this medium if the teaching and curriculum were structured in a way that adequately supported them:

We expect them to be like university students, but the more you question that, the more successful they become. (Teacher)

Part of his strategy for supporting these students was to develop curriculum content that was personalised and localised to the area where the students lived. This teacher also had fairly regular face-to-face contact with the students when they came to his school for practical lessons, and was experimenting with different pedagogical strategies to keep students active and engaged during their VC lesson. (Personalising learning in virtual classrooms is discussed further in Chapter 6.)

This teacher's perspective provides an alternative way of thinking about students' "independence" in virtual classroom learning. Rather than seeing students as needing to bring the ability to work independently to their virtual classroom, he saw it as his job to foster a learning culture in his classroom that engaged students' interests and supported them to be active participants in learning situations that worked best for them. In his view, this approach led to greater learning success for the students in the long term. His approach provides an alternative way of thinking about independent learning as being more like a compact or bargain between teachers and students, where each party agrees to help build a classroom culture that supports learners to learn, developing the skills and interest to take increasing levels of ownership and control of their own learning.

Further exploration and discussion of this teacher's and other teachers' emerging pedagogical approaches could be of critical value, particularly if New Zealand is mirroring the trend Barbour and Reeves (2009) identified in North America of an increasingly broad range of students enrolling in virtual school classes and courses. According to their literature review, research into alternative design principles that cater to virtual school students (i.e., alternative to the predominant model of the independent, autonomous, adult-like distance learner) has only just begun, and recommendations are still preliminary.

What can VC teachers do to support their students?

All the focus group teachers tried to support their students as best they could. Many of the VC teachers believed that one VC session per week was not enough, and some had negotiated a second weekly session which was available for students to have additional tutorial time with their VC teacher. Some teachers were using various kinds of online learning management systems, such as Moodle and KnowledgeNet, to provide support for their VC students. Focus group teachers' and students' suggestions about how ICT and e-learning could support and extend the learning environment are discussed in Chapter 5.

Some VC teachers had experienced students “disappearing” from email communication at various times. In their experience, this sometimes occurred when students were beginning to struggle or fall behind, and this could lead to a vicious cycle where students withdrew further because they were not coping. In one case, an ePrincipal described a situation which a VC teacher had replied to her students’ emails, but for technical reasons the students had not received the reply. Rather than following up to check what had happened, the students simply assumed the teacher didn’t care about them. Communication broke down, and the teacher described it as becoming a “messy situation”. Such incidents led these VC teachers to believe that they needed to be proactive in establishing and maintaining communication, in order to build up a relationship of trust and demonstrate that they cared about each student and their learning.

Several teachers discussed strategies they used to support their students to become self-managing, while also ensuring they had the support needed for their learning. These are summarised in the table below. Interestingly, the initiative and control lay mainly with the teacher in the practices listed in this table. In contrast, practices identified in Table 11 (Chapter 4) involve handing over more control and initiative to students themselves.

Table 10 **Supporting VC students: Insights from practice**

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| <ul style="list-style-type: none"> • Building a good rapport with students, and making it clear through the teacher’s actions and words that they cared about each student and their learning. • Directing questions to each individual student during VC sessions to see how they are getting on, and to ensure quiet students contribute to the discussion. • At the end of each VC session, asking each student to sign out one at a time, and checking with each student as they do so whether they have any last questions or problems they need help with. • Taking the initiative to establish regular email communication with students, responding promptly to students’ messages and actively following up with any students who they stopped hearing from to find out whether everything is okay. • Providing different ways for the students to work on their learning. For example, some teachers have found that some “quiet” students in their class were actively using Moodle and KnowledgeNet to support their learning throughout the week—see Chapters 4 and 5. • Setting out course plans, and expectations for each term and each week, so that students know what they will be doing, and when it needs to be done by. • Setting expectations for students, but being prepared to renegotiate those expectations with students depending on how they are progressing, in order to ensure the expectations are realistic and achievable for each student. |
|--|

What can students’ own schools do to support them?

Some focus group teachers’ and students’ schools provided structured support and working space for virtual learners during their non-VC contact times, while others said there was little support capacity within their home school. Several teachers commented on the importance of VC teachers having a good relationship with a “support teacher” at each school where they had VC students.

In a few cases, timetabling issues meant students’ VC classes clashed with some of their face-to-face classes. One VC teacher described how this could lead to irritation and frustration for all

concerned, particularly if there wasn't a staff member at the home school who could help to liaise between the students' VC teacher and in-school teachers:

I have them arriving late, [or] I have them emailing me, 'Sorry Miss I couldn't come today [because] I have an assessment [in my other class]' or 'Sorry Miss my teacher got really angry because I'm missing so many of my lessons because I'm going to VC once a week.' And that for me is just so frustrating because I'm teaching a hugely academic subject, some of these kids I might not see them one week and then all of a sudden I have to catch them up ... What we did one year was with our VC students, we actually rearranged the time-table so that all the VC students [had a] class in their study time and this seems to give them that much more focus and continuity and they don't miss either class, [so] they don't feel angry that they're having to do one in priority to the other ... so that's the sort of support I would like to see from all the [home] schools. (Teacher)

On the other hand, when VC teachers did have good communications with the on-site support person this helped significantly, particularly when there may be issues within the school (or for the student) that the VC teacher might not know about:

From an e-teacher perspective, I really appreciate getting an email from their support teacher. Knowing what's happening in those students' lives. Getting a background email from the support teacher is really valuable. (Teacher)

For senior academic subjects, staff acknowledged that having on-site support from a teacher who knows the subject area can be difficult for some schools to provide:

... in some schools, they simply cannot get help, the smaller schools and area schools with around about 100 to 120 students, you're not necessarily going to have a person with the expertise in all those subjects. For instance, last year we had economics, accounting expertise in the school, we had physics expertise in the school, we had stats and calc expertise, this year we have none of those. So somehow we have to get around that. (Teacher)

However, one teacher had found a solution by thinking laterally:

One [of my] student(s) is in a school alone, but I found out that the school's careers adviser has an economics background so she has taken him under her wing. (Teacher)

Another suggested a way of providing additional "virtual" support for students whose schools can not provide sufficient on-site subject support:

Maybe an idea, I just thought of it now, is that somehow you can have a VC discussion session where [for example, all the senior] geography students around the country can come in and discuss ideas amongst themselves. (Teacher)²⁴

²⁴ The Liggins Institute at the University of Auckland has created a network along these lines to support secondary science learners. "The LENSscience Senior Biology Seminar Series uses a Satellite Television Broadcast, Skype Chat Room and Wiki to bring Year 13 students from throughout New Zealand together for regular seminars, designed to provide learning extension opportunities that link current NZ scientific research to concepts in the school curriculum" (LENSscience wiki, 2009).

Summary

The research suggests that both students and teachers tend to see the virtual classroom environment as requiring greater learner independence and self-motivation than most conventional classrooms. However, some students manage in virtual classes better than others, and there are differing views about what can be done to support students who are not coping, and whose responsibility this is.

Some students and some teachers tended to think that sufficient support and resources were already available to virtual learners, and that it is mainly the students' own responsibility to make the best use of these. They suggested that virtual classrooms were best suited to more mature students who were already capable of working well in the independent environment, and that it was in students' best interests if virtual classrooms were not offered to those who would not or could not display these capabilities.

However, other teachers saw themselves as having a much more proactive role in supporting virtual learners, and this included adapting their teaching approaches and using different strategies to try to support and engage all students. Some of these teachers appeared to be going "the extra mile" to create an environment that worked for their particular students. An important dimension of this seemed to be the development of a supportive relationship in which the teacher demonstrated through his or her actions that they cared about each student and their learning, worked with the student to set achievable personal learning goals and used different strategies to follow up with students when things were not going well (or when communications with the student seemed to have dropped off for any reason).

Being at a distance from each other, VC students and teachers both indicated the importance of the home school, particularly in helping to support virtual learners who were having difficulties. In some cases, VC teachers were able to stay in touch with a support teacher at each student's home school, and this helped the virtual teacher keep tabs on any relevant issues. However, in other cases VC teachers had little or no contact with teachers at the students' home school.

4. Shared learning: Getting students talking

The survey findings (see Chapter 2) suggest that, on average, students experience less discussion and interaction with, and feedback from, their peers in virtual than face-to-face classrooms. To a degree, these findings may reflect aspects of the technical environment of the virtual classroom. For example, videoconferencing equipment is activated by voice. Members of the virtual classroom only see the image of the person who is speaking, and when someone at another location speaks, the camera jumps to that person. To avoid confusion, students adopt certain protocols such as muting their own microphones when someone at another location is speaking, or waiting to be called on by their teachers to speak. However, as this chapter discusses, the degree of interaction between students in virtual classrooms is also influenced by social factors (including the students' relationships with each other, and with their teacher) and pedagogical factors (such as the opportunities teachers create for students to lead and share their learning). In this chapter, we report focus group students' and teachers' experiences of shared learning environments in virtual classrooms. We begin by discussing what *The New Zealand Curriculum* and other literature suggest about the importance of creating environments for shared learning.

Developing shared learning through *The New Zealand Curriculum*

Among the visions in *The New Zealand Curriculum* for young people is that they will be *connected, able to relate well to others and effective users of communication tools* (Ministry of Education, 2007, p. 8). The *Curriculum* goes on to identify *relating to others* as one of the five key competencies (Ministry of Education, 2007, p. 12). The intention of this competency is for students to collaborate effectively with each other so that they can share ideas, and broaden existing ways of thinking and learning. The "effective pedagogy" section of the *Curriculum* states that students learn best when their teachers "create a supportive learning environment" and "facilitate shared learning" (Ministry of Education, 2007, p. 34):

Teachers encourage this process by cultivating the class as a learning community. In such a community, everyone, including the teacher, is a learner; learning conversations and learning partnerships are encouraged; and challenge, support, and feedback are always available. As they engage in reflective discourse with others, students build the language that they need to take their learning further.

Literature about 21st century learning provides compelling arguments about why learning to think and learn with other people is important. This literature suggests that, due to the increasingly complex, changeable and culturally diverse nature of 21st century society, students need, among

other things, opportunities to build their sense of identity, become self-reliant and critical and creative thinkers. They also need to be team players, able to use initiative, manage the metacognitive and affective aspects of their learning and engage in ongoing learning throughout their lives (Bolstad, Gilbert, & Hipkins, 2005). Gilbert argues that 21st century learning should focus on students generating new knowledge (as opposed to reproducing old knowledge—although this is still important), and that this new knowledge is created in the spaces between different ideas and disciplines, and in the spaces between people (who each bring their own particular knowledge, experience and perspectives). Knowledge creation is seen as a process of solving problems or generating ideas in collaboration with others as the need arises. For these reasons, developing relationships between people is an important dimension of learning and working in the 21st century, and this means the social context of students' lives and learning experiences take on a new importance (in contrast to the 20th century notion of each learner as an “independent scholar”).

One noticeable difference and a possible advantage of learning through VC is that there are usually 10 or fewer students in the class. Even with the physical and technological challenges for shared learning that come with the territory of virtual classrooms, being in small groups could create a more focused environment with fewer distractions, and this could make it easier for students to build relationships and have learning conversations with each other. VC students also have the opportunity to learn with, and from, classmates located in different regions, and they might bring with them different perspectives on the same topics. Even though most classes only meet through videoconferencing for an hour each week, students could continue to think and collaborate with their peers throughout the week using the affordances of ICT (see Chapter 5 for specific possibilities and suggestions). However, while the virtual classroom environment appears to offer certain affordances that could support shared learning, these do not guarantee that a culture of shared learning necessarily exists in all virtual classes.

Key survey findings about shared learning

The following survey findings relate to VC students' experiences of shared learning with their teachers and classmates:

- Twenty-one percent of students did not like asking their teacher questions in virtual classes. This percentage was closer to those who said this of their least (24 percent) than most (14 percent) enjoyed face-to-face class.
- Almost half (49 percent) of the students had less interaction with students in their virtual than face-to-face classes.
- During VC sessions, exchanges between students were less common than exchanges between teachers and students. Just under half (48 percent) of the students said that their teacher facilitated discussions between students from different schools in some/most/all of their

classes, and only one in five had frequent opportunities to organise their own discussions with students from other schools.

- Outside VC class time, more than half of the students (65 percent) discussed their work with students at their schools at least once, but the majority (84 percent) rarely/never did this with students from different schools.
- Students who had classmates in the same physical location were twice as likely as lone students to agree that students helped and supported each other, and assessed each other's work and gave each other feedback. They were also five times as likely as lone students to agree that they worked on group tasks.

We presented these findings back to focus groups of VC students and teachers, and asked specific questions to further explore their views about shared learning in virtual classrooms.

- What inhibits students' communication with virtual classmates at other locations?
- Is the virtual classroom experience different for lone students?
- What practices have been effective in facilitating shared learning?

What inhibits students' communication with virtual classmates at other locations?

Focus group students had varying experiences of communication with their classmates at other locations. During their VC classes, some students felt they exchanged ideas and questions freely with their distant peers:

Because it's only once a week, you've got to make the most of the chance that you have to talk to them face-to-face. I think because there's only three of us in the whole class, everyone is sort of keen to talk to each other. (Student)

However, others described more inhibited student interaction, even when their teachers prompted them to do so:

My teacher doesn't really encourage us to talk to the other people in the class. (Student)

[Interaction with other students] doesn't really happen in my class. The teacher says, 'I'm just going to do this, and you talk amongst yourselves.' But no one does! You just sit there. (Student)

A few students thought that the amount of collaborative learning that was possible depended on the subjects they were taking:

In my [subject] class, it must be the nature of the subject, but [the teacher] reads through the notes, we do an exercise and we move on. (Student)

Several teachers felt they had to take control of their weekly VC sessions because there was immense pressure to cover as much curriculum content as possible within the allocated hour, and this limited the opportunities for students to engage in dialogue amongst themselves. One teacher suggested:

In the one-hour VC class, the VC teacher has to be in charge and direct, but we do need to break it up a bit. Get the kids talking in the three hours [per week] when they're on their own, get them chatting more during that time. In the one hour, teachers need to be up the front, have to ask the students questions, [we] have to check up on them. (Teacher)

Some focus group students said that they maintained contact and had discussions with their onsite as well as offsite classmates outside their weekly VC lessons:

Yeah we flick around emails, every person has at least one other person from their school so we just discuss with that person, and flick emails around. (Student)

My teacher has a blog, it helps. We can pass learning not only from the teacher [to students] but among other students as well. (Student)

Those who did not interact with classmates from other schools explained that they felt uncomfortable talking to them because they did not know them on a personal level. They only met them for an hour each week, and that time was usually taken up by direct teacher-student exchanges:

Sometimes breaking the ice hasn't happened yet, we just talk to the friends at our school. We really don't know anything about the other students in the class. We only get to know the teacher, not each other. (Student)

Students suggested that allocating time during the VC lesson for students to familiarise themselves with their classmates would help create an environment to support shared learning:

[Shared learning could happen on] a student forum, we do have those at the moment but ... no one's actually taken the plunge into starting a discussion or debating something. Maybe if we had a social time in our VC class, maybe 5–10 minutes to chat amongst the students like we would at interval or lunch. And if we discuss work, that's cool. But if we don't, then it's just getting to know other students, and maybe that might help in being comfortable to approach them later about work. (Student)

Is the virtual classroom experience different for lone students?

Focus group students did not necessarily think being a lone student was a disadvantage. On the contrary, some said they actually preferred being able to work on their own, at their own pace, with fewer distractions. However, most identified the lone students as having a *different* experience of the learning environment. Based on their own experiences, they could see how lone students might feel more isolated or marginalised in certain situations:

I found it hard last year because I was on my own, I felt quite shy. It was just me, the teacher and another school that had five students there. I was alone for that class so I did quite badly. (Student)

In my class there's me, then a group of six, then one other single person at another school. The group of six, they're the ones who make it awkward. They kind of sit there and joke on mute, and you can see they are laughing, and you don't know why. It's kind of embarrassing, they can talk to each other but they are not including you. (Student)

At [this school] we do have a shared learning thing going on, but I can't help but think the other school students feel isolated. There is a big group of us who kind of dominate the discussions. (Student)

VC teachers agreed that some lone students could feel isolated. One of them suggested having VC classes with a minimum of two students from the same school, so that they can support and motivate each other. One student believed that having more students in the same room could also help students gain confidence to share their opinions over VC. However, ensuring that there are at least two students at the same location might not be an option for all schools, especially those with fewer students. Schools may need to think about other ways for supporting these students (see Chapter 6).

What practices have been effective in facilitating shared learning?

We asked the VC students and teachers in our focus groups to provide examples of how their classes have managed to create shared learning communities. They highlighted the importance of ensuring that students are given opportunities to talk to, and learn from, each other before and during their VC class time. Some examples are shown in the table below.

Table 11 **Creating an environment for shared learning: Insights from practice**

Helping students get to know each other

- One VC teacher explained that her cluster helps VC students and teachers “break the ice” by organising e-days. During those days, students and teachers from the same class get together and are given a chance to get to know each other.
- Another teacher asked his students to prepare PowerPoint slides about themselves, showing their goals for the year, a favourite motto or saying that they lived by and a couple of their important achievements. The students used the slides to introduce themselves to the rest of the class during the next VC lesson.
- One student said that “In the first few lessons, the teacher set up a group forum, we all had to introduce ourselves and say what we liked, so you had other people looking at [your profile] and saying, ‘Oh yeah, I do that as well’. So that was quite good. A bit of a conversation starter.”

Giving students more control of their learning

- To facilitate communication between students during VC lessons, one teacher allowed her students to take control of the lesson. The students had their own discussions while she sat back and listened.
- Another teacher asked his students to write down questions about something that the class had learnt, and they each took turns to pose their questions to someone from another school.
- One student talked about how her teacher “doesn’t just say everything, [she] asks people to answer questions or asks people to explain what they think”.

Facilitating shared learning through ICTs

As discussed in more detail in the next chapter, some VC classes have virtual shared learning spaces such as blogs, forums, wikis and online management systems. However, simply having these facilities available did not necessarily mean that students were using them:

The only times we discuss with other students is when it's facilitated through the teacher. We don't go outside of that. But I think it would be really cool if we did. We could do it, we've got Moodle. It's just [that] no one does it so it's kind of expected that no one needs to or should. It would be cool if we did though. (Student)

Teachers can generate interest in using online communities by placing greater emphasis on the importance and value of peer learning. One student recalled that it was her teacher who encouraged the class to have discussions online:

I did [subject] by VC last year, [we] used the forum quite a lot, it has to do with the teacher. The teacher introduced us to it and promoted it a lot more than some other teachers do. (Student)

However, even when one VC teacher made it compulsory for her students to make comments on their forum, they were reluctant to do so. She was frustrated and did not understand why her students were willing to make entries on their online glossary, but did not seem interested in discussing their learning with their classmates. Another teacher suggested that discussion sites could be more appealing if they were seen as spaces where students could go to learn more about their subjects as well as the other students in their class:

It is quite committing to put things down in black and white sometimes for students. Students will chat hurriedly, but sometimes when they have the opportunity to look at and compose something in writing that is attributed to them because they have written it, it might be a little bit more daunting. (Teacher)

Some students and teachers suggested that teachers could take on a more proactive role in the online communities by participating as a learner. One of the teachers in our focus group decided that for his online forum he could start by posting a question, and in the following weeks, each student would get the chance to post questions that he and the other students would respond to. Another teacher used the functions available on KnowledgeNet so that when students completed an assignment, they could nominate another student to review their work before it was submitted to the teacher.

... that gets communication going between them and it's important to make those kids peer assess from different schools if possible. And then when the final piece of work is submitted, they've helped each other in their learning. (Teacher)

Summary

The research suggests that communication and collaboration between students, especially students from different locations, is an aspect that is lacking in some VC classes. Many of the teachers and students in our focus groups were aware that their classes were not actively thinking and learning together, particularly outside their VC sessions. Lone students had less interaction with their peers, and while some did not mind this, for others, it was an issue and it had an impact on their achievement.

Some students had reservations about discussing their learning with their peers because they did not feel as though they knew each other well enough. Some teachers explained that ensuring students have opportunities to establish relationships or have group discussions during their VC lessons was not a priority due to time constraints. For them, their weekly sessions were their one chance to ensure that their students covered the content and got what they needed from their teachers.

ICT can help to facilitate collaborative learning between students outside VC class time, but the technology itself does not ensure that shared learning occurs. Teachers can encourage the use of e-learning tools and build these into classroom practice, but it can still be difficult to persuade reluctant students to use these facilities even when they are available. We will discuss the affordances of ICT to support e-learning in greater detail in the next chapter.

5. E-learning: New ways of learning?

The previous chapter highlighted a few examples of VC teachers and students using Web-based tools to support shared learning and extend the learning environment, and discussed some of the tensions and challenges for both teachers and learners to begin to maximise the learning potential of these technologies. In what other ways is ICT supporting teaching and learning, and how widespread are these sorts of practices across virtual classrooms? This chapter draws from the survey and focus group data to explore the extent to which teachers and students appear to be engaging in e-learning as it is envisaged in *The New Zealand Curriculum*.

E-learning in *The New Zealand Curriculum*

E-learning is not just about using technology as a tool for delivering, retrieving or gathering information. *The New Zealand Curriculum* highlights four key learning outcomes that can be achieved through e-learning (Ministry of Education, 2007, p. 36). E-learning has the potential to:

- assist the making of *connections* by enabling students to enter and explore new learning environments, overcoming barriers of distance and time;
- facilitate *shared learning* by enabling students to join or create communities of learners that extend well beyond the classroom;
- assist in the creation of *supportive learning environments* by offering resources that take account of individual, cultural, or developmental differences; and
- enhance *opportunities to learn* by offering students virtual experiences and tools that save them time, allowing them to take their learning further.

Furthermore, the *Curriculum* states that:

Schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning (p. 36).

Since they are already a shift from some of the “norms” of the conventional classroom, virtual classrooms seem to provide an ideal opportunity to put e-learning into practice in ways that align with the intention of the *Curriculum* to “open up new and different ways of learning” (p.36) . However, the extent to which virtual classrooms model the full potential of e-learning remains an open question.

Key survey findings about ICT use and e-learning

The following survey findings provide insight into ICT use and e-learning in virtual classrooms.

In terms of the weekly VC sessions:

- Seventy-eight percent of students had never interacted with a guest speaker or expert during a VC session. VC sessions were mainly used for communication between teachers and students, and less often for students to have discussions with one another.
- Multimedia presentations, where used, were given mainly by teachers rather than students. Twenty-eight percent said their teachers never showed multimedia presentations during VC sessions, and 70 percent said students never did this.

In terms of learning during the rest of the week:

- Students were more likely to say they used websites to support their learning in VC classes than in conventional classes. Slightly more than half of the VC students searched the Internet for useful websites (53 percent), accessed their own VC websites (58 percent) or other websites recommend by their teachers (60 percent) at least once a week.
- In both VC classes and face-to-face classes, it was relatively uncommon for students to report regularly engaging in activities involving Web 2.0 practices (using the Internet as a tool for publishing, communicating, collaborating and networking).
- More than half of the students said that they rarely/never used ICT such as phone/Skype calls, text/instant messages or emails to discuss their work with their teacher during a typical week, and 84 percent rarely or never used ICT to communicate with classmates from other schools.

We presented the *Curriculum's* e-learning statements and these survey findings back to the teachers and students in our focus groups, and asked them the following questions:

- Are class websites (e.g., Moodle sites, blogs, forums etc.) used in your VC classes?
- If class websites aren't used, why is this?
- What can you see as the possibilities and advantages of e-learning?

Are class websites used in your VC classes?

Student and teacher focus groups indicated a variety of situations regarding the use (or nonuse) of VC class websites (e.g., Moodle sites, blogs, forums etc.):

- Some VC classes were mostly using their websites as noticeboards. Teachers uploaded resources, and students downloaded them, but there was little or no discussion or interaction with the website.
- In some VC classes, teachers and students were going beyond using the Internet as a medium for the transfer of information, and were using their class websites for interactive and

collaborative learning. Some teachers gave feedback to students online, and some students were able to comment on each other's work.

- As discussed in Chapter 4, in some classes, facilities for online discussion and collaboration were available, but for various reasons were not being used.
- A few students said their VC classes did not have a website or online learning management system, or if it did, they were not aware of this.

The comments below illustrate some of these different situations:

My teacher has set up a [subject] link, we have a website and let's say if we learn a definition we can add to the glossary and talk to other class members about our class work and stuff, it's cool. (Student)

It's good to have course plan and notes online so you can look at them whenever you want. It's all organised, they have it set out, what we're going to do in the year, and the times we are going to do them. (Student)

We have a blog set up for our class, our teacher puts work up and we all have profiles, but I don't think we can really talk to each other through it. Or, no one actually uses it apart from the teacher to put up homework. People aren't using it a lot. (Student)

I do [subject], it's hosted at our school, my teacher has a website, and he makes slideshows of every lesson that he uses in class. We can download them later, he has resources on the website which is quite good. He has done that on his own, it's additional to what is facilitated through [the cluster]. Mostly [we use the site for] downloading [resources], there are forums, a place for us to have discussions, but we don't use them. (Student)

If class websites aren't being used, why is this?

Teachers and students suggested various reasons why VC class websites/learning management systems and/or the Internet in general were not being used by some VC students. First, some students still had issues with computer and Internet access at school, or schools blocking access to sites which have been recommended by the students' teachers. Second, some teachers explained that setting up and maintaining class-specific websites required a huge amount of time, and even when teachers made the effort to do so, students did not always engage with the sites. One student recalled her teacher saying a previous attempt to use a VC class website had been unsuccessful:

My teacher said [he] tried to [use a class website] one year ... but said it didn't work very well. He reckoned it was because of people in his class at the time, they didn't use it much and he reckoned he'd be so busy he didn't have time to put stuff on there, so he just hasn't picked it up again. (Student)

Some teachers suggested that students didn't think it was necessary to engage with online resources to support their learning because they expected their virtual classes to be the same as their face-to-face classes, where conversations about school work only took place in the context of the classroom lesson. Teachers discussed this as a mindset that needed to be overcome:

The challenge is getting people to take their learning outside of the lesson, that's the big challenge, I'm always encouraging my students to learn outside the hours of school. They have Internet at home and they're using social networking sites and I encourage them, and when I see that they've done it, because in Moodle you can see when people have logged on, I give a lot of praise to anyone who I see has been working on a Sunday to encourage that. And I think we have a huge perceptual barrier that we have to overcome [that learning can happen any time, anywhere, not just in the classroom] and we'll do it little by little with the kids. (Teacher)

Some students suggested class websites might be more interesting for learners if their structures and functions were more similar to other sites they visited (e.g., social networking sites):

For most people, Internet use is absent from the traditional learning environment. People use this technology in their leisure time, so learning in a traditional classroom sense doesn't seem as interesting. But if you could take those things and put them into a classroom learning environment, I guess it would be more interesting. Maybe mimic the way social networks function. Just using a blog, I find really helps. (Student)

However, one teacher recalled how his students were ashamed of revealing that they discussed their school work on their personal websites, and he felt that this was because students tend to keep their social and work spaces separate:

... certainly at our school that's the big issue about doing any sort of homework is seen as un-cool and an infringement of your own personal time. I think the way that we [change that] is by making the learning interesting, by making the sites engaging for those pupils who do go in, that there's some sort of interaction built in there so they can send messages ... or they contribute to forums ... gradually the message hopefully will get through that ... it is helpful to your learning to do stuff outside of school time and slowly we'll melt away this huge ice block of disinterest in, because it's a new idea really ... and new ideas take time to be taken up. (Teacher)

In Chapter 6 we discuss the idea of personalising teaching and learning to engage students' interest to the extent that they would want to engage in discussions about school work even after school ends.

What do teachers and students see as the possibilities and advantages of e-learning?

VC students and teachers saw various ways in which their VC classes either did or could align with the *Curriculum's* vision for e-learning (see the beginning of this chapter).

Extending the learning environment

Some students could imagine Web-based learning tools extending the learning beyond class time—even if this was not currently happening to a great extent:

Class time could continue after the bell has gone. By that I mean, say teachers going through the subject in a traditional learning environment, and then the bell rings, and you have to go

to another subject, they can put the stuff onto a blog or a site, somewhere you can go to continue the conversations. (Student)

One teacher described how a class learning management system was used to develop students' habits of giving each other feedback and reflecting on the feedback they receive. She was working with another teacher who had gone overseas but was still giving feedback to the work students posted onto the site:

... it was incredible how often the students were posting at 10 o'clock at night and actually for some of them, particularly the more high achieving in that class, how many times they came back and reviewed comments both by the teacher and also that they had made, so they were really reflecting on their own learning which is not so much assisting with that community building [potential of the learning management system], but it was a really strong indicator of that tool allowing them to develop that reflective process. And they were able to comment on and read each other's blog posts as well. And we were running it very much as their electronic diary of learning. (Teacher)

Another teacher had noticed the opportunities that online learning had offered to some of his quieter face-to-face students:

I've noticed in my face-to-face class that some of the girls who I call the quiet girls, very humble learners, they feel that they're not very bright but they work very hard and they're the ones who are using the Moodle site on a Sunday whereas the ones who think they know it all, they don't go anywhere near it and they're not interested. (Teacher)

Engaging with people outside the class

Although the survey and focus group data indicated it happens in few virtual classes, some teachers and students suggested that ICT could enable them to share their learning with people beyond their own classes. One approach to this would involve sharing their learning within the wider national community of school teachers and students. As mentioned in Chapter 3, one teacher suggested there could be national videoconferencing sessions where students doing the same subject from anywhere in New Zealand could log on and have learning conversations with students from different schools and clusters. A student suggested that each school or class could have a learning blog or website that could be linked up within a national network of students and teachers in the same subject areas:

Adapting school sites so that they have individual class blogs, and from there you could even connect them to similar classes in other schools. Then you could have a safe network, you wouldn't have like creepy old men stalking you, [because] it's run through the school. (Student)

The survey suggests one of the least common uses of ICT is to connect students with other people *beyond* the school world—for example, guest speakers, experts in different fields or people from community or business organisations. While it is often envisaged that school-based ICT innovations will provide the conditions for these things to occur more frequently or easily, other research shows that simply having the technical capability does not mean that it will happen

(Bolstad, 2004). Involving other people and organisations to support students' learning is still a relatively uncommon practice in secondary schools, and forming the kinds of partnerships and relationships that enable this takes time (Bolstad, Roberts, & McDowall, forthcoming). Nevertheless, in their literature review of virtual schooling, Barbour and Reeves (2009) suggest that the move away from a single-teacher approach in a virtual classroom *could* lend itself to the development of learning websites created by groups of individuals with expertise in different fields (e.g., teachers, designers, developers), and designed to cater to different learning preferences. However, this approach still suggests the development of a learning environment or learning resource with which students engage, rather than a space in which students would be interacting or collaborating with these different adults for the purposes of building new knowledge (see the next subsection).

ICT also offers the possibility for families to be more engaged in their children's learning; for example, if ICT tools are used to share and showcase to families what students are learning, to support students to bring aspects of their home lives and experiences into their learning environments and to strengthen relationships between teachers, learners and families. While there are examples of this from the early childhood and primary sectors (Lee, Hatherly, & Ramsey, 2002; Petchell & Glynn, 2009; Wilson, Clarke, Maley-Shaw, & Kelly, 2003), this appears to be less common in secondary schools, where parents are typically less directly engaged in students' schooling. However, at least one VC focus group teacher described how he had conversations with his students' parents through videoconferences and emails.

Various students' and teachers' suggestions for how e-learning can be fostered in virtual (or nonvirtual) classrooms are included in the table below.

Table 12 **Fostering e-learning: Insights from practice**

<ul style="list-style-type: none"> • Finding out whether students have sufficient access to, and interest in using, online learning tools and/or learning management systems to support their learning. • Making the most of the affordances of Web-based systems; adopting "blended learning" practices (e.g., doing homework online, asking questions through emails). • Getting students into the habit of using their websites and online management systems by ensuring that they use them from day one. • Modelling yourself as an online learner/participant in the online learning environment. • Noticing when students are choosing to continue their learning online and/or are actively contributing to online discussions, and providing positive feedback to encourage them. • Seeking feedback from students about what is working well, what other kinds of features they would like to have in their online learning environment and, if they are not using the online learning environment, why not. • Taking a future-focused and system-wide view. How might online and blended learning come to play a more significant role across all aspects of schooling—including virtual classes <i>and</i> conventional classes? How might virtual teachers and students model innovative e-learning practices that could be taken up more widely across the school?

The net generation and the electric teacher: Myth or reality?

The findings in this chapter and the previous chapter provide interesting insights into the use—or lack of use—of digital technologies in virtual classrooms. Perhaps the biggest challenge to the development of innovative e-learning approaches—whether in virtual or conventional classrooms—is a lack of deep consideration of why schools should bother. For example, the most mundane argument one could put forward to justify investing in school ICT is the idea that the new technologies simply make for greater efficiency—in other words, they allow schools to do the same kinds of thing, but more efficiently (and to some extent, help to overcome various issues of distance and time). A somewhat more interesting argument for investing in school ICT is based on the idea of what Prensky (2001) calls “digital natives”, the “net generation” (Tapscott, 1998). According to this argument, today’s young people have ideas, experiences and expectations of learning that are very different from those of their teachers because they have grown up in a digital-rich environment in which ICT—in the form of computers, the Internet, cellphones, personal game machines and mp3 players—is as normal and natural a part of their lives as books, pencils, bicycles or soccer balls were to the previous generation. The digital generation argument suggests that we need new methods of teaching and learning that incorporate the ways young people are used to operating in the digital environment. To use Prensky’s words, “today’s students are no longer the people our educational system was designed to teach” (2001, p. 1). Thus, if the educational system continues to *not* meet the needs of the digital generation, they will simply disengage from traditional school learning.

However, these arguments tend to be based on generalisations about young people, implying that they all think and act in particular ways, and as Sefton-Green (1998, p. 10) points out, “young people may not, in reality, be quite as *hyper-literate* as some theorists fantasize”. This virtual classrooms research suggests, as other studies have found, that while there is certainly room for schools to learn from their “digitally native” young people (Bolstad & Gilbert, 2006), it would be a mistake to think that simply having the technology available in schools means that teachers and students will naturally gravitate towards 21st century teaching and learning approaches. As this research shows, some students who can imagine innovative forms of e-learning may find themselves amongst peers and teachers who don’t see these as necessary or relevant. Similarly, some teachers who pour effort into cultivating a digital learning space for their students may be met with tepid enthusiasm or digital silences from students who choose not to engage, for reasons the teacher may or may not understand.

Elsewhere, we have proposed a third argument—the “knowledge age” rationale—to underpin thinking in educational ICT use (Bolstad & Gilbert, 2006). This argument says that schools ought to be using ICT not just to make learning more efficient or more appealing to the sensibilities of the “digital generation”, but rather, to help develop new kinds of curriculum and pedagogy that will both respond to and shape the 21st century world. From this perspective, ICT is interesting for its capacity to support radical pedagogical change, but it is not the sole instrument of this change, nor the *reason* for it. These kinds of pedagogies would emphasise, for example, student learning as collaborative knowledge building (e.g., involving collaboration between students, and

between students and other people who may be outside the school); a focus on students learning through active engagement with authentic contexts; and supporting students to find real audiences for the products of their learning. Reshaping school education along these lines obviously requires a deep consideration of what kinds of learning tools we might need, and what kinds of social, cultural and literacy practices emerging in the Web 2.0 environment could be used in schools for learning purposes. However, Zhang (2009) makes the case that while it is possible to develop all kinds of interesting Web 2.0 tools that would support “collaborative creation, sharing, linking, and remixing of content (p. 275)”, as well as “knowledge spaces and representation tools for indexing, tracing, monitoring, integrating, and advancing ideas” (p. 275), the tools alone are not enough:

Instead of simply blaming teachers for their slow response to Web 2.0 and other new technologies, researchers need to understand the mismatches between technological innovations and the culture of schooling. Although the current Web is socially dynamic, information rich, and personally engaging, the chaotic nature of online interactions and the dispersed knowledge representations in Web 2.0 spaces tend to worry educators, who traditionally expect students to behave predictably, follow rules, and concentrate on academic achievement that can be reflected through competitive tests. (Zhang, 2009, p. 276)

What Zhang attributes to “educators” in the quote above is perhaps more fairly attributed to the “education system”. Much has been written about mismatch between 21st century education ideas and the fundamental structures on which our current school system is built (Bolstad and Gilbert, 2008; Bolstad et al., 2005; Kress, 2003), and these clearly provide a significant challenge.

However, within the current education system there are educators whose interest and willingness to explore their own teaching approaches—and try doing things differently—could provide levers for wider shifts. Gibbons (2008) uses the metaphor of the “electric teacher” to describe an educator who is critical, reflective and empowered by their knowledge both of the technologies they may use in their teaching, and (most importantly) their own capacities and capabilities as an educator:

Think of the electricity one feels in the presence of a passionate and reflective teacher—that’s the electric teacher. (Gibbons, 2008, p. 16)

Some focus group teachers appeared to fit Gibbons’ description of “electric teachers”, and they suggested they and some of their VC colleagues were pioneering new pedagogical approaches that schools ought to be taking up as part of everyday schooling practice. As discussed in the next two chapters, the kinds of changes these teachers could envisage required system-wide shifts.

Summary

Our research suggests that while VC classes may utilise ICT for information-orientated purposes, the more innovative applications of e-learning as stated in *The New Zealand Curriculum* appear to be the exception rather than the norm across many classes. Some teachers and students could see the possibilities and advantages of e-learning, such as allowing learning to take place anywhere

and at any time, and facilitating the creation of new learning communities. A few teachers and students had begun to experience some of these possibilities in their VC classes. However, many classes appeared to be using ICT in ways that reinscribe traditional teaching and learning approaches, rather than exploring new and different ways of learning. Discussions with students and teachers suggested that some VC classes did not make use of any online resources for practical reasons (e.g., lack of computers and broadband Internet access). However, even with easy access to online sites, some students did not see the need to extend their learning beyond their weekly sessions because this had not been an expectation in their other face-to-face classes, and some teachers had found it difficult to engage their students in using e-learning even when these facilities were at their disposal. Several students and teachers suggested that e-learning should become a more everyday aspect of *all* school learning, not just virtual class learning. However, they saw relatively few examples of this occurring in practice at present. A few VC teachers appeared to be “electric teachers” (Gibbons, 2008), demonstrating a passion and reflectivity for their teaching that they felt enabled to pioneer new ways of teaching and learning that would ultimately provide workable models for whole schools to build on as they move to more “blended” learning or 21st century learning approaches.

6. Personalising learning

The previous chapters have suggested that students' and teachers' experiences of teaching and learning in virtual classrooms can range from mostly positive (for many), to somewhat frustrating (for some). This variability is as likely to occur in a conventional as a virtual classroom, and may have as much if not more to do with system-wide approaches to secondary education than the environment of the virtual classroom per se. It is perhaps no surprise that virtual classrooms are working well for some, and less well for others. The question is, what, if anything, should we do about it?

A key idea in the literature about education for the 21st century is the notion of moving beyond a one-size-fits-all approach to schooling, and instead developing approaches that develop each student's full potential, taking into account their interests, needs, abilities and aspirations (Bentley & Miller, 2006; Bolstad & Gilbert, 2008; Bolstad et al., 2005; DfES, 2004). This idea is sometimes discussed in terms of "personalising learning" (Leadbetter, 2005; Centre for Educational Research and Innovation, 2006; Cresswell, Morrisey, & Soles, 2006; Gilbert & Bolstad, 2006; Hargreaves, 2006; Järvelä, 2006; Maharey, 2006; Paludan, 2006). Personalising learning is a concept that is old, simple and familiar, *and* new, complex and difficult. Tailoring education to individual needs and interests has long been an ideal; however putting this ideal into practice has been difficult in the context of system-wide constraints that limit the degree to which educational systems are shaped around the needs of learners (Gilbert & Bolstad, 2006). In this chapter we look at students' and teachers' experiences of personalising learning in virtual classrooms.

Personalising learning in *The New Zealand Curriculum*

Several areas of *The New Zealand Curriculum* point towards the importance of personalising learning to best support every student. For example, the principles of *high expectations*, *inclusion*, *community engagement* and *coherence*, which state that the *Curriculum*:

empowers all students to learn and achieve personal excellence, regardless of their individual circumstances.

ensures that students' identities, languages, abilities, and talents are recognised and affirmed and that their learning needs are addressed.

has meaning for students, [and] connects with their wider lives ... (Ministry of Education, 2007, p. 9).

The *Curriculum* also indicates five teaching approaches or strategies that consistently have positive impacts for student learning (p. 34). These include:

- enhancing the relevance of new learning by “... look[ing] for opportunities to involve students directly in decisions relating to their own learning”;
- making connections to prior learning and experience by “... deliberately build[ing] on what their students know and have experienced ...[and] anticipat[ing] students’ learning needs ... [and] help[ing] students to make connections across learning areas as well as to home practices and the wider world”; and
- providing sufficient opportunities to learn by giving students “... time and opportunity to engage with, practise, and transfer new learning”.

Finally, the *Curriculum* suggests that:

Since any teaching strategy works differently in different contexts for different students, effective pedagogy requires that teachers inquire into the impact of their teaching on their students (p. 34).

All of these statements suggest that personalisation of teaching and learning is important in *any* classroom. This chapter explores the specific contexts, opportunities or challenges virtual classrooms offer for personalising learning and meeting the pedagogical intentions of *The New Zealand Curriculum*.

Key survey findings about personalising learning

Quantitative and qualitative data discussed in previous chapters suggest considerable variability in the ways different teachers and students interact during their weekly VC sessions and during the course of a typical week. However, some general patterns are evident from the survey:

- The most common activities during VC sessions are the exchange of questions between teacher and students (occurring in most or all classes for over 60 percent of students), with teachers slightly more likely to direct questions at their students rather than vice versa.
- More than half the students reported that the teacher talked through most of the VC session in most or all classes, and it was also relatively common for teachers to use the session to go through homework or assignments.
- Exchanges between students were less common. Just under half of the students said that their teacher facilitated discussion between students from different schools in some/most/all of their classes, and only one in five had similarly frequent opportunities to organise their own discussions with students from other schools.²⁵
- With regards to the resources that are used, teachers are almost twice as likely to show notes through the document camera as to give multimedia presentations, and few students had

²⁵ See Chapter 4.

opportunities to show multimedia presentations to their class or to have interactive conversations with guest speakers or experts.²⁶

The predominance of teacher-directed activity during virtual lessons *might* indicate a tendency towards one-size-fits-all teaching approaches. However, this really depends on the nature of the teacher talk. For example, it could be that the lesson is mainly about the transmission of curriculum content to the whole class, but on the other hand, a talkative teacher *could* be spending most of the lesson checking in with each individual student, asking and answering questions to help them with the individual or group questions or problems they are working on, or giving feedback on the projects and activities students have been working on during the rest of the week. The student survey suggests that up to two-thirds of students found their VC teachers reasonably responsive to their individual learning needs. For example, 60–66 percent of students agreed or strongly agreed that their VC teacher: keeps teaching till they understand; uses examples that are relevant to their experience; gives useful feedback on students' work that helps them see what they need to do next and how to do it; and is interested in students' ideas. These ratings were slightly less positive than for students' favourite face-to-face classes, but more positive than their rating for their least favourite face-to-face classes (see Table 2, Chapter 2).

The survey data paint a picture of the nature of teaching and learning virtual classrooms only in broad brushstrokes. Qualitative data help us to understand at a finer level of detail. Drawing from the survey findings, we created fictional scenarios about two students learning biology in different virtual classrooms (see Table 13). The scenarios were designed to stimulate a discussion about the degree to which students perceived their classes to be personalised around their needs, interests, abilities and preferred ways of learning and working. In Stacey's class, teaching and learning was not particularly interactive nor personalised, while in Jayden's class, students appeared to be involved in decisions about what and how they were learning, and shared their learning with each other, as well as with people in other locations. We asked VC focus group students to discuss how similar or different the two scenarios were to their own virtual classes, as well as their conventional classes.

²⁶ See Chapter 5.

Table 13 **Two fictional VC scenarios**

Stacey’s biology class	Jayden’s biology class
<ul style="list-style-type: none"> • I meet my VC teacher and six students from three other schools once a week. • Last week, Mr Middleton went through the names and functions of different plant parts. I wrote down the main points he covered. • At the end of the session, he reminded us to complete the tasks in our booklets and asked if anyone had any questions. No one did. • During my VC study time, I worked on my assignment and emailed Mr Middleton about one of the questions. He said that he’ll answer it in the next class. 	<ul style="list-style-type: none"> • Our class decided to read up on various plant parts, find unique examples, take pictures and load them onto our class blog. • When we met for our VC session, we shared our findings. I want to grow some of the plants in my school garden. Other students are going to send me their seeds. • Mrs Smith asked why certain plants need parts that are of a specific size, shape or colour. We discussed different possibilities. • Someone from Australia posted a comment on our blog. His class is also learning about plant parts. He left us a link to their blog. We can’t wait to find out what they’re doing! • We decided that during our study time we’re going to dissect the plants we’ve found to see how they work from the inside.

Students’ views of the two scenarios

The students saw clear differences between the two fictional examples:

Stacey’s class sounds very teacher-dominated, it’s just boom-boom-boom go through what’s needed. In Jayden’s class it seems like people are more into it, and all the people from the schools in the VC class are all interacting, not just through themselves and the teacher but through themselves and other people. It’s more of a comfortable environment. (Student)

In Jayden’s class the teacher seems to encourage the learning a lot more. Like [she] asks if they’ve got questions, and they’ve got a blog and stuff so they’re not only going to learn, not only going to be interacting in their VC class time, but all the time. (Student)

It sounded like [Jayden] was really excited about it. It sounded like he did a lot more practical stuff, even when the teacher wasn’t there. It sounded like he was making the best of his time. Taking hold of his own learning. (Student)

Most said they would rather learn in a class like Jayden’s than a class like Stacey’s, and some students felt their VC classes *were* similar to Jayden’s:

My class is like Jayden’s because we do things as a class like read passages, but we ask students from other schools, we converse in [subject language] to the other students, and the teacher also asks us things, so it’s like a big conversation through everyone. We are all learning as a group, we don’t do individual tasks really, so it’s good. (Student)

Others said their VC classes were more like Stacey’s, and some thought this was a more “realistic” scenario, particularly for certain subject areas:

I think it's mainly because of the subject I do that Stacey's is more practical. With maths, there's not really that much [in terms of] interactive activities you can do on your own. (Student)

I also think it's to do with the time frame [because if they know what has to be taught], the teacher might have to do it more simply and straight to the point, cut out some of the creative stuff. (Student)

One group of students suggested that a Jayden-like class was more plausible in a face-to-face class than a virtual class:

... because you are with a teacher, you see them through the week as well. But it also sort of depends on the student [their personality], and depends on the teacher. (Student)

Most students had experienced both Jayden-like and Stacey-like face-to-face classes. Some suggested the nature of different classes related to different teachers' preferred ways of teaching, but were also linked with the nature of the subject area itself, or time constraints related to curriculum coverage:

[In our face-to-face biology class] at the start of the year we did lots of hands-on stuff, we'd go outside and get right into it, our teacher was really enthusiastic, and it made you care more about their subject I think. (Student)

Geography is like [Jayden's] but accounting is more like Stacey's, it depends on the teacher and the subject ... In my accounting class, it must be the nature of the subject, but [the teacher] just reads through the notes, we do an exercise, and we move on. There is a lot of room for question but ... It's more like Stacy's. (Student)

Teachers' views of the two scenarios

We presented the two scenarios and some of the students' comments to the VC teacher focus groups. Responding to these, teachers expressed a range of views about the desirability and/or possibility for virtual classrooms to involve interactive personalised learning approaches. Some teachers (like some students) suggested that the logistical constraints of NCEA-level subjects present a major barrier to personalisation:

... we're actually teaching NCEA classes, we're teaching kids to pass exams and [reach] achievement standards and even when you're teaching an onsite class, the degree of pressure to get through the work ... Some of it is a nice idea to actually do the nice bits [as in Jayden's class], but I think that one of the things that teachers who teach through video conference feel is that there's actually a real pressure to get through the content and to make best use of the one hour a week that you actually have with kids because you would have a normal class for four hours [a week] and therefore often it's a very intense time, you're trying to get the information across and there's not a lot of time to mess around. (Teacher)

Several teachers commented that because of these sorts of constraints (whether real or perceived), classes like Jayden's where there was a high degree of interactivity and students were able to

participate in decisions about what and how they learnt may still be rare in secondary schools, whether in virtual or face-to-face classrooms:

Isn't [Jayden's class] the sorts of things that we should be doing whether it's face-to-face or videoconferencing as well? So you know, sharing the teaching and learning, looking at prior learning to move forward. The issue with regards to pressure cooking through the content, [you have] to take each day as it comes because sometimes when you get into the class, sometimes the work hasn't been done and you've got to move forward from there. So the teacher certainly has to be flexible with regards to where their kids are at and in terms of moving forward too fast, well you could easily lose the kids as well. (Teacher)

Since different students progressed through their learning at different speeds, some teachers felt it was important not to adopt a transmissive teaching approach during their VC sessions because this might leave some students lost or behind, or bored and feeling "held back" if they have to sit through content they had already learnt. The table below shows some examples of strategies teachers used to try to personalise their teaching during their one-hour VC sessions (see also Table 4, Chapter 3).

Table 14 **Using VC sessions to personalise teaching: Insights from practice**

Two teachers described ways they used their VC sessions to find out where students were with their learning, in order to better personalise their teaching.

Teacher 1: When I'm actually videoconferencing, I don't go through the work that they have in front of them unless they want to go through that, I have question and answers at the start and at the finish, and looking forward to what we're going to do next, but I try and deliver something that's different from what they experience every day that they haven't got me there.

Teacher 2: I use my lessons as tutorial sessions, they do the work during the week, I go over what they don't understand, things that might be ultra important, I give them visuals (like pictures/DVDs/PowerPoints). My main aim is to facilitate conversation, get them to engage with the material, but [with] limited success at times.

As discussed in Chapter 3, a few teachers have also been able to negotiate a second weekly VC timeslot which students can opt into if they want an additional tutorial session.

Personalisation: What works?

Data from teacher and student focus groups suggested at least three ways of personalising teaching and learning to meet students' needs.

Seeking and responding to student feedback

Some students said their VC teachers offered them choices of topic or activity, and let them decide which option they were more comfortable with or interested in. Others said their teachers had asked for and responded to student feedback:

We gave the VC [subject] teacher feedback and now he puts stuff into games, crosswords, space invaders on the [eCluster] website. He does a lot of work online as well, doing activities like space invaders. (Student)

Connecting content to students' interests and experiences

Some students said their VC teachers found out about students' interests, and connected the subject content to those interests; for example, by explaining ideas in the context of something the students were familiar with. As discussed in Chapter 3 one teacher described personalising the content of his subject to be more relevant and connected to the unique natural environment and culture of the region his students lived in. Another teacher allowed each student to choose an assignment in an area that interested them, and supported the students to learn in relation to their chosen area. The teacher said this created more work from a teaching point of view "because I can't teach them all the same thing at the same time", but ultimately believed this was a more worthwhile approach to support better student learning.

Adapting the structure of VC classes

Teacher and student focus groups highlighted a few cases in which the entire structure of VC classes had been adapted when issues arose for particular students. For example, one VC student taking a language subject had been learning significantly faster than other students in her VC class, and found there was little conversational interaction between students (an issue discussed in Chapter 4):

It just wasn't working ... there was no interaction between the other students, and little interaction from the other students with the teacher as well, so there wasn't room for that kind of expanded learning ... [the teacher] was saying that because I want to learn, and have the potential to go beyond what we were going to be doing in that class [it was a good idea to make a change]. (Student)

The student, her ePrincipal and VC teacher negotiated for the student to withdraw from that class and, instead, have individual lessons with her VC teacher so she would have more support to progress to her full potential in the language she was learning.

One VC teacher described dividing her VC class into two subgroupings, one that was moving at a faster pace than the other. Dividing the students in this way allowed her to match her teaching to best suit the needs of each group. Another teacher found that individual students within her class had different preferred methods for seeking additional personalised support. For example, one student liked to stay on in the VC session after the other students had logged out to continue talking with the teacher. Another student preferred to keep in touch by email, and a third preferred to communicate with the teacher via text messages.

Other student focus groups highlighted cases in which personalisation was needed, but not available. For example, one student who struggled as a lone student suggested he had needed someone else to learn with, or to support him. Another group of learners explained they were

ahead of the other students in their virtual classroom and were frustrated that their teacher did not seem to acknowledge that they were learning at a different pace from the other students:

[The teacher] just goes on through the work with the other students and we're just sitting here. We asked one time if we could log out of the VC because we had nothing to do. But [the teacher] said no then I will mark you absent. So we had to sit here and listen to work we've already done and handed in. (Student)

Most importantly: Knowing the students

One student offered the interesting suggestion that teachers—whether virtual or face-to-face—might learn something about students' personalisation needs by observing how different students managed themselves in the virtual classroom learning environment:

I think our in-class teachers, maybe if they came along to VC, then they would be able to see how we learn ... At my school the classes are small and they do try to personalise our learning, and I think [coming to see us in VC classes] would help them to be able to do that. To be able to see how we learn best when we are independent. (Student)

Several focus group teachers echoed the view that teachers needed to learn about, and work with, each student as a learner with particular needs, goals, interests and aspirations:

It comes back to students being individual learners, sort of [identifying] what they want to do, setting goals with them, providing opportunities for them to self-evaluate what they're learning, feeding it back to the teacher. Use of games, anything to do with interaction. Making learning 24/7. (Teacher)

VC teachers need to establish relationships with their students. It's important for students to feel that the relationship is strong enough to contact teacher's ... The difficulty in distance relationships is that it's easy to ignore rather than answer the difficult questions. VC teachers have to negotiate teenage relationships. [Unlike face-to-face], a lot of information [about the students] doesn't come through email and even though VC. (Teacher)

Is personalisation only the teachers' responsibility, or is a system-wide shift required?

All the examples of personalisation described in this chapter could be seen as asking a lot of teachers and schools. There are only so many hours in a teacher's day, and the organisation that is required to keep track of how things are going for each of their students, and to be able to work with students who may be learning at different speeds, or working on different projects, can seem much more unmanageable than a one-size-fits-all model. However, as other literature on personalising learning has discussed (Gilbert & Bolstad, 2006), many teachers have long believed in (and demonstrated) the degree of care and concern that is required to help each of their students to learn best, taking into account their needs, interests, strengths and aspirations. In this sense, "personalising learning" is a very old and familiar idea that many teachers would recognise simply as part of being a good teacher. The challenge for many teachers is to be able to achieve

this degree of personalisation within a system that is not necessarily *designed* to achieve this. This has led many to argue that a system-wide redesign is needed:

The logic of education systems should be reversed so that it is the system that conforms to the learner, rather than the learner to the system. This is the essence of personalisation. It demands a system capable of offering bespoke support for each individual that recognises and builds upon their diverse strengths, interests, abilities and needs in order to foster engaged and independent learners able to reach their full potential. (Green, Facer, Rudd, with Dillon & Humphreys, 2005, p. 3)

Such a vision has radical implications for our current system, and as Leadbetter argues, personalised learning is “not for the faint of heart”:

It requires schools to radically rethink how they operate. Many of the basic building blocks of traditional education: the school, the year group, the class, the lesson, the blackboard and the teacher standing in front of a class of thirty children, have become obstacles to personalised learning. Personalised learning means differentiated provision to meet differentiated needs. All the resources available for learning—teachers, parents, assistants, peers, technology, time and buildings—have to be deployed more flexibly. (Leadbetter, 2005, p. 7)

These challenges are discussed further in the final chapter.

Summary

The New Zealand Curriculum highlights the importance of adopting teaching approaches that help each student to learn best and develop their full potential, taking into account their individual needs, interests, contexts, cultures and aspirations.

Focus group students had experienced differing degrees of personalisation in both their virtual and face-to-face classes. They suggested the degree to which learning could be personalised, and the degree to which students could be involved in decisions about the content and structure of their learning, depended on the teachers’ preferred teaching styles, the nature of the subject and/or the amount of content that needed to be covered. Some teachers (like some students) suggested that the logistical constraints of NCEA-level subjects presented a major barrier to personalisation of VC classes. Other teachers highlighted the VC survey findings as indicative of a wider issue. In their view, personalised and interactive learning was something that should be happening consistently through all schooling. For this to be achieved in virtual classes, a system-wide shift is needed in the culture of schooling.

7. What can virtual classrooms teach us?

This chapter considers what we can learn from this research that explored the experiences of students (and teachers) in virtual classrooms. Four key conclusions are summarised below, moving from the micro to the macroscale.

Virtual classrooms provide an adequate solution to a need

At the microscale, we have gained some insight into the ways students tend to experience a typical VC lesson, and a typical week of learning as a virtual student. We have seen that, for most students, practices in VC classes are typically not quite as favourable as what they experience in their favourite face-to-face class, but are generally much better than what they experience in their least favourite face-to-face class. Students who would consider learning through VC again tend to have had a more positive learning experience than those who would not. Thus, although some limitations have been identified, learning in virtual classrooms is generally experienced as a satisfactory way to learn for most students, and only a small percentage of students appear to be having particularly unfavourable experiences learning in this way. As virtual classrooms address a need that is unlikely to disappear any time soon (i.e., the inability of many schools to offer a full range of curriculum options due to staffing and resourcing issues), these findings are positive.

The degree of shared learning, e-learning and personalisation in virtual classrooms varies

The survey data suggest that one of the biggest differences between virtual and conventional classes is the degree of shared learning and peer collaboration. While some virtual classes involve a high degree of student-led discussion and peer collaboration, on average students experience this less in virtual classes than in their conventional classes. Teachers and students have experienced mixed success in attempting to foster a culture of shared learning in virtual classes, but particular strategies and practices appear to be working well in some classes. These practices and strategies involve a mixture of the “right” technological tools, combined with social and pedagogical factors which give these tools relevance and position them as an integral and meaningful part of the learning process.

Students are using ICT more in virtual classrooms than in most other conventional classrooms, and we identified some examples where teachers and students were using Web 2.0 platforms to enrich and extend their learning in interesting ways. However, at this stage, virtual classrooms do

not yet seem to be fully realising the potential of e-learning as it is described in *The New Zealand Curriculum*. It may be that this potential cannot be realised until e-learning becomes a more integrated practice across all of schooling, including becoming integrated into what we have described in this report as “conventional” or “face-to-face” teaching and learning.

Some students and teachers reported ways in which teaching and learning in virtual classrooms was adapted to meet different students’ specific needs, interests, aspirations and learning speeds. However, other students or teachers implied there was limited flexibility for this to occur in their classes. Some suggested that certain subjects, or certain teaching styles, simply wouldn’t allow for greater personalisation. Others believed the biggest constraint on personalisation was the need, real or perceived, to cover as much content material as possible to ensure that students would be able to achieve success in their high-stakes assessment.

Conventional assumptions tend to underpin students’ and teachers’ expectations about what could or should happen in virtual classrooms

Digging beneath the surface of the data, we find that most students’ and teachers’ views of virtual classrooms are underpinned by an interesting mixture of assumptions and expectations about teachers’ and students’ roles, what counts as “learning” and what kinds of responsibilities each party ought to take in supporting and managing learning.

Most students and teachers tend to think virtual classes require students to be able to cope with a degree of independence greater than what a conventional classroom might demand, and that students who are good at managing themselves and their own time are best suited for this learning environment. International research has found similar views permeate different manifestations of virtual schooling (Barbour & Reeves, 2009), yet this type of idealised model of the virtual learner may become increasingly unhelpful as the range of students who are taking up virtual learning widens. Both teachers and students identified a range of things that VC teachers and schools could do to support students, so that even those who struggled with self-management would be able to learn successfully in the VC environment. Yet Barbour and Reeves’ review sounds a cautionary note; their studies of virtual schooling in the United States and Canada found that many students “either did not know about or chose not to take advantage of many of the support structures put in place by the virtual schools”, and “the question of what could have been done differently to support virtual school students remains unanswered” (p. 412).

Wedemeyer (1981, cited in Barbour & Reeves, 2009) suggests that:

The traditional learner dependency sets believed and practiced by teachers, and required by learners in schools, come apart when the teacher and learner are physically distant from each other (p. 111).

This simple statement hints at the deeper theme that could account for many of the findings in this research. The “traditional learner dependency” Wedemeyer refers to is based within a whole set of assumptions about teaching, and learning; for example, the assumption that the main purpose of schooling (particularly secondary schooling) is to provide students with access to discipline-specific content knowledge, and ways of thinking and working, which they would otherwise be unlikely to learn through their other life experiences (or if left to their own devices). Students are positioned as novices, and teachers are positioned as experts. Students are generally unable to direct their own learning to a great extent, because they are dependent on their teachers to provide the knowledge they need in pieces that the students can understand. They depend on their teachers to guide them in a step-by-step process of assembling this knowledge to gradually deepen their understanding of the particular discipline or subject in question.

Students’ dependency on their teachers is generally taken for granted in conventional classrooms, to the extent that it becomes invisible. But this dependency is brought into high relief when constraints of distance and time are brought into the equation. There are several possible responses to this new environment. First, teachers and students may seek to recreate essentially the same kind of learner-dependent relationship, but adapt this to fit within the new medium. Teachers may adapt their teaching (e.g., reducing their delivery to the content that is considered *most* important or necessary to fit within the available time for delivering lessons), and they may also provide a wider array of resources which allow students to access this knowledge in a less teacher-dependent way (e.g., providing or directing students to relevant online resources). In both situations, students who are competent in navigating through their learning with less hands-on support will tend to manage well, making use of the resources at their disposal. Some may actually prefer this way of learning. However, other students who are unable or unwilling to relinquish their dependence on their teachers are likely to struggle. Both teachers and students may see this as ultimately the students’ own responsibility, particularly if it seems that they are simply choosing not to make the most of the resources available to them.

A different response to the shift to virtual classrooms could be to rethink the roles of both teachers and students, and consider how the new environment could be used to cultivate a different kind of learning culture—one in which the goal of learner “independence” is matched by pedagogies and resources that are genuinely designed to *cultivate* learners’ independence—as well as their ability to think and learn collaboratively. Teacher and student focus groups provided examples of these kinds of learning cultures developing in a few virtual classrooms.

Virtual classrooms are a microcosm for “bigger picture” issues for secondary education

So what does all this mean at the macroscale? As previous chapters have suggested, many of the issues raised in this research on the microcosm of virtual classrooms point towards a variety of

“bigger picture” or macro-level issues for the secondary education system as a whole. Some of the comments from VC focus group teachers capture the essence of the “bigger picture”:

We talk about 21st century learning, and the thing is we’ve got 19th and 20th century teaching styles. The problem is that we’ve got a model of teachers working in a space that’s 19th and 20th century teaching. We’ve got this timetable, we’ve got this idea that we’ve got to be five days, five times a week we’ve got to see our students, 30 in a class and teach them. And yet what we’ve done is that in the 1950s and 1960s that was fine, the teachers weren’t so stressed out. But now we’ve just put more workload, more paperwork, more assessment, more everything, but we haven’t changed the model of how we teach. So this use of technology, we’ve got to start saying ‘Hey, come on, we’ve got to change the way classrooms operate, we’re spending so much time working inside our classrooms that we’re not working on our teaching and good teaching practice’. I know that this may be blue sky thinking, but imagine if we only spend two periods in front of our students during the week, but the other times we have them working in these online environments, talking to each other, doing more stuff online and then they’re accessing us as areas of knowledge, as areas of support. (Teacher)

I’ve learnt that students don’t work in one-hour blocks and neither do we as adults. This mentality has got in the way of good learning. We need to move away from rigid timetable blocks, get rid of timetables and get students engaged. [To] realise that if we give students work, they might get behind, catch up or get ahead. I appreciate the opportunities to share [insights about] teaching and learnt with other VC subject teachers. This has improved my understanding of other curriculum areas. (Teacher)

Several VC teachers believed that what they have been doing in their own practice is quite innovative, and yet much of what they have learnt about teaching and learning is “invisible” to other staff in their own schools. For example, one VC teacher said that other staff in her school thought she went off into a room and did nothing all day, because they didn’t see her around the school in the way they saw other teachers:

I suggested during one staff meeting that I show them what I’m doing. Introduce the idea that you can go for blended learning [incorporating e-learning practices into school-based teaching]. But they didn’t seem particularly interested. (Teacher)

Several focus group VC teachers believed schools needed to take precisely the opposite stance, and that *all* teachers, not just those teaching in virtual classrooms, need to be part of the conversation about the bigger picture issues discussed in this chapter. One VC teacher noted wryly that it had taken the threat of the swine flu pandemic to motivate some of his teaching colleagues to find out how to use the school’s learning management system:

We’ve had KnowledgeNet [available] for a couple of years, [but] in preparation for swine flu [and the possible contingency plans that might be needed if students were ordered to stay at home for several days], I suggested to the staff that they should get up to speed with it. People said, ‘Oh yeah, good idea.’ Last night, we had staff putting stuff in. We did one little task, and people saw the possibilities of peer assessment. We’re just getting started, it’s something you’ve got to just start, do it in small ways. The teachers have to see the purpose, it has to be efficient. (Teacher)

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Appendix A: Phase 1 student focus group questions (2008)

Introduction

What subjects are you learning in virtual classes? How many? When did you start?

Did you have a choice about how to study these subjects? If so, why did you choose virtual learning?

How virtual learning works

Talk me through a typical virtual lesson. How does it work? Apart from videoconferencing, what technologies do you use? How often? Are they easy or difficult to use?

Is your relationship with your virtual learning teacher different from your relationship with other teachers? Does s/he talk more or less than other teachers? Does it feel strange that s/he cannot see you all the time? What do you do when the camera is not on you?

What do you do in the study time allowed for this subject? What kind of work are you set? Where do you go to do this? If you need help, what do you do? Are you more or less likely to complete your homework/assignments for a virtual lesson?

Students' views of virtual learning

Has virtual learning turned out as you expected? Are there some aspects that are better, worse, or just different? In what way? Is it as good as having the teacher and other students in the same room as you?

Do you enjoy learning in this way? How does it compare with your 'ordinary' classes? What do you like better? What do you not like as much? Do you think you learn more or less? Why is that? Do you get more choice about what and how you learn?

Do you think that virtual learning has helped you become a better learner? Has it helped you understand how you learn?

Overall assessment

Overall, what would you say were the advantages of virtual learning? What are the disadvantages?

What kind of students do you think get on better (or worse) in virtual classrooms? Why is that?

Engagement

What makes you feel really motivated about learning? Does this happen more or less in a virtual classroom?

Can you think of a time when you've got found something that you're learning really interesting, even exciting? So much so that you want to go on learning about it? When has this happened? During a virtual lesson, an ordinary lesson, outside school?

Appendix B: Online student survey

The New Zealand Council for Educational Research (NZCER) is undertaking a study of students' experiences of learning in virtual classrooms for the Ministry of Education. The study aims to discover your perspectives on the kinds of learning and teaching that take place in virtual classrooms.

We are conducting an online survey as part of the study. This survey is voluntary and confidential. The information you provide will only be seen by members of the NZCER research team and will be reported in a way that does not identify individual students. The questions are not a test and there are no right or wrong answers. Please answer each question based on what you really think. The survey will take approximately 25 minutes to complete.

Once you have completed this survey, you can go into a draw to win an iPod shuffle (1GB). Please complete this survey by 31 October 2008.

If you have any queries, please phone or email researcher Rachel Bolstad: 04 802 1382, rachel.bolstad@nzcer.org.nz

I agree to take part in this survey

Yes

Section A – About you

1. Which school are you currently at?

- | | |
|---|---|
| <input type="radio"/> 1) Akaroa Area School | <input type="radio"/> 2) Amuri Area School |
| <input type="radio"/> 3) Bay of Islands College | <input type="radio"/> 4) Blue Mountain College |
| <input type="radio"/> 5) Buller High School | <input type="radio"/> 6) Chanel College |
| <input type="radio"/> 7) Coastal Taranaki School | <input type="radio"/> 8) Coromandel Area School |
| <input type="radio"/> 9) Craighead Diocesan School | <input type="radio"/> 10) Darfield High School |
| <input type="radio"/> 11) Dunstan High School | <input type="radio"/> 12) Fiordland College |
| <input type="radio"/> 13) Forrest View High School | <input type="radio"/> 14) Greymouth High School |
| <input type="radio"/> 15) Hurunui College | <input type="radio"/> 16) Inglewood High School |
| <input type="radio"/> 17) John Paul II High School | <input type="radio"/> 18) Karamea Area School |
| <input type="radio"/> 19) Kuranui College | <input type="radio"/> 20) Logan Park High School |
| <input type="radio"/> 21) Manawatu College | <input type="radio"/> 22) Mangakino Area School |
| <input type="radio"/> 23) Maniototo Area School | <input type="radio"/> 24) Menzies College |
| <input type="radio"/> 25) Mercury Bay Area School | <input type="radio"/> 26) Morrinsville College |
| <input type="radio"/> 27) Mt Aspiring College | <input type="radio"/> 28) Mt Hutt College |
| <input type="radio"/> 29) Murchison Area School | <input type="radio"/> 30) Northern Southland College |
| <input type="radio"/> 31) Northland College | <input type="radio"/> 32) Opihi College |
| <input type="radio"/> 33) Oxford Area School | <input type="radio"/> 34) Paeroa College |
| <input type="radio"/> 35) Patea Area School | <input type="radio"/> 36) Piopio College |
| <input type="radio"/> 37) Putaruru College | <input type="radio"/> 38) Rangiora New Life School |
| <input type="radio"/> 39) Rangitikei College | <input type="radio"/> 40) Reefton Area School |
| <input type="radio"/> 41) Reporoa College | <input type="radio"/> 42) Roncalli College |
| <input type="radio"/> 43) Roxburgh Area School | <input type="radio"/> 44) Ruapehu College |
| <input type="radio"/> 45) Solway College | <input type="radio"/> 46) South Otago High School |
| <input type="radio"/> 47) South Westland Area School | <input type="radio"/> 48) St Mary's Diocesan School |
| <input type="radio"/> 49) Tamatea High School | <input type="radio"/> 50) Tararua College |
| <input type="radio"/> 51) Te Aroha College | <input type="radio"/> 52) Thames High School |
| <input type="radio"/> 53) The Catlins Area School | <input type="radio"/> 54) Timaru Boys High School |
| <input type="radio"/> 55) Tokomairiro High School | <input type="radio"/> 56) Tongariro School |
| <input type="radio"/> 57) Tuatapere Community College | <input type="radio"/> 58) Waihi College |
| <input type="radio"/> 59) Waimate High School | <input type="radio"/> 60) Waitara High School |
| <input type="radio"/> 61) Whangamata Area School | <input type="radio"/> 62) Other (please specify): _____ |

2. What year are you in?

- 1) Year 9
- 2) Year 10
- 3) Year 11
- 4) Year 12
- 5) Year 13

3. Which years have you learned in a VC class? (click all that apply)

- a) This year (2008)
- b) Last year (2007)
- c) 2 years ago (2006)
- d) 3 years ago or earlier (2005 and earlier)

4. How many VC classes are you taking this year?

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) More than 4

Section B – Your VC class

Please answer the questions in Sections B and C for your VC class. If you are in more than one VC class, please choose the VC class you enjoy the most.

Please note: the term “VC class” includes all classes where any students are participating by VC. Even if you are physically based in the same room as your VC teacher, this still counts as a VC class/subject.

5. What subject are you taking through VC? _____

6. What level is your subject?

- 1) Beginners (e.g. Beginners German/Spanish/Te Reo Māori)
- 2) Level 1 NCEA
- 3) Level 2 NCEA
- 4) Level 3 NCEA
- 5) Level 4 NCEA
- 6) SMI (Scholarship Mentoring Initiative)
- 7) Other (please specify): _____

7. Why are you learning this subject through VC?

- 1) My school does not offer the subject as a non-VC option
- 2) My school offers the subject, but I have a time-table clash
- 3) My school offers the subject, but I prefer to do it through VC
- 4) Other (please specify): _____

8. Where is your VC teacher based?

- 1) At my school
- 2) At another school
- 3) At a polytechnic
- 4) Other (please specify): _____

9. How easy/difficult is it for you to use the VC equipment?

- 1) Very easy
- 2) Quite easy
- 3) Quite difficult
- 4) Very difficult

10. In your VC class, how many students are from your school (including yourself)?

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) 5
- 6) More than 5

11. In your VC class, how many students are there in total (including yourself)?

- 1) 1–2
- 2) 3–4
- 3) 5–6
- 4) 7–8
- 5) 9–10
- 6) More than 10

12. During your scheduled VC class with your VC teacher, how often do the following things happen? Please read each statement and click the circle that best matches your view.

During my scheduled VC class:	Most/All classes	Some classes	A few classes	None of the classes
(a) The teacher talks throughout most of the session	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(b) The teacher goes through our assignments/homework	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(c) The teacher shows the class multimedia presentations (e.g., PowerPoint, videos)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(d) The teacher shows the class notes through the document camera	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(e) Students show the class multimedia presentations (e.g., PowerPoint, videos)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(f) We communicate with guest speakers/experts through VC	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(g) The teacher directs questions at individual schools/students	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(h) Students ask the teacher questions	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(i) The teacher facilitates discussion between students from different schools	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(j) Students from different schools carry out their own discussions	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(k) We experience technical difficulties (e.g. losing visual/audio) that disrupt the class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

13. In a typical week how often do the following things happen during the study/homework time allocated for your VC class? Please read each statement and click the circle that best matches your view.

In a typical week:	5 or more times a week	3-4 times a week	1-2 times a week	Rarely/Never
(a) I mail/text/call my VC teacher for help	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(b) I have one-on-one VC sessions with my VC teacher	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(c) I approach teacher(s) within my school who teach/know the subject for help	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(d) I use study time to work on my VC assignments/homework	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(e) I use study time to work on my assignments/homework from other classes	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(f) I access my VC website (e.g., Moodle) to download homework, post messages, etc.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(g) I access other websites recommended by my VC teacher	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(h) I search the Internet for useful websites for my VC class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(i) I discuss my work with VC students within my school	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(j) I discuss my work with VC students from other schools (including by phone, text, VC, email, or online)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

14. Where do you usually go during the study time allocated for your VC class? (click all that apply)

- a) Study room
- b) Computer room
- c) Library
- d) Join another class
- e) Other (please specify): _____

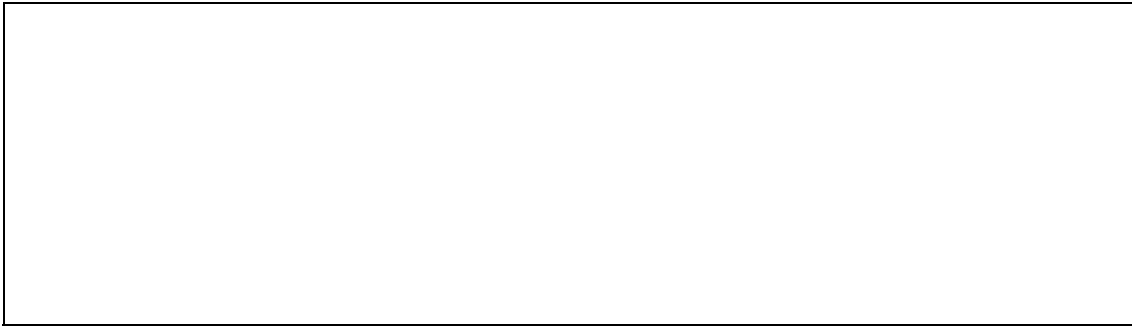
15. Would you choose to learn through VC again?

- 1) Yes
- 2) No
- 3) Maybe

16. Which of the following factors would motivate you to learn through VC again? (click all that apply)

- a) If it is the only way to do a subject that I want to do
- b) If I know that the VC teacher is good
- c) If I have more than one VC session with the teacher each week
- d) If I have adequate support at my school (e.g., having teachers who teach the same subject at my school)
- e) If the VC equipment/connection is reliable
- f) Other (please specify): _____

17. How do you think your VC class can be improved?

A large, empty rectangular box with a thin black border, intended for the student to write their response to the question above.

Section C – Your VC class and your face-to-face classes

The next questions ask you which face-to-face classes you enjoy the most and the least this year.

Please do not count any of your VC classes as “face-to-face”, even if your VC teacher teaches in the same room as you during VC lessons.

18. What is the face-to-face class you enjoy the most this year? _____

19. What is the face-to-face class you enjoy the least this year? _____

The following questions are about three of your classes—your VC class (or the VC class you enjoy the most, if you have more than one), the face-to-face class you enjoy the most, and the face-to-face class you enjoy the least. Please read the statements, think about how they apply to each class, and click the circle that best matches your view.

20. My Teacher	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
My teacher is interested in my ideas					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
The teacher gives us clear expectations of what we are to do					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
My teacher treats me fairly					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
My teacher keeps teaching till we understand					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
The teacher gives useful feedback on my work that helps me see what I need to do next and how to do it					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
The teacher uses examples that are relevant to my experience					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I can count on the teacher for help when I need it

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

I like the teacher

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

I don't like asking my teacher questions

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

21. My Class	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I gain knowledge that will be useful for my future					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I get time to think about ideas and problems in new ways					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I can make mistakes and learn from them without getting into trouble					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Students don't listen to what the teacher says					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Other students are distracting					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Students help and support each other					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I work with other students on group tasks

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

Students can safely express different views from each other

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

We assess each other's work and give feedback

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

22. My Learning	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
When I'm doing something in this subject, I think about whether I understand what I'm doing					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I organise my time so I get things done					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I set and meet my own learning goals					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I get totally absorbed in my work					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I enjoy doing the homework I get					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I feel that I must do my assignments/homework in order to keep up					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

I muck around

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

We keep doing the same things without learning anything new

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

We get too much homework

(a) VC Class 1 2 3 4 5

(b) Face-to-face class I enjoy the most 1 2 3 4 5

(c) Face-to-face class I enjoy the least 1 2 3 4 5

23. My Work	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I don't know how to do the work					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I plan to drop this subject as soon as I can					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I do well in this subject					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We learn things outside the classroom (e.g., on fieldtrips)					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I see connections with other things outside school					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We do projects about real things/issues related to this subject					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We do real-life projects that involve doing something to meet a genuine need, or solve a real problem (e.g., within your school, community, local environment, region, etc.)					

(a) VC Class	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
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(b) Face-to-face class I enjoy the most	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---

(c) Face-to-face class I enjoy the least	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
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We have a lot of hands-on/practical activities

(a) VC Class	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
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(b) Face-to-face class I enjoy the most	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---

(c) Face-to-face class I enjoy the least	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
--	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---

We can choose what topics we want to do

(a) VC Class	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
--------------	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---	-----------------------	---

(b) Face-to-face class I enjoy the most	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
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(c) Face-to-face class I enjoy the least	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5
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24. <u>Use of ICT</u>	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
We go to specific websites suggested by our teacher					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We use the Internet to independently search for information for a project or topic					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We use ICT to communicate with people outside our class (e.g., emailing experts, online forums)					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We create multimedia presentations to show to our teacher and/or classmates (e.g., PowerPoint, videos, digital stories)					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We create multimedia presentations (e.g., PowerPoint, videos, digital stories) to show to audiences outside our class (e.g., school website, parent evenings, or any other audience besides your teacher and/or classmates)					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
We publish on the Internet (e.g., build web pages, blog, contribute information to Wikipedia)					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

25. <u>NCEA (only answer if your class has NCEA credits)</u>	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I am only doing this class for the NCEA credits					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
The NCEA credits are easy to get					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I will get a lot of NCEA credits in this class					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I can get more Excellence than Merit NCEA credits					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I can choose what assessments I want to do for NCEA					
(a) VC Class	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) Face-to-face class I enjoy the most	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) Face-to-face class I enjoy the least	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Section D – Comparison of your VC class and your face-to-face classes

26. This question is about how your overall experiences of learning in VC are similar to or different from your other school learning experiences. Please read each statement and click the circle that best matches your view.

In my VC class, compared to my other classes:	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
(a) I learn things that are more relevant to my life and interests	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(b) I work harder and feel more motivated	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(c) I have better achievement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(d) I learn more independently	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(e) I learn more study skills that will be useful after I leave school	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(f) My teacher shows more trust in students	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(g) I have more flexibility in when I complete and hand in my work	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(h) My teacher is better prepared and equipped for the lesson	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(i) I have less interaction with other students	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(j) I am less likely to complete my assignments/homework	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(k) I have less quality time with my teacher	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(l) I find the work less interesting	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(m) I feel less supported by my school	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
(n) I struggle more	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Section E – Your overall views of school

27. This question is about your overall views of school. Please read each statement and click the circle that best matches your view.

My school is a place where:	Almost always/ Always	Usually	Occasionally	Rarely/ Never
(a) I like my teachers	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(b) I get in trouble	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(c) I get bored	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(d) I want to leave as soon as I can	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(e) I enjoy learning	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(f) I get tired of trying	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(g) I skip classes	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(h) I feel restless	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

Prize Draw

If you would like to go into the draw to win an iPod shuffle (1GB), please enter your contact details below. Your contact details will be kept confidential and will only be used for the prize draw.

Name: _____

Email: _____

Postal Address: _____

Home Phone: _____

Cellphone: _____

THANK YOU FOR YOUR TIME AND VIEWS

Appendix C: Profile of student survey respondents (October–November 2008)

Table 15 **Year level of surveyed students**

Year level	Students (n=250) %
Year 9	2
Year 10	4
Year 11	17
Year 12	36
Year 13	41

Number of years students had been learning in a virtual classroom

Eighty-three percent had only learnt in a virtual classroom for one year, 14 percent had learnt in virtual classrooms for at least two years and 3 percent did not answer the question.

Number of VC classes student was taking

Most students were only taking one VC class (77 percent). Nine percent were taking two VC classes, and 7 percent were taking three or more VC classes. A further 7 percent did not answer the question.

Why students learnt in VC classes

The majority of surveyed students were learning through VC because there was no other way they could take the subject (see Table 16). Fourteen percent were learning through VC due to a timetable clash. Only 3 percent decided to learn through VC even though their school offered their subject as a non-VC option. Of the four students who gave an “other” response, three indicated that they needed teaching at a higher level than their school could provide.

Table 16 **Reasons for learning through VC**

Reasons	Students (n=250) %
School does not offer the subject as a non-VC option	78
School offers the subject, but I have a timetable clash	14
School offers the subject, but I prefer to do it through VC	3
Doing a scholarship paper	2
Other	2
No response	2

NB: Percentages add to more than 100 because multiple responses were possible.

Table 17 **Location of the VC teacher**

Location	Students (n=250) %
At another school	68
At the same school as the student	16
Another institution (e.g., Correspondence School, polytechnic, etc.)	13

NB: Percentages do not add to 100 due to rounding.

Table 18 **Subjects students were taking through VC**

Subjects	Students (n=250) %
Science, Biology, Chemistry, Physics	18
Social Studies, History, Geography, Classical Studies	16
Accounting, Economics	14
Mathematics, Statistics, Calculus	12
Languages (e.g., French, German, Japanese, Māori, Spanish)	11
Applied Science (e.g., Equine, Agriculture, Horticulture, Human Biology)	11
Health, Physical Education	4
Arts (e.g., Art, Music, Drama, Graphics)	4
Hospitality, Tourism, Home Economics	4
IT (e.g., Computer Science, Programming)	4
Technology (e.g., Electrical Engineering, Wood Technology, Electronics)	3
English, Media Studies	2
No response	1

NB: Percentages add to more than 100 because multiple responses were possible.

Table 19 **Total number of students in their VC class**

Number of students	Students (n=250) %
1-2	9
3-4	21
5-6	26
7-8	22
9-10	8
More than 10	13
No response	1

Table 20 **Number of VC classmates located in the same school as the student**

Number of students	Students (n=250) %
No classmates ("lone" students)	28
1-2	44
3-4	11
5 or more	16

NB: Percentages do not add to 100 due to rounding.