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# Teenagers, Technology, and Education at the CCVC

Adam T. Sheehan  
*Worcester Polytechnic Institute*

Larry S. Sartoris  
*Worcester Polytechnic Institute*

Matthew S. Zimmermann  
*Worcester Polytechnic Institute*

Trisha A. Josephs  
*Worcester Polytechnic Institute*

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# Teenagers, Technology, and Education at The CCVC

An Interdisciplinary Qualifying Project Report  
submitted to the Faculty of  
WORCESTER POLYTECHNIC INSTITUTE  
in partial fulfillment of the requirements for the  
Degree of Bachelor of Science

Submitted by:

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Trisha Josephs

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Larry Sartoris

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Adam Sheehan

---

Matt Zimmermann

Submitted on Thursday, February 23, 2006

Submitted to:

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Professor Yiming Rong, Major Advisor

---

Professor Karen Lemone, Co-Advisor

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Bruce Findlay  
Caritas Charles Vath College

## **Abstract**

This report is a culmination of research and analysis gathered to contribute to alternative ways of teaching at the Caritas Charles Vath College (CCVC), secondary school in Hong Kong. This project examined the possibility of using technology in the classroom to increase student interest and motivation in learning. The report concluded that technology would not be an effective solution for the CCVC at this time and it was recommended that more attention be directed towards student discipline and learning difficulties.

## **Authorship**

All four authors have contributed equivalent efforts throughout the development of this project. All members have spent equal time researching, writing, and analyzing the data reported in this document.

## **Acknowledgements**

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## **Executive Summary**

In most educational systems, teachers often teach as they were taught regardless of its effectiveness. Many students are able to adapt to these teaching methods, yet there are always a few who struggle through their education and can sometimes be left behind. In recent years, there have been several “alternative” schools created that try to tailor the curriculum and teaching methods to these students’ needs. The Caritas Charles Vath College (CCVC) is one such “alternative” senior secondary school in Hong Kong that accepts students who have typically struggled in the “traditional” education sequence. These students often suffer from problems of low-self esteem or other emotional and behavioral problems. Currently, the CCVC is facing problems with declining enrollment as the students have little to no interest in learning. If the enrollment continues at this rate, the Education and Manpower Bureau (EMB) may raise concern over the school’s performance.

A majority of the teachers are relatively young and inexperienced; therefore they may not be familiar with the variety of teaching methods that can be utilized. The goal of this project was to determine if technology can be used to increase student interest and motivation in learning. To determine whether or not technology in the classroom would be an effective teaching method, several objectives were established that focused on specific aspects of the problem.

The first objective was to determine the learning styles of the students at the CCVC. This information was used to find if there were any preferred learning styles among the students. The learning styles were based on the senses through which the students interpret information. The VARK model (Visual, Audible, Reading/Writing,

Kinesthetic) was used because of its simplicity, fast assessment, and intuitive nature. It was hypothesized that a majority of the students at the CCVC would be visual or kinesthetic learners as they did not perform as well in traditional schools where lecturing and reading are the primary teaching methods. Questionnaires developed by Neil Fleming, creator of the VARK theory, were distributed to the students in Forms four, five, and certificate courses. The results revealed that the average student at the CCVC has a slight preference for learning audibly or through reading/writing, although they are capable of learning through any of the modes listed above. This disproved our hypothesis developed earlier and suggested that there was not a mismatch of teaching/learning styles at the CCVC.

The second objective was concerned with the interests and behaviors of the students, both inside and outside of the classroom. This information was gathered through student interviews, questionnaires, and classroom observations. The students interviewed often did not have clear goals for the future, and those that did have them lacked the self-esteem or motivation to achieve them. This was reflected through their behavior in the classroom, where a majority of the students talk, move around, or sleep throughout the lessons. The students in general had no interest in learning and used school primarily as a means to socialize.

The third objective focused on the feasibility of using technology within the classroom. This information was gathered through interviews with teachers and students as well as through classroom observations. Students and teachers agreed that using the projector in class had little effect on their learning and more often than not resulted in more students falling asleep or misbehaving. Many of the lessons utilizing

technology required extensive amounts of time to prepare (several hours to many days) and often yielded poor reactions from the students. Many of the teachers have other administrative or extracurricular duties in addition to teaching which makes the time spent preparing these lessons even more valuable.

Once these objectives were completed, two social workers and the discipline master of the CCVC were interviewed to gain a better understanding of the students and the school. Many of the students of the CCVC have emotional or behavioral problems and one of the most common counselor sessions for the social workers is that students lack emotional control. Another common problem is that of low self-esteem which often originates from a lack of support from the student's parents. It was also noted by the discipline master that since a majority of the teachers were very young, they often lacked the teaching experience to handle students with such problems. It was suggested that by providing classroom management training, teachers would be able to improve the discipline within the classroom.

Based on these results, it was concluded that the use of technology in the classroom at the CCVC is not an effective method for increasing student interest and participation at this time. One of the reasons for this is that the students lack the discipline required to create a suitable learning environment for a teacher to experiment with different teaching methods. In addition, many of the students at the CCVC have emotional or behavioral problems or learning difficulties. These problems are best dealt with through a personal connection between the teacher and student rather than by introducing technology as a medium between the two. Finally, it was determined that the amount of time required to prepare lessons utilizing technology far outweighs the

benefits of increased student interest. Students often remain ambivalent to learning whether teachers use technology or not in their classrooms. Although there are some cases where technology may benefit the students of the CCVC, it does not seem practical at this time to invest large amounts of time or money in technology that will not have much effect on the students' performance.

Several recommendations were also made to improve the learning environment at the CCVC. It was noted that teachers often spend a large portion of the lesson time disciplining students or handling situations that may arise in the classroom. It was recommended that the CCVC develop a code of conduct that clearly states what acceptable and unacceptable behavior in the classroom is and provide a standard protocol for dealing with certain situations. This will eliminate any inconsistency between teachers and prevent students from targeting more lenient teachers to get away with more misbehavior. It was also suggested that a short amount of time should be added between lessons to allow teachers time to travel from one classroom to the next. This also gives students an opportunity to socialize and prepare the upcoming lesson.

Classroom management training is recommended for teachers so they can feel more confident in dealing with troublesome students. Many of the teachers are not experienced in dealing with such large class sizes of poorly behaved students. Training could help ease the learning curve for the teachers and provide them with some tools necessary to handling many students at once.

To deal with the problems and difficulties that the students of the CCVC typically face, it is recommended that the social worker department be expanded to accommodate more students and teachers of the CCVC. As it is now, there are two social workers with a total of one hundred and ten cases, covering more than a quarter of the school population. More personnel would be able to better identify and treat more students or teachers suffering from these problems.

Many of these recommendations will not have an immediate effect or may require more resources, but they were made in the best interest of the CCVC. The task that this school undertakes is not an easy one; therefore, it defies an easy solution. It is hoped that over time, the school will be able to overcome any difficulties they may face and provide a suitable learning environment for students, teachers, and staff of the CCVC.

# 1. Introduction

It has been noted by many writers that the Chinese culture has valued the importance of education as a way of self-improvement and building character (Leung, 1991). Good behavior, studying hard, and performing well have often been important traits regarding an individual's education. Because of the focus on the students' efforts rather than the learning environment on academic success, there has been little change in the way material is taught. This one-size-fits-all method of teaching does not necessarily suit the needs of all of Hong Kong's youth, often leaving several students behind. In recent years, there have been several new "alternative" schools that have been tailoring their curriculum and teaching methods to meet the needs of these students who may not have performed as well in the traditional schools.

The Caritas Charles Vath College (CCVC) is one such "alternative school." This senior secondary school teaches Forms four and five as well as offering three certificate courses (see Appendix S for more information on Hong Kong's education system). The mission of this school is to help poorly motivated students become responsible, productive, and fully-functioning members of society by the time they leave. Unfortunately, the school is currently facing concerns with the declining enrollment as a result of poorly motivated students dropping out. If the enrollment continues to decline, the Education and Manpower Bureau (EMB) may raise concern over the school's overall performance.

In 2005, Worcester Polytechnic Institute (WPI) investigated several potential causes for the poor performance of the students. They conducted classroom observations, interviews

with teachers, students, and administration, and distributed questionnaires to gain a better understanding of the school. They concluded that there were several key areas that could use improvement: maintaining order in the classrooms, increasing student interest and motivation, and providing support for students and teachers. The school has implemented a few of the recommendations, including a Parent-Teacher Association (PTA) to provide support for students, but many of the significant problems at the CCVC remain.

Based on these conclusions, it has been noted that several of the areas mentioned above need more research. One area of importance was increasing student interest and motivation in the classroom. Currently, teachers are limited for time and teach with methods that they are familiar with and lesson plans that they have used before. This prevents teachers from experimenting with new teaching styles that may better suit the students of the CCVC. If the teachers were more aware of the different teaching methods and how they affect the students' performance, then they could use this information to improve the quality of education for the students of the CCVC.

This project determines whether the use of technology in the classroom could be an effective teaching method for increasing student interest and participation in their education. Based on our results, recommendations were made to the CCVC as to whether or not technology should be incorporated into their curriculum. The final result of this project was to provide an improved learning environment for the students as well as the teachers of the CCVC.



## **2. Background**

To accomplish our goal, the problem statement was divided into several, more manageable objectives. These objectives focused on the individual aspects of the problem while working towards the final goal. This section contains some past research that was used to help formulate our objectives and prepare our recommendations.

### ***2.1 Learning and Teaching Styles***

Our first objective was concerned with different learning and teaching styles and how it affects academic achievement and motivation. One study conducted on the juvenile courts in Colorado showed that the top 25% of the delinquent population was composed of students in the top 15<sup>th</sup> percentile in intelligence (Francois, et al., 1999). Based on this data, it is believed that the delinquency was linked to students who did not respond to traditional teaching methods found in a majority of schools. Miller (2001) argues that most schools are “learning style biased” and typically teach to one style of learner. The following section discusses how a student’s learning style can vary and briefly describes several different models used to express them.

In the past several decades, many learning style theories have been developed that focus on different aspects of the learner (Miller, 2001). The Theory of Multiple Intelligences describes seven different intelligences within an individual: linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal. This theory holds beliefs that each person possesses all seven intelligences, most people can

develop each intelligence to an adequate level, each of the intelligences work together in complex ways, and that there are many ways of describing intelligence.

Another common model is the Myers-Briggs Type Indicator (Miller, 2001). This model classifies learning styles based on personality. There are sixteen different personalities which are determined by the way an individual views the environment around them, how they make decisions, and how they respond to situations. Herman Witkin's Bipolar Constructs of Field Dependence and Field Independence is a similar model based on personalities, but relies on whether or not an individual is influenced by the environment around them.

The senses and modes through which people learn is another way to classify learning styles (Miller, 2001). The Visual, Auditory, Reading/Writing, and Kinesthetic (VARK) model is used to suggest how an individual may interpret information easiest. This model is popular for its simplicity and its intuitive nature. The Learning Styles Inventory (LSI) is the most widely used model in elementary and secondary schools. This model is based on four main areas: instructional environment, emotionality, social preference, and physiological uniqueness.

An individual's learning style is unique to them and may change over time (Miller, 2001), and most people can have multiple methods of interpreting information with several predominant clusters. They do not seem to be dependent on a person's socioeconomic status nor are they measures of intelligence, although sensory preferences

have been reported to vary among cultural groups. In addition to the differences in learning styles, teachers also have specific teaching styles. Studies have shown that when these teaching styles are matched to a student's learning style, motivation and achievement increase while time off task and disruptive behavior decrease significantly.

## **2.2 *Interests & Lifestyles***

Our second objective focuses on the students of the CCVC and how their interests and lifestyles affect their education. This section examines various aspects of Hong Kong's society through recent news articles and other periodicals, including some common beliefs held by Hong Kong's youth and how technology manifests itself in the environment around them.

### **2.2.1 Youth in Hong Kong**

This section deals with the current generation of Hong Kong's youth, their general values and attitudes, and how they differ from previous generations. This information helps us better identify with the youth of Hong Kong and understand how they will react to different teaching methods.

#### *Values and attitudes*

According to a new survey by the Hong Kong Institute of Certified Public Accountants (2005), Hong Kong teenagers between the ages of 15 and 18 believe that they will have a great opportunity to be rich in the upcoming years. A sample of about 400 teenagers was

polled incurring a maximum sampling error of  $\pm 4.9$  percent. More than half of the teenagers (59%) believe that Hong Kong will be prosperous in the upcoming years and many believe that they will be rich by the time that they reach the age of 36 (mean age). Some (14%) believed that they would be rich by the early age of 25. The teenagers identified rich as owning assets that added up to HK\$1 million and some (14%) said they would make over HK\$10 million.

Hong Kong teenagers believe that it is very important for young people to work, however only 18% of the teens polled actually have a job (Hong Kong Institute of Certified Public Accountants, 2005). Teenagers of age 15 to 16 seem to rely on their parents for money, whereas at the age of 17 to 18 they usually find employment and start providing for themselves. "Hong Kong teens are maturing at about the right time," says Edward Chow, president of the Hong Kong Institute of Certified Public Accountants and father of six. The majority of teens (89%) said that they wanted to attend college after they finish high school, but only 12% said that they are saving up to go.

On the opposite side of the spectrum, Professor Daniel Shek states that most Hong Kong citizens have low expectations from their future and that teenagers are no exception (Ma, 2002). This report focuses on the possible causes of the increase of mental illnesses (doubled in teens of age 15) in the previous years of 1997-2000. In this report, Charis Ma speculates that teenagers are becoming mentally ill as a result of their low expectations.

Although these two reports have very different positions on teenager expectations in Hong Kong, this may be attributed to the participants sampled. The first report focused on upper class teenagers while the other report focused on the lower class teenagers. Another report states that the differences in wealth between the upper and lower classes in Hong Kong has widened in the past decade (Global Issues, 2005). Luxuries have become a major part of peoples' buying habits in Hong Kong and often serve as a measure of an individual's economic success. According to the report, most of Hong Kong now believes that money will lead them to a happier life, as "the dreams of wealth have the first position in Hong Kong atmosphere." This was reinforced by the Hong Kong Institute of Certified Public Accountants, stating that "most [teenagers] (82%) say money is important to them right now and slightly fewer (73%) agree that it is important to earn a lot of money to be happy in life."

#### *Parents to Teenager Relationships*

In an article from TODAY online (June 29, 2005), children got to rate their parents on how well they feel they understand them. Hong Kong placed seventh among eight countries investigated with an overall rating of 58 out of 100. The results were broken down into the father's score and the mother's score with the total score being the average of the two. The mothers scored significantly higher than the fathers did in the survey for Hong Kong with a 68.5% rating while the fathers had a low 47.1% rating.

According to the article, the family typically sees the father as the "financial support" while the mother usually takes care of the home front (Kong, 2005). The fathers are

therefore not around as often and tend to drift away from their children. Dr. Ng Guat Tin, a National University of Singapore professor who specializes in family well-being, says that "gender literature generally points to fathers' lack of skills in interacting with children. Ideally, the bond should be developed from infancy as adolescence is a trying time."

### **2.2.2 Popular Technology in Hong Kong**

There are many popular technological products in today's Hong Kong where computers, cell phones, video games, and other electronics have become a way of life. This section discusses what technology is popular in Hong Kong and what kind of technology is commonly used in everyday life.

The Internet is widely used in Hong Kong with a large portion using broadband services. The Hong Kong Information Services Dept (2005) reports that there are 186 licensed Internet Service Providers who offer dial-up or broadband service to Hong Kong. Over 62 percent of the households in Hong Kong currently use broadband services, with many others connecting to the Internet through dial-up. Hong Kong's broadband Internet service has become very affordable compared to other countries with service charges accounting for 2 percent of disposable income.

Cell phones have also become well integrated in the Hong Kong culture with many people owning more than one phone. According to the Hong Kong Information Services Dept. (2005), "as of April 2005, the number of mobile service subscribers was boosted to

8.3 million, representing one of the highest penetrations in the world at about 120.7 percent.” Mobile phones are typically used for much more than just making calls – the Hong Kong Information Services Dept. also reported that “other than the basic voice service, value added services such as short messaging, mobile Internet service and data transmission services...are commonly available and are very popular among consumers.” Most of today’s cell phones also come with extras such as cameras, games, and MP3 players, making them much more than communication devices.

Other popular new technologies found in Hong Kong include MP3 and mini disc players, DVD players, and digital cameras. While their older counterparts are still in use (CD players, VHS players, and film cameras), newer technologies are taking root in Hong Kong. Euromonitor (2004a) reported that digital products are leading the way in consumer electronics, with sales approaching HK\$7.8 billion. They also reported that the DVD is well positioned to replace VCR, and growth of mini disc players is expected to surpass that of MP3 players.

Video games are also very popular in Hong Kong, where Nintendo, Sony, and Microsoft all market their video game systems. Euromonitor (2004b) reported that both home consoles and handheld systems are sold in Hong Kong, an emerging market for video games with sales approaching HK\$280 million.

Bootlegs and pirated merchandise can also be found among the wealth of technological products available in Hong Kong. Yu (2002) reported that there are a great deal of pirated

DVDs, CDs, and software that one can find quite easily in certain shops of Hong Kong at dramatically reduced prices. Yu also noted that cheaper, non brand-name electronic products are common and many shops will modify a DVD player or game console to play international formats and illegal copies.

### **2.2.3 How Technology Affects People**

Technology has saturated the environment around us and has become an integral part of many people's daily lives. It greatly affects those who use it all over the world, changing how they get their news, conduct their research, entertain themselves, and interact socially. This section discusses how technology affects people as well as how technology affects students' performance in school and their attitudes towards their education and future.

Internet World Stats (2005) reported that about 15% of the world's population uses the Internet, with the majority of Internet users being from Asia, North America, and Europe. Hong Kong has a population penetration of 70.7 percent with about 4.9 million Internet users. A recent study done by Stanford University (2004) in the United States showed that the average Internet user spends close to 3 hours a day on the Internet. About a third of that time is spent at work, but most of that time is spent communicating, whether through e-mail, instant messaging, or chat rooms. Other activities include playing games, surfing the web, and online shopping.



In China, many people have found the Internet indispensable and have a hard time imagining life without it. Internet addiction has become a serious problem in Asia, especially among the younger generation who has grown up with it their entire lives. An article by Chinaview (2005) reports that many Chinese people use the Internet as a source of entertainment and some have become so reliant on the Internet that they view it as an acceptable substitute for their daily lives.

A Stanford University based study by Lee and Zhu (2002) studied other effects of the Internet, focusing on how it affects sociability in both mainland China and Hong Kong. While one might expect heavy Internet users to have less social time with family and friends, it was found that in Hong Kong, the heaviest group of Internet users spent the longest hours with other family members. This is the opposite of what the study in America showed, where non-users reported the highest socializing time. The study indicated that there may be other factors that must be taken into consideration, such as age and culture. For example, those aged between 18 and 24 are likely to spend more time online, but they are also the most active social group. When the data from specific age ranges was grouped and examined, Lee and Zhu did not find any strong relation between time spent on the Internet and time spent socializing with friends. Lee and Zhu also found slightly different correlations between Internet use and social interaction time among those in the U.S., Hong Kong, and mainland China, hinting that culture and society may have an effect on just how the Internet and technology is perceived.

Cell phones are another cornerstone of new technology and have had a significant impact on society in the last few years. In Rick Ling's book *The Mobile Connection* (2004), he discusses the impact cell phones have on society. Ling noted that mobile phones allow people to contact each other instantly, making their work more efficient and allowing people to freely plan their social lives by coordinating activities on the fly. He also noted that teens have embraced the mobile technology, using it to chat with their friends either directly or through text messaging.

### **2.3 Technology in the Classroom**

Our last two objectives deal with the use of technology in the classroom. This section examines the various types of educational software as well as a case study done in the past that implemented technology in several US classrooms and observed the effect on the students' and teachers' behavior.

#### *Types of educational software*

The ability for an instructor to be omnipresent and assess each student at all times is not possible. Computers are available to facilitate instructions and move at the pace of the individual student while continuously monitoring progress (Desrochers & Gentry, 2004). These interactive environments are often used to supplement materials taught in a lecture setting, and there are different types of software for different applications of educational technology. The type of instructional software used depends on the type of information

that is trying to be conveyed. Tutorials, drills, and simulations are a few of the more common examples found in educational software today.

Tutorials are self-contained instructional packets that present the user with information, test their knowledge of it, and then provide immediate feedback (Desrochers & Gentry, 2004). This format is useful for teaching blocks of related factual information or procedural steps since it displays information in an order and tests the student's knowledge at the end. Random, unrelated facts may not be well suited for tutorials for this reason, but may be more effective in the drill-and-practice software.

Drill-and-practice software aims to develop memorization and rote skills by repeatedly testing the user on small chunks of information and providing instant feedback (Desrochers & Gentry, 2004). True & false, fill in the blank, or multiple-choice answers are best suited for this type of software. Questions are often randomly selected and are usually independent of each other.

Simulations are another type of popular software that model realistic situations to promote learning through discovery (Desrochers & Gentry, 2004). Simulations are used to reinforce procedural knowledge in situations or to explore learning environments that are expensive, hazardous, or otherwise unable to be recreated. They are used primarily for procedural instructions and are inappropriate for strictly factual information due to the large number of conditions and variables commonly found in simulations.

*The Apple Classroom of Tomorrow project*

Unlike science, industry, and business, technology's role in education is not immediately obvious, which can be attributed to the fact that "the process and product of formal education remains largely unspecified." Here Sandholtz and Ringstaff (1999) analyze the results of the Apple Classroom of Tomorrow (ACOT) project created in 1985 by Apple Computer, Inc. to examine the effects of constant computer access on education. The ACOT project supplied the necessary hardware to several elementary, middle, and high schools throughout the United States and observed the results as teachers struggled and adapted to the new learning environment.

Two case studies were examined to see how different teachers reacted to the new technology (Sandholtz & Ringstaff, 1999). One study observed a single fifth grade class in the first year of the ACOT program that focused on basic math and reading skills. The teacher often lectured to the students and then followed up with individual drill-and-practice software on the computers. Although the students seemed productive and often worked together to solve certain problems, the teacher felt uncomfortable with the increased commotion as a result of computer use. She voiced concern that the students were not paying attention to her and she had difficulty giving up the traditional forms of teaching that she was accustomed to. The teacher resigned from the ACOT program after one year, claiming that too much time was required to select the right software and create computer-related tasks.

Another case study focused on a ninth and tenth grade ACOT math class (Sandholtz & Ringstaff, 1999). Similar to the other study, the teacher often began by lecturing to the class and then followed up with computer activities. One of the major concerns of the instructor was that her students were more knowledgeable with technology than herself, producing feelings of inferiority. Although she had a difficult transition period from the teacher to the learner, she felt that having the students teach each other increased self-esteem and promoted collaboration. As the school year progressed, lecture time decreased and group activities took over as the lessons became more individualized to each student. The program was continued for several years and involved multiple ACOT classrooms.

The major difference between these two studies was the external settings of the classroom (Sandholtz & Ringstaff, 1999). In the first study, the highly individualized ACOT program did not allow for collaboration among teachers and was focused more on increasing student performance rather than educational reform. This placed extreme amounts of stress on the one instructor who was responsible for the project's outcome, and eventually resulted in her resignation from the program. For the other study, the classroom observed was one of many ACOT classes being held at that particular school. The teacher had support from other instructors and also had the opportunities to share and borrow material to be used in class. This school's administration viewed the ACOT project as an educational reform rather than a performance enhancer, and offered support to the program where and when needed.

There are several common observations made throughout the ACOT program. For most cases, teachers reported an increase in student interest with the new technology available to them (Sandholtz & Ringstaff, 1999). Students would often come in before and after school to work on the computers and were frequently willing to try out new software. They typically remained on task while working on a computer and often went beyond what was required for an assignment. Some students applied their technological skills for other, non-assigned tasks and experimented with the software available.

Teachers also reported issues that occurred when students were frequently using computers (Sandholtz & Ringstaff, 1999). Frustration often occurred when a software program was repeatedly used or if the assignment was too easy or difficult for the student's ability. Time management became an issue when students focused too much on the visual appeal of the computer generated reports rather than the actual content. When students opted to stay inside and work on the computers during recess and lunch, teachers and parents became worried that they were not getting enough physical and social activity. Also, the physical environment of the ACOT classrooms was often noisy from the keyboards and printers, which some students find distracting. They frequently reach a saturation point with computer usage where their productivity declines after a certain number of hours.

One of the main effects of using technology in the classroom is the shift from a teacher-led instructional approach to a student-centered collaborative learning effort (Sandholtz & Ringstaff, 1999). During the initial phases of ACOT, some students developed a

stronger interest in technology and quickly became experts in its usage. These students have been utilized by teachers to help other students become acquainted with the computers and software, reducing the time required for the teacher to help individual students with technical problems. This kind of peer tutoring has also been found to bolster self esteem and social status.

The biggest obstacle of implementing technology within the curriculum comes from the teachers (Sandholtz & Ringstaff, 1999). Teachers frequently teach as they were taught, and their personal beliefs towards education can often make them reluctant to change. Most schools allow teachers to work in autonomy where they develop teaching methods that they feel most comfortable with. By shifting their roles from the focus of the classroom to a supporting role in student learning, teachers have to redefine their personal beliefs and develop new strategies.

The use of technology in the classroom also requires strong classroom management skills (Sandholtz & Ringstaff, 1999). The large amount of tasks taking place concurrently, the rapid pace of instruction through material, and the unpredictability of the hardware create an added layer of complexity when using technology. Teacher training and collaboration between colleagues can often make the situation more manageable and relieves the stress of the individualized classroom.

Although technology can be used effectively in enhancing a student's education, it is only one tool among many (Sandholtz & Ringstaff, 1999). To maintain engagement,

technology should only be used where appropriate. Technical skills should not be taught as a separate subject, but learned through the use of meaningful assignments. And the use of computers allows instructors to tailor a student's assignments to his or her own ability level. By taking this into consideration, educational technology becomes an effective supplement to most learning environments.

#### *Disadvantages of educational technology*

Although computers are praised for their precision and speed, their automation lacks the creativity and concern of a live instructor. Clifford Stoll (1999), one of the opponents of educational technology, claims that "even the worst teacher is more versatile than the finest computer program." By placing the computer in the role of the teacher, all human interactivity is lost in the educational process.

The use of computers in education has often been touted as "making learning fun" by creating interactive environments with flashy multimedia clips (Stoll, 1999). The concept that learning can be fun detracts from the hard work, discipline, and commitment required to develop an understanding of the material learned. The exposure to animated screens encourages immediate responses and promotes short attention spans with no room for quiet reflection.

Stoll (1999) believes that computer literacy is not a skill that requires valuable classroom time, but a mechanical task that does not require critical thinking. In addition to the time spent learning the intricacies of the machine, there are additional costs incurred from



maintaining a technologically modern school. Computers require additional administration for technicians, content administrators, and technology specialists, to name a few. The funds to purchase the equipment also have to come from an already limited budget. As a result, school supplies are cut as well as the amount of time and money spent on other programs.

Although computers have a role in education, it is essential to determine the extent of their role and what will have to be sacrificed (Stoll, 1999). Over-dependence on technology to impart knowledge and understanding to children will result in a generation of computer literate but book illiterate teenagers. The value of human interaction can often be overlooked in the current curriculum, but it plays an essential role in developing children into responsible and disciplined members of a community.

## **2.4 Summary**

This section focused on the different objectives of the final goal and provided some insight as to what information we have and what we still need to gather. This information was used to help develop the methodology we have used to gather and analyze the data used in our results and conclusions.

### **3. Methodology**

The goal of our project was to determine whether the use of technology in the classroom would be an effective tool for increasing student interest and motivation. This was achieved by completing the four objectives listed below:

- Determine the learning styles of the CCVC students using the VARK (Visual Audio Reading/Writing Kinesthetic) model.
- Determine the students' interests and behaviors inside and outside of the classroom.
- Determine the feasibility of incorporating the new teaching methods into the curriculum.
- Develop ideas on how to use technology within the classroom that incorporate the lesson material and address the students' interests.

Although the limited duration of the project did not allow us to test the long-term results of technology in the classroom, the views on technology by students and teachers gained from completing these objectives provided enough information to develop our conclusion and recommendations for the CCVC.

#### **3.1 *The Objectives***

In this section, the strategies we used to complete each of our objectives will be discussed in detail. Before we begin, it is important to understand the behavior of the students and

teachers of the CCVC. In most Asian cultures, people may not respond to questions based on their true thoughts or feelings, but rather respond with what they are expected to say (Findlay, 2006). This can be problematic for our interviews and surveys if our subjects do not answer accurately.

To help prevent this, rapport was built with some of the students by active participation in student activities during lunch break and physical education classes. This included playing basketball, volleyball, and various other physical education activities. Some students were also contacted outside of school through the use of instant messaging software and were invited to participate in activities with several of the WPI students. This helped reduce the communication barrier between the students and us by building their trust.

Before the interview protocols and questionnaires were developed, several lessons in classrooms and computer labs were observed to gain a general understanding of how the CCVC operates. The behavior of the teachers and the students, their reactions to different teaching methods, and the use of technology within the classroom were observed carefully. This information was used to develop the questions for the interview protocols and the student questionnaires.

### *The Learning Styles of the Students*

The first objective was concerned with the learning styles of the students of the CCVC. The VARK model (visual, audio, reading/writing, kinesthetic) was used to describe the

different learning styles of the students due to its simplistic assessment and intuitive nature. Since the students of the CCVC have not performed as well in traditional schools where the primary method of teaching is audio and reading/writing, it was hypothesized that the students may be more visual or kinesthetic learners. If they are visual learners, technology can be used in the classroom to provide more detailed and animated pictures to supplement the current material.

The learning styles were determined by distributing the VARK questionnaire developed by Fleming and Bonwell (2005). The questionnaire provided short scenarios to the students and four options to choose from. Each of these options corresponds to a visual, audio, reading/writing, or kinesthetic method and the results were summed up to determine the students' learning style. The questionnaires were anonymous but required the form and class of the student. This information would be used to determine the different learning styles between streams, or areas of study. The questionnaire was distributed to all of Forms four and five and the certificate courses.

#### *The Interests, Lifestyles, and Behavior of the Students*

The second objective focused on the students' interests, lifestyles and behaviors, both inside and outside of the classroom. This information was particularly useful in order to see how the lesson material relates to the students, as well as how the students can relate to the lesson material. One of the possible reasons for the low motivation of the students is that they do not have any goals set for their future (Findlay, 2006). It was hypothesized

that this may prevent them from seeing how an education can benefit them later in their lives rather than dismissing education as irrelevant to their current lifestyle.

This information was gathered through a questionnaire as well as through interviews with several students. The questionnaire provided a general understanding of how the students feel about learning in general and the interviews provided more in-depth information to explain these results. The questionnaire was distributed to Forms four and five and the certificate courses.

The analysis of the questionnaires was completed using a spreadsheet to enter the data and organize it. The information was separated by the students' Form (fourth, fifth, or certificate), stream (tourism & travel, commerce, animation, or beauty), and their sex (male or female) to reveal any variations between these variables. The next step of the analysis involved calculating the averages of the students' answers. We were able to get the students' opinions on specific topics such as the usefulness of the computer labs, whether technology is effective in the classroom, and how they feel about education in general. The questionnaire also revealed what kinds of technology the students use in their daily lives and how they use it.

### *The Use of Technology in the Classroom at the CCVC*

The third objective focused on the practicality of using technology within the classroom. Teachers of the CCVC have many administrative duties besides teaching and are very limited for time. Weekends and days off are consumed by seminars, teachers

conferences, and preparing new lessons for the upcoming weeks (Findlay, 2006). The availability of new kinds of technology and software packages also limits the amount of experimentation available to the teachers. Interviews were conducted with teachers to determine how they have used technology in the past and their opinions of it, students to determine how they feel about the use of technology, and the former IT technician to determine what kinds of technology is available at the CCVC.

### *New Ideas for Using Technology*

The fourth objective was to develop new ideas for using technology in the classroom. This objective would have been accomplished through teacher and student interviews, although by completing our third objective it was determined that this objective was not practical for the CCVC.

## **3.2 The Goal**

The goal of this project was to determine whether the use of technology in the classroom would be beneficial for the teachers and students of the CCVC. Once this was determined by completing the objectives outlined above, further research was conducted to help explain why we obtained the results that we did. This research included interviews with the social workers and the discipline master at the CCVC as well as additional, less formal interviews with students and teachers.

## **4. Results and Analysis**

This section presents the results that were drawn from the collected data. These results are the accumulation of various forms of information (interviews, questionnaires, observations) that focus on the objectives established in the previous section. At the end of this chapter, additional research is presented to help better understand the students and their problems.

### **4.1 Initial Comments**

Before analyzing the data, several discrepancies were noted between the student questionnaires and the interviews with teachers and students. For example, in the questionnaire results many students reported that they enjoy when teachers use the projector during lessons and very few felt that it was overused. Yet during the interviews, students and teachers both claimed that using the projector often puts the students to sleep or results in more misbehavior. Classroom observations confirmed that only a small portion of the class shows any interest when the teacher uses the projector during a lesson.

The questionnaires also report that more than half of the students (56%, Fig. 1) mostly or always enjoyed going to the computer labs and very few felt that computer lab assignments were boring and/or repetitive. A majority said they did their work in the computer lab and did not browse the Internet, play games or chat, but this was also very different from the observations in the lab. During any of the computer lab lessons, many

of the students were on the internet, playing games, or chatting. The exception to this were the certificate classes, where the number of off-task students dropped slightly and a majority of the students were completing their assignments with only a few students browsing the Internet.

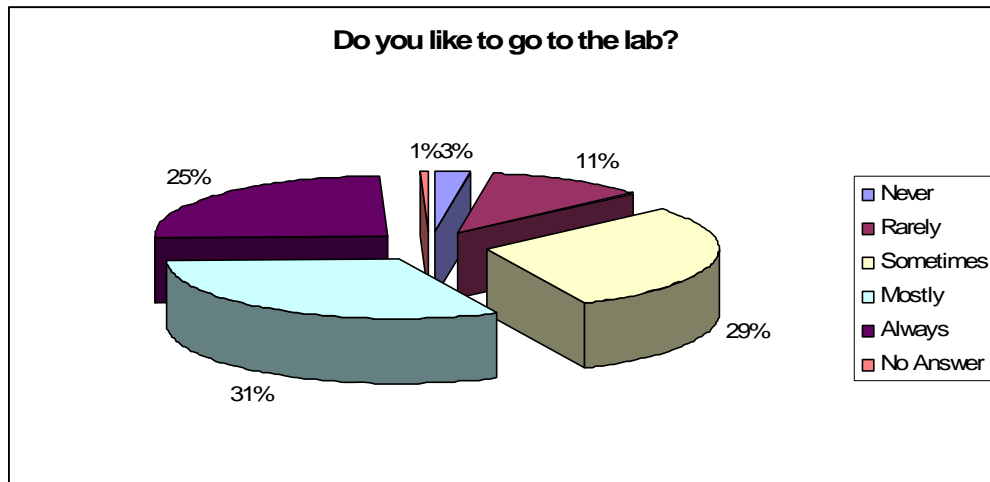


Figure 1 – Questionnaire Results: “Do you like to go to the lab?”

These discrepancies between sources of data (questionnaires and interviews/observations) have led to questions about the validity of the student questionnaires. A majority of the rated variable results (Questions 1-18) gravitate towards the center of the scale and the listed variable results were distributed almost evenly. This suggests that a majority of the students may have chosen answers at random and did not fill out the questionnaires in a serious manner which could lead to an incorrect analysis. Because of this, for any disagreements between the questionnaire results and the interview or observation data, the latter will be chosen to be more accurate.



## 4.2 Learning Styles

The first objective was concerned with the senses or modes through which the students interpreted information the easiest. The results from the VARK questionnaire reveal that the students of the CCVC prefer to hear something (31%) that they are trying to learn or to read it and see it in writing (28%). There was a smaller preference for doing something or seeing something done (22% and 19% respectively).

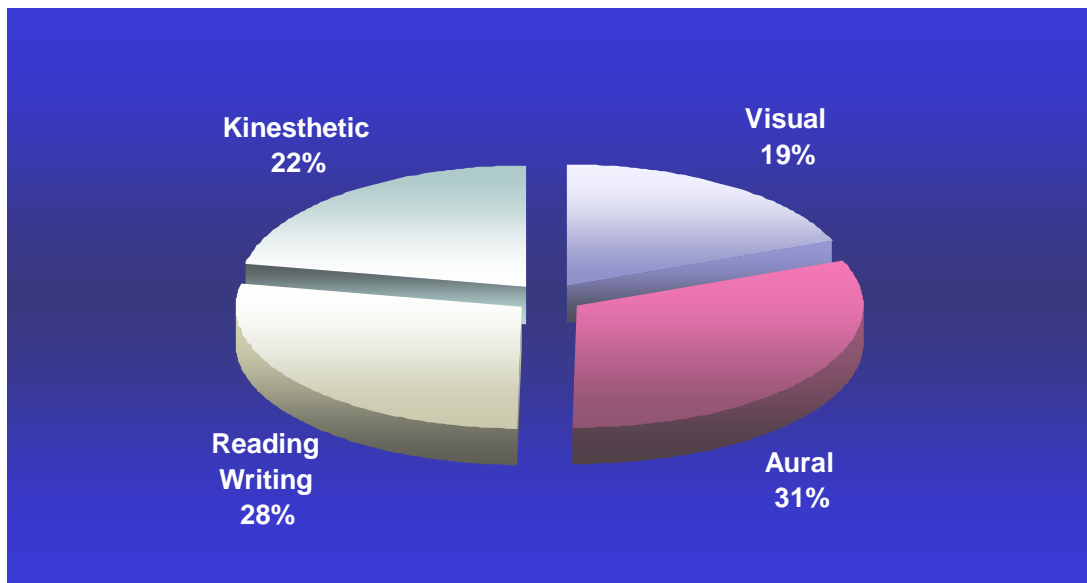


Figure 2 – Learning Style: Overall

When interpreting these results, it is important to remember that each percentage is an average for one student. That is to say, there are not 100% visual learners or kinesthetic learners, but that each individual is comprised of all four modes of learning with different preferences for each. Understanding that will reveal that the average student at the CCVC is capable of learning through a variety of modes or senses with a slight preference for hearing or reading and writing.

### 4.3 Students' Interests, Lifestyles, and Behavior

The second objective focused on the students' interests, lifestyles, and behaviors. This information was gathered primarily through questionnaire data, classroom observations, and student interviews.

#### *Student Questionnaires*

The student questionnaires were used to determine what kinds of technology the students have at home and how they use it. The results have been summarized in Tables 1 and 2.

**Table 1 – Questionnaire Results: “What do you use the Internet for?”**

<b>What do you use the Internet for?</b>	<b>Percentage of students polled</b>
E-mail	64.6
Downloading music or videos	67.4
Online games	63.5
Research/school	47.8
Shopping	10.7
Chatting	70.8
News	32.0
Other(s)	23.6

Students use the Internet primarily for chatting (70.8%), downloading music or videos (67.4%), e-mail (64.6%), and online games (63.5%). Very few (10.7%) students use the Internet for shopping and about a third (32.0%) get their news online. A little less than half (47.8%) of the students reported using the Internet for research or school. From this we can see that the primary use of the Internet is for communication (chatting and e-mail) and entertainment (downloading music/videos and games). There is less interest in using the Internet as a source for new information (research/school and news).

**Table 2 – Questionnaire results: “What technology do you have at home?”**

<b>What kinds of technology do you have at home?</b>	<b>Percentage of students polled</b>
Internet	88.6
E-mail	61.5
Mobile phone	68.4
Digital camera	34.5
MP3 or minidisk player	63.2
Portable games (DS/PSP)	14.4
Playstation, X-Box, or GameCube	19.5
Palm pilot	43.9

The kinds of technology students are familiar with at home were also determined through the questionnaires. A majority (88.6%) of the students have Internet access in their homes, but only a portion of them (61.5%) use e-mail. This is consistent with our previous question summarized in Table 1 where only 64.3% of the students use the Internet for e-mail. Other common technologies among students are mobile phones (68.4%) and MP3 or minidisk players (63.2%). Less popular are both portable games (14.4%) and console games (19.5%), which may be due to the expensive nature of the hardware and games.

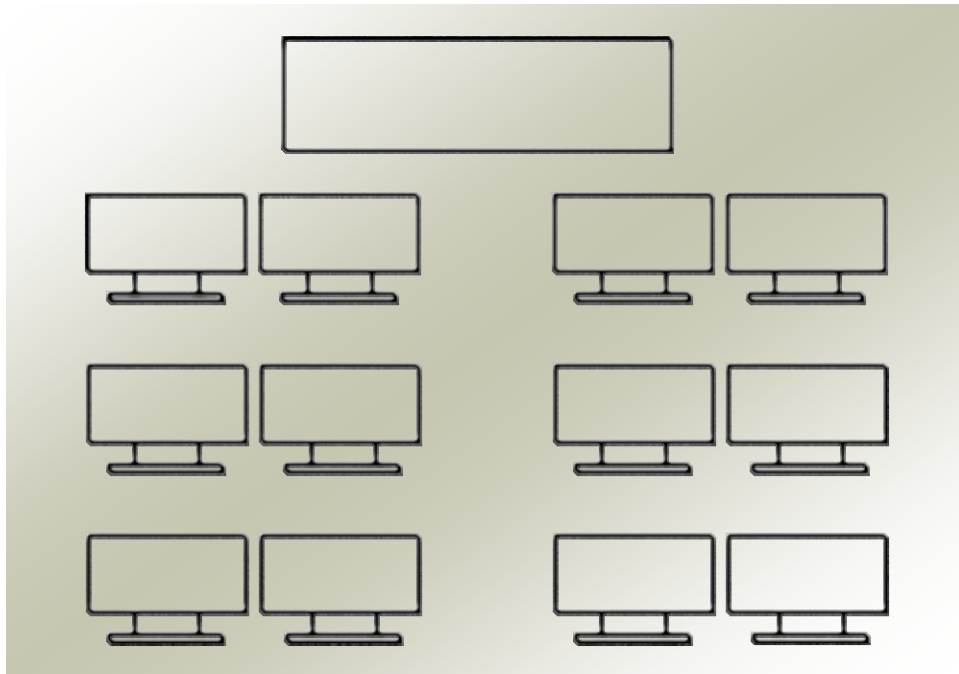
#### *Classroom Observations*

Classroom observations were conducted for Form five and certificate courses to see how they react to different teaching methods and how different teachers manage the classrooms. Form four was not available for observations until after the Chinese New Year’s break due to examinations.

The first observation that was immediately apparent to us was the lack of discipline in the classroom. The lessons are forty minutes long and as soon as one class finishes, another

one begins with no time between classes. Students typically remain in their homerooms while teachers move around to teach different classes. The teacher usually arrives on time if he or she did not have a previous class, but can arrive up to five minutes late if finishing another lesson. When the teacher arrives, the students are very rambunctious, often moving around and talking with other students, yelling across the room, or getting up and leaving the classroom. The teacher often spends a considerable amount of time waiting for all of the students to come back in from the hallways/bathrooms and settle down and typically begins the lesson ten to fifteen minutes after the class has begun. This wastes up to a quarter of the lesson time, leaving only a half hour or less to teach the lesson.

The seats are arranged in pairs and lined up in rows in the classroom as shown in Figure 3. This arrangement is used to promote teamwork in pairs while preventing large groups of students from gathering and socializing. This has little practical effect though as students will get up and rearrange desks and chairs during a lesson to interact with their friends. In the back rows, students congregate to the back corners and have conversations among four or five people. These conversations can be quite loud and distracting, and other students in the classroom will also yell across the room to join in. In most classrooms, several students in the front row will pay attention or remain quietly seated. About two or three students are asleep when the class begins, and the number gradually increases throughout the lesson to about four or five students.



**Figure 3 – Seating plan at the CCVC**

The teacher often ignores these distractions and continues on with the lesson. A majority of the lesson plans involve the teacher lecturing to the class using the microphone and occasionally writing on the white board. A PowerPoint presentation is sometimes utilized to aide the teacher. The content of these presentations can range from bullets and lists to a collection of videos. A majority of students showed an increase in interest to the video presentation but often remained ambivalent to the presentation of lists and figures.

#### *Student interviews*

Formal interviews with three students were conducted to determine their views on the CCVC, education, and their future goals. One of the students was in the top of his class whereas the other two were selected because of their availability during a lunch break. Three people conducted the interview either in the classroom or outside during break.

One person asked questions, the other recorded, and an HKPU student assisted in translating if needed.

Many of the responses were similar among the three students. When inquired about their previous secondary schooling and how the CCVC is different, they all replied that there is too much freedom at their current school and students are not punished for misbehaving. During forms one, two, and three, there was little tolerance for such behavior and they had to follow a strict set of rules. One of the interviewees also commented on how the freedom of the CCVC is one of the aspects he enjoys most.

When asked about the amount of effort they put into their school work, two of the interviewees responded that they have difficulties paying attention in class due to the amount of distractions around them. There is a lot of noise in the classroom throughout the lessons, and even though the teachers try to focus on the students who are paying attention, they are negatively impacted by the environment around them.

When asked about the teachers, there were some mixed responses. One of the students felt that the teachers were nice, but would not talk to them about personal matters. Instead, he would prefer to go see the social worker about any such issues. Another student believes that the teachers are nice and could talk to them about anything because she knows that she will not be punished for anything she does. The last interviewee feels that some of the teachers are not very friendly but only act that way in front of higher administration. He would confide in only a few of the teachers who he knew and trusted.

One student claimed that the students were too noisy and naughty to teach at the CCVC, but the other two interviewees had some suggestions. One mentioned that by playing games and having fun with the students they would be able to learn a lot more, and the other suggested that by talking to their students more they would be able to build trust, since “if the students know you they will listen to you.”

When asked about the benefits or drawbacks of education and any future goals they had in mind, all three of the students agreed that an education will help them find a job although not necessarily a good one. They realize that they have to work hard in school but for some reason they don't. One of the students' goals was to become a teacher, even though this requires form six and seven education and they feel that they will not be able to complete them.

#### ***4.4 Feasibility of Incorporating Technology***

Once the students' learning styles, interests, lifestyles, and behaviors were determined, the use of technology in the classroom was investigated as a practical solution for increasing student interest and motivation.

##### *Uses of technology in the classroom*

Three teachers were interviewed on how they use and view technology within the classroom. The interviews were conducted with one or two people and the interviewee was assured the interview would be anonymous.

The teachers interviewed had been teaching for 2.5 to 4 years, with an average of 3.14 years. They were responsible for many other duties besides teaching, including members of the PTA, organizing extracurricular activities, and other administrative roles. Some of the teachers had up to five additional duties.

When asked about using technology in their lessons, the teachers usually responded with PowerPoint. One teacher described two types of students: ones that sit down and listen when using PowerPoint and others that play more. Another teacher feels that students become more interested for a short period of time and then fall asleep. Also, the time required to prepare a PowerPoint and the effect it has on the students usually isn't worth it. Some of the more interesting lessons required over two days of preparation.

There were some occasions that caught the students' attention though. One teacher showed a video to a Tourism and Travel class about different travel sites and reported that a majority of the students sat quietly and paid attention. Another teacher stated that students generally behave better before a test or exam. Also, when a troublesome student is absent or finally settles down, the class will pay more attention to the teacher.

The teachers were also asked for their opinion on the new CCVC intranet called eClass. One of the teachers felt that it was too early to make any judgments but thought that they would use the e-mail frequently. Another teacher thought that it would require more time in the beginning to setup but in the long run it would save them time, while the last



teacher felt that it would be much more work in general. When asked how the students would feel about completing assignments online, two of the teachers felt that it would not have much impact since the students usually use computers to chat or play games and that they rarely do homework when assigned. Another teacher believes that by allowing students to review the material at home, there will be more time to cover other material in class.

The students also had some opinions about technology in the classroom, specifically the PowerPoint projector. During the interviews, two of the students believed that it only helped them a little as far as comprehending the material and increasing their interest, and two of the students also felt that when they were watching a presentation it often resulted in half of the class falling asleep. The questionnaire data shows that a little more than a third (38.3%) of students pay most attention when the teacher uses the PowerPoint projector, but only around a quarter of the students (27.2%) said they would pay more attention if the teacher uses the projector in class.

From these results, we can see that the amount of time required vs. the effect on students when using technology in the classroom is significantly skewed to the teacher's end. Teachers are already stretched for time with many extracurricular and administrative duties in addition to teaching and they often feel that they do not have the time or energy to implement creative lesson plans or even to think of them. When teachers do put in the time and effort to incorporate technology into their lesson, the attitude of the students is usually indifferent which can be highly de-motivating for the teachers.

### *Computer labs*

The former IT technician and current Computer and Informational Technology teacher was interviewed to find out about what kinds of technology are available at the school, how they are typically used, and any problems they've encountered.

The CCVC has around 300 computers for both students and teachers in four computer labs, which includes the computer-aided learning room, the design room, and the multi-media learning center. When asked about what kinds of technology are typically used for lessons, he responded that most non-technical courses (English, Chinese, etc.) use the projector in class. He feels that many of the teachers are not familiar with the computer lab and do not know what kinds of software are available for them to use. For the technical courses (IT, design, etc.), technology is essential for the students to learn.

He also reported that there have been some cases of vandalism in the computer labs with students stealing hardware. In response, locks have been placed on all of the computer cases to prevent students from accessing the internal hardware. Software has also been utilized to prevent students from accessing the Internet during lessons. This only applies to Form four as some of the assignments given to Form five students require that they conduct searches on the Internet.

One of the problems that he sees for teachers using technology in their lessons is that they are responsible for coming up with new and exciting lesson plans. It is impossible for an IT technician to create new material for all of the lessons at the school, but he can help

implement any ideas that teachers may have come up with. This is a major inhibition since teachers' free time is very limited and they often have higher priorities to deal with.

#### **4.5 Additional Results**

Upon completion of the objectives, more information was gathered that would explain why the students of the CCVC were unmotivated and difficult to manage. This section discusses the results of two additional interviews with the social workers and the discipline master.

##### *Social workers*

One of the biggest complaints from teachers who use technology is that students often show little to no interest in the material being presented, no matter how it is presented. To better understand why students are so unmotivated in school, the two social workers at the CCVC were interviewed. Bruce Findlay accompanied the interview to ask a few questions and add his own insight.

The social workers provide many counseling services to the students and staff at the CCVC, including counseling for emotional, behavioral, and family problems as well as career choice. Some of the students are involved in legal issues where they are being prosecuted and the social workers are able to guide them through that process as well.

The most common problem among students seems to be emotional control. Many of them are unable to deal with conflicts between themselves and their peers, teachers, or parents.

A lot of them receive counseling individually or in groups and a majority of them show progress after one or two years. A small percentage (10-13%) still have problems after the counseling and the social workers can recommend them for further help.

The reasons for the large amount of emotional problems with students of the CCVC come from family problems and self esteem. A lot of the students who behave poorly in class also behave poorly at home, yelling at their parents in the same manner as they do to their teachers. This tension is often caused by families putting a lot of pressure on their children to succeed and not providing enough support when they do not achieve the desired results. Therefore, the students often have low self-esteem and little to no interest in learning.

The dilemma comes into play when deciding how to teach these students with learning difficulties. Since Form five students are required to take the Hong Kong Certificate of Educational Examination (HKCEE), it is important that the lesson material follows the curriculum specified by the Education and Manpower Bureau (EMB). Yet a majority of the students are lacking the basic skills necessary to follow the material which often compounds their low self-esteem. Although the students would benefit more if the teachers did not have to follow the HKCEE syllabus so closely, it would put the school at risk when documenting their testing results for the EMB.

In addition to dealing with student cases, sometimes teachers will seek advice or assistance if they are overworked or stressed, or the social workers will seek out teachers

that look like they are having a hard time. Another situation that they deal with is the relationships between teachers and students. Mediating sessions can often alleviate a conflict and improve the relationship.

What makes this process so difficult is the short amount of time that the social workers have to deal with the students. When the students arrive at the school for Form four, it takes a long time for the social workers to engage them and build enough trust to discuss some of their problems. This may take a couple months to a year, and then another year or so to settle their problems. By this time they are almost ready to leave the school and do not have much time to improve their performance.

Another problem for the social workers is the volume of cases that they deal with. In a school with approximately four hundred students, two social workers have to deal with a large number of cases (50-60 cases each). Typically, they have three counseling sessions per day where they regularly meet with individuals, plus a number of consultation sessions where individuals come for advice on a one-time basis. They also host group counseling sessions if there are a large number of people with a similar problem.

### *Discipline Master*

Another common complaint among all teachers and students is the lack of discipline in the classroom. The discipline master at the CCVC was also interviewed to gain a better understanding of how the discipline system works at the school and what problems they've encountered.

For the most part, the students and teachers understand the rules and regulations within the school but very few of them are enforced. Many of the students who do not obey these rules often have emotional or behavioral problems. When the rules are enforced, the penalties for students vary from one student to the next, depending on the teacher.

One of the ways to enforce the rules is through the merit and demerit system. Students gain demerits from poor behavior inside or outside of the classroom. These demerits can be removed by either attending a school program or by having teachers sign a form for good behavior. In addition, students can obtain merits for good behavior. These merits may result in a certificate or praise from a teacher, depending on the student.

One of the main factors affecting the discipline in the classroom is the lack of classroom management experience by the teachers. By providing classroom management training to teachers, behavioral problems can be more easily addressed and will hopefully reduce the amount of disruptions during the lesson.

#### **4.6 Summary**

This section examined the different learning styles, interests, and behavior of the students of the CCVC and how technology has been incorporated into their curriculum. In the next section, the conclusion to the problem statement described earlier is developed based on these results and recommendations will be made to address some of the issues at the CCVC and improve the quality of the education.

## **5. Conclusions and Recommendations**

The goal of this project was to determine whether or not incorporating technology into the curriculum could be an effective method for increasing student interest and participation in their education. A conclusion was developed based on the analysis of the data gathered and is presented here in this section. Recommendations for dealing with other issues are also provided as a way of improving the learning environment at the CCVC.

### **5.1 *Technology in the Classroom***

It is apparent through the analysis of the data collected that the benefits of using technology in the classroom are far outweighed by the costs. The students' reactions to technology in their education ranges from ambivalent to mildly interested with few exceptions. In all cases, it is the teacher who is affected most by this as they have to spend significant amounts of time (several hours to many days) preparing the lesson material. Therefore, it is recommended that teachers reserve the use of technology to situations where they have had previously successful teaching experiences.

Although some of the literature we have reviewed suggests that technology is an effective tool in education, the students of the CCVC present an interesting case where traditional methods have failed. When teachers attempt to use PowerPoint presentations, students often take it as an opportunity to get in some extra sleep or to socialize with their peers. One of the possible explanations for this is that the students of the CCVC are afflicted

with numerous emotional and behavioral problems as well as many kinds of learning disabilities. Although the lesson material may be more interesting through the use of technology, a majority of the students are unaffected as they have little to no interest in learning. It can be assumed that the best way to deal with these kinds of problems is to build trust in a student-teacher relationship and that the use of technology only creates a medium through which the teacher communicates to the student.

Teachers and students alike also report that the lack of discipline in the classroom detracts from a suitable learning environment. Teachers often have to manage classrooms of up to forty students who have little regard for authority and even less fear of consequences. Teachers who do not have much experience in classroom management can find it nearly impossible to maintain an orderly classroom that would be an effective environment to utilize technology. Therefore using technology would most likely be a wasted effort unless the class size becomes more manageable or the student discipline improves. One exception to this is certificate courses where students tend to be more focused, although the other factors should also be considered.

In addition to the students' reaction, the teacher must prepare the lesson material that will be taught to the students. Creating fun and interesting lesson plans often requires creative thinking, which also requires time. Adding technology into the lesson plan adds another layer of complexity. All of the teachers at the CCVC are responsible for many administrative and extracurricular duties in addition to teaching and are often stretched thin for time. Preparing a new and interesting lesson plan utilizing technology is a large



investment of time for teachers that often yields poor results. It is recommended that technology should be used only when teachers are fairly certain that it will increase student motivation and performance.

Another consideration when using technology is the cost of purchasing hardware and software as well as the cost of upgrading and repairing machines. These figures can become quite large over the years as technology ages and becomes obsolete with the release of newer technology. Careful consideration should be taken as to how certain technology changes over time and the costs required for maintenance. By limiting the amount of purchasing to only what is needed, the budget can be reallocated to other areas that can better use additional resources.

In conclusion, before technology can be effectively utilized in the classroom there are some prerequisites to be satisfied that we have outlined above. The next section provides recommendations for the CCVC that will hopefully lead to a more suitable learning environment.

## ***5.2 Discipline in the Classroom***

One complaint common among teachers and students was the lack of discipline in the classrooms. This provides an excess number of problems for teachers as they have to stop their lesson to deal with such cases, but it also affects the students who are interested in learning and takes away from the time available for them to study. The recommendations listed here can be used to limit the number of disruptions during a lesson.

### *Code of Conduct*

One of our recommendations is that the administration of the CCVC develops a clearer code of conduct. The primary reason for this is to help teachers understand what kinds of behavior are acceptable and unacceptable in the classrooms and hallways. It should be developed by the administration and teachers to ensure that it covers all of the scenarios possible and that everyone agrees on the severity of the consequences.

The code of conduct should provide a standard protocol for what actions to take for each form of misbehavior. This will provide consistency between teachers' actions and will reinforce the consequences for the students. If some teachers utilize less severe consequences than others, it is likely that students will target the more lenient teachers to get away with more misbehavior. Also, having a standard protocol will help teachers deal with the situation in a more calm and relaxed manner if they know how they should react.

It is recommended that the code should be enforced strictly when new students arrive at the CCVC. In addition to the use of consequences for negative behavior, a reward system should be established and utilized for good behavior as well. The Assertive Discipline model provides a good starting point for developing the code of conduct. More information on this model can be found in Appendix T.

### *Time in Between Classes*

Another recommendation to improve student discipline would be to allow time in between classes. Currently, as soon as one class finishes another begins. The classes

begin at 8:45 AM and run for forty minutes, so subsequent classes start at 9:25 AM, 10:05 AM, etc. There is a twenty minute break from 10:45 AM to 11:05 AM and an hour and forty minute lunch break from 12:25 PM to 1:40 PM.

The reasoning for this is that students usually do not have to change classrooms from one lesson to the next unless they are going to a computer lab or outside. It is the teacher's responsibility to move between classes throughout the day. This is usually not a problem if a teacher does not have a lesson beforehand, but it can take up to five minutes for them to get from one lesson that is finishing to another that is just beginning. Also, teachers are responsible for signing the students' books after class if they have shown good behavior. This is another delaying factor that prevents teachers from moving between classes quickly.

If there was several minutes from the end of one class to the beginning of another, it would not only allow teachers time to get from one class to another but it will also give the students a short break and allow them to socialize with each other. If students have to use the bathroom or otherwise leave class for any reason, this time will give them a chance to do so without interrupting the class. When the lesson begins, the teacher will be prepared and it will also signal to the students that it is time to pay attention.

### **5.3 Student Support**

The students of the CCVC are typically those who have not performed as well as their classmates in "traditional" schooling. It is essential then for the CCVC, as an

“alternative” school, to focus primarily on the students and to determine why they have had difficulties in the past. Recommendations in this section focus on how to address some of the issues with the students.

### *Expanding the Social Worker Department*

Currently, there are two social workers who have a combined total of one hundred and ten cases to deal with. These include students who have emotional or behavioral problems, family- or relationship-related problems, or questions about career choice. This does not take into account the consultation sessions that are given to individuals who come in seeking advice on a one-time basis.

For an “alternative” school, it is important for students to address the problems or difficulties they have had in the past in “traditional” schools in order for them to improve. Social workers are important to build trust between the students and the staff and to identify areas they are having trouble with. With cases covering more than a quarter of the school population and many more undiagnosed, the social workers have a large responsibility. By providing additional personnel to the social worker department and advertising these resources, the students or teachers may feel more comfortable in seeking assistance with their personal problems.

The social workers also play an important role in building and repairing relationships between teachers and students. Many of the students have reported that they prefer when teachers try to get to know the students, stating that “if the students know you, then they

will listen to you.” It is important for the teachers to develop a relationship with their students early on so that they feel comfortable discussing any problems or difficulties they may have in their studies or personal life. If there are any difficulties in forming these relationships then the social workers will be available to assist them.

#### *Greater Use of Activities during Lessons*

Most lessons involve a teacher lecturing to a class of students for forty minutes with the occasional interruption. This is a lengthy period of time for a teenager’s attention span and most likely will result in the student losing interest and sleeping or socializing.

To prevent this, it is recommended that teachers try to incorporate more activities during their lessons that require student participation. Whether or not the student’s participate does not affect the time they receive to relax their mind from listening to the lecture. They can use this time to socialize with their friends or to get up and move around. If the amount of time spent lecturing is concentrated to a smaller segment of the lesson, the teacher is more likely to maintain the students’ attention.

### **5.4 Teacher Support**

The teachers of the CCVC have a difficult job due to the nature of the students they are teaching. In addition to their teaching duties, many of them have extracurricular or administrative duties that occupy their free time. This section provides recommendations to maintain a productive and satisfied staff by addressing their current issues.

### *Smaller Class Sizes*

One of the most obvious recommendations would be to decrease the size of the classes. With a student to teacher ratio of around forty to one, it can be difficult for teachers to manage an entire classroom and cater to the needs of individual students. Smaller classrooms would allow teachers to have greater control over the classroom while providing a more intimate learning environment with less distractions and more discussion.

### *Co-teaching*

An alternative to reducing the size of classes would be co-teaching, where more than one teacher is present during the lesson. This allows for one teacher to lecture to a class while another can help manage the classroom settings. If a student has a question, one of the teachers will be able to assist them without disturbing the lesson. This will also decrease the amount of misconduct as one teacher can observe the class and handle situations while the other continues on with the lesson.

### *Splitting the Classes*

Smaller class sizes and co-teaching are powerful techniques for managing classrooms but often require additional resources. If students were split based on their own perceived performance then it would be easier to identify classes that may require more attention.

Splitting classrooms based on academic performance may have a detrimental effect on the students' morale if they have been selected by their teachers for a lower achieving

class. Therefore, it is recommended that students have the option of choosing what level difficulty they feel is appropriate for themselves. Students who choose an accelerated or advanced course will more likely be more motivated to achieve and may not require as much supervision. Lower-achieving classes will probably require the use of smaller classes or co-teaching in order to manage the students.

### *Classroom Management Training*

As mentioned above, classroom management is an essential skill for the teachers of the CCVC. This is an ability that requires experience to successfully use, and even then it is difficult to master. By providing classroom management training to teachers, it gives them a starting point from which to hone their skills. The students of the CCVC present a difficult case for many of the teachers who can oftentimes find it overwhelming, but with some training the teachers may feel more in control of the classroom.

## **5.5 Closing Remarks**

The conclusions and recommendations in this chapter were made in the best interest of the students and staff at the Caritas Charles Vath College. The task that this institution undertakes is not an easy one; therefore, the problems it encounters defy an easy solution. Many of the recommendations will not be able to be accomplished overnight nor will they instantaneously solve the numerous hardships of the school. The teachers and the staff of the CCVC are dedicated, hard working, and determined to improve the school and see better results. We wish the best of luck to the students and staff of the CCVC in the upcoming years and hope they receive the recognition they deserve!

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## Appendix A: Sponsor Description

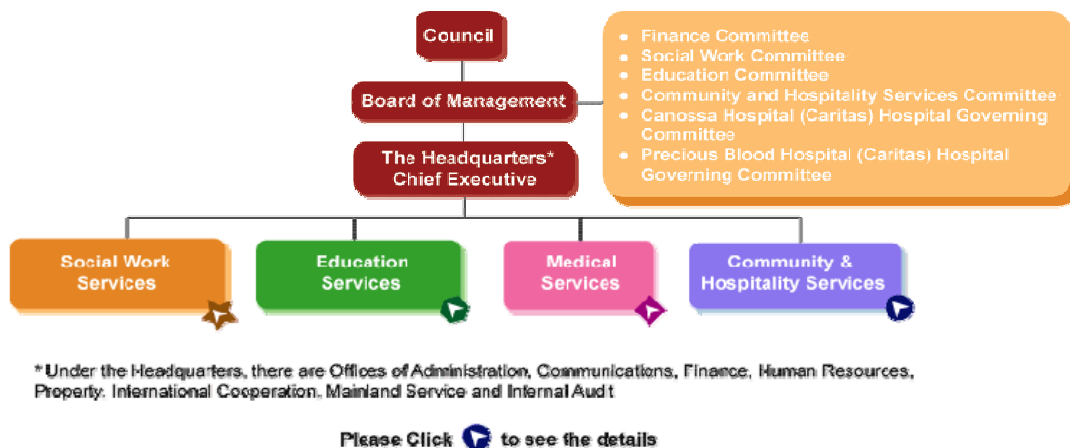
Caritas Hong Kong was founded by the Catholic Diocese of Hong Kong in July 1952. This independent, non-profit organization is a member of the Caritas Internationals. Caritas Internationals is a federation of 154 organizations in the world. These organizations unite to fight poverty, equality among communities and a civilization of love and solidarity.

Caritas has come a long way since their start, which was a direct result of the Second World War. Back then, their mission was to help poor and less fortunate people cope with the world after the war. Caritas has thrived since then and has about 140 locations throughout Hong Kong. They are also united with a common motto “Love is the Service of Hope”. With this motto, they developed a mission statement:

*“We are committed to serving the society at large, in particular, the disadvantaged, and the vulnerable. We strive to foster social cohesion and the spirit of positive contribution to society by means of a holistic system of human services grounded in the principle of integral human development.”*

Caritas is operated by more than 4,900 full time employees and is always complemented by more than 10,000 volunteers. Caritas’ organizational structure is headed by a Council that has complete power of the organization to make the top decisions in order to aim and complete their main objectives. Below the Council is the Board of Management. The Board of Management makes sure that the Council’s purpose, aims, and objectives are being executed appropriately. The Board of Management gets their power directly from

the Council. After the Board of Management is the Executive Team. This team consists of a Chief Executive who is responsible for implementing the plans of the Council and the Board of Management. The Chief Executive is also backed by multiple senior aides who help advise the Chief's decisions. This team consists of all the workers that help keep Caritas funded, connected with the community, and most of the internal operations. The Executive Team is directly in command of the Separate Divisions and Committees. The Divisions and Committees are consisted of four different services: Social Work, Education, Medical and Community and Hospitality. Figure 1 shows a complete flowchart of Caritas' structure. Our IQP will be working under their Education Services division.



**Figure 4 – Caritas' Organizational Structure**

The education services division is grounded by the principle “education for all”. This division of Caritas is driven to provide help for the disadvantaged and vulnerable. The education services division is also split up into four main subdivisions: Pre-school Education, Special Education, Vocational Training and Education, and Adult and Higher

Education. Caritas uses these divisions to provide proper education for all of those in need.

The organization is an independent, non-profit organization that calls on many different resources. Caritas is largely funded by the fees and subsidies from those who participate and use their services. They are also funded by their volunteers with donations and fund-raising campaigns. They also receive contributions from the Hong Kong Community Chest, who also participates in their fund-raising activities. The support received from Caritas yields to an annual budget over HK\$1.5 billion.

Caritas' main resource is their volunteers. They are not funded largely by the government, so their volunteers play a huge role in all their services. However, they are funded by another independent, non-profit organization known as the Hong Kong Community Chest. This organization looks for donations all around the world in order to help the people that are in need in Hong Kong. Essentially, they seek donors so that they can donate to other non-profit organizations. Another company has a common goal with Caritas is the Alternatives to Violence Project (AVP). AVP is an international volunteer organization who set up their Hong Kong office in February 2003. Through AVP, the program Help Increase the Peace Project (HIPP) was initiated in five Caritas schools. This program is an attempt to make the school environment more peaceful.

Caritas has changed over the years so they can better provide the services that the Hong Kong people need. They have been very successful because their policy, their hard working staff, the devotion of their volunteers, the abiding faith of their aided, and the

unyielding support of their donors. Our group will be pleased to provide assist this much-appreciated organization.

## **Appendix B : What is an IQP?**

*What is an IQP and how does our project qualify as one?*

The Interactive Qualifying Project (IQP) serves several roles at WPI. By design, the IQP shows the relationship between technology and society and allows students to understand the effect their professions can have on society. The interdisciplinary approach to the project also offers a chance for students to work with others in unrelated fields while providing an open-ended, unstructured environment. This comes together in the form of a group project where students are able to interpret a real-world problem, develop a procedure to address that problem, and then carry out the necessary steps.

The “Teenagers, Technology, and Education at the Caritas Charles Vath College” project exemplifies the concept of the IQP by addressing the relationship between technology and its impact on society. This project forces us to develop procedures that will allow us to evaluate the impact of technology both quantitatively and qualitatively, and from these results we can draw conclusions. The completion of this project relies on effective group work between several students, promoting interdisciplinary teamwork and healthy group dynamics.



## Appendix C: Interview Protocol for William Cousins

- Are the students' interests and lifestyles known by the school? If so how does that come into the curriculum?
- How does the changing society/economy of technology effect how students are taught?
- Is there a certification that teachers get? What type of experience do they have before teaching in a classroom?
- What type of trainings do teachers have?
- Do the teachers use technology in the classroom? If so how?
- How does current technology, such as cell phones and ipods, impact the students?
- What is the general teaching method used in the classroom?
- Do cell phones ring in class?
- Do students listen to ipods during school?
- What are the rules and regulations for personal technical items?
- Is there an issue with vandalism of the school's technical items?
- What type of disciplinary system is there for students that don't behave in the classroom setting?
- How often do you deal with misbehaved students in the classroom, such as sleeping or talking?
- Are the rules enforced for behavior issues?
- What are some of the consequences of misbehavior in the classroom setting?
- What are some things that the teachers and other school officials do motivate students to stay in school for higher education?
- How are students encouraged to excel in the classroom?
- How does the MCAS affect your curriculum and teaching methods?

*Contact Information:*  
Worcester Vocational High School  
William Cousins  
Phone: 508-799-1980  
Fax: 508-799-1933

2 Grove Street  
Worcester, MA 01605

## **Appendix D: Interview Summary of William Cousins**

Interviewee: William A. Cousins, Assistant Principal at Worcester Vocational High School

Interviewed by: Trisha Josephs and Adam Sheehan

Worcester Vocational High School opened up in 1908, it was an all boy school with two trades to start off with, wood working and metal working. Now there are 22 different trades and the school is co-ed. There are 1,100 students and 140 faculties, which includes three assistant principals. The school is moving to a new building that has state of the art technology, in doing so the plan is to increase the student population to 1500 students by increasing the acceptance rate of freshman.

Worcester Vocational High School follows the small school model which is the break down of a large school into smaller school/academies. Worcester Voc. breaks down into four academies: construction, manufacturing, information technology and business, and allied health and human services. The school has a week on and week off system where one week is academics and the next week is trade; half of the school is doing academics and the other is doing trade in a given week.

Worcester Vocational High School prides itself in being the highest scoring school in Worcester on the MCAS and the highest Vocational School in Massachusetts. For this standardized test the curriculum framework guideline is that 9<sup>th</sup> graders take both math and English courses and that 10<sup>th</sup> graders take math. The school doesn't specifically teach

to the test however there is the math question of the week and writing across the curriculum where students write in journals.

70% of the graduating seniors go on to college, such as Worcester State, Fitchburg State, Bridgewater State, and UMass Amherst. The students that attend the school are inner city kids with limited finances.

There is an application process in which 8<sup>th</sup> graders apply in order to get into Worcester Voc. The school gets about 700 applicants and only 300 are accepted; of those 300 students accepted they are considered the cream of the crop because the school takes the best applicants. Ninth graders go through a 6 trade exploratory where students explore their top 6 choices of trades and compete to get into their trade of choice. The IT program is very competitive.

The technologies used in the school are computer labs, smart boards, and trade specific, such as saws for woodshop.

Students are expected to turn off cell phones and put them away when they enter the school and have their school IDs on. Everyone in school has a cell phone, but they can't be used in school. If there is a problem, students are sent to the office, but because the no cell phone rule is stressed, there really isn't a problem. Ipods as well are expected to be put away when in school and is not permitted to be used during school. During lunch

however you might see an occasional student talking on their cell phone or listening to their music.

Vandalism isn't an issue for the school, occasionally there is something but nothing to stop buying more technology.

The school has a high attendance rate, just this first term it was 97.7%; they also have a low incident rate of student misbehavior. The school is fully accredited through the New England Association of Schools and Colleges with chapter 74 approved for all 22 trades, and there are no fluff courses. Teachers are certified in the field by a college by taking 12 courses, however there is an incentive to get higher education because it gives the teachers higher pay.

Teachers also have professional development that is twice a year in March and October where they learn to use Microsoft Excel and smart board. Teachers also go to workshops in the summer, or they go to college to get credit for learning how to use technology.

## **Appendix E: Interview Protocol for Bruce Findlay**

What was the general reaction of the staff and the faculty for your presentation of the recommendations made by WPI?

What changes or future plans does the CCVC have on the recommendations?

You notice any progress on other student's discipline and order in the classroom?

Has the way the teachers present their material changed due to the CCVC project last year?

How often do the teachers utilize the projectors and the computer lab?

Has there been any changes to increase parental involvement in this school?

Has the school developed any more extracurricular activities for the students to participate in?

Has there been any additional personnel who have been hired to relieve some of the administrative duties that the teachers have?

What are your thoughts on the demerit system?

How have the students benefited from the recommendations of last years project?

## Appendix F: Bruce Findlay Interview Transcript

L: What was the general reaction of the staff and the faculty for your presentation of the recommendations made by WPI?

B: The general reaction after the presentation to the CCVC?

L: Yeah

B: I think that generally the presentation was well received. As usual, the teachers tend to not opionate too much about what their feelings are so there are a lot of silent periods, but some teachers did ask questions and I think that your advisors last year prompted a lot of questions from the teachers as well. But essentially I think that the main thing that we got out of it was basically reflected in the document that we turned out with cartoons in it, and the end result was that the findings of the WPI students were very useful to us in many specific areas. As an example, one of those areas was to try to put more fun into lessons, which is easy to say but hard to do. They felt that we probably weren't using enough technology to help us in our classes, that was the second point, the third was the possibility of getting people who worked in industry and come and teach on a part time basis, so that they could share their knowledge and hopefully, if the age difference wasn't too much, the students could take a greater interest in certain lessons. Having the ability to talk to practitioners who had already been in the profession for many years, basically someone to look up to, and we actually started that. We had a hairdresser who failed and failed many times in the profession, but his motivation was incredible. He motivated himself to get back into the business and he succeeded, I think. He's still just a teenager, I think he's 18, 19 years old, but was doing very well in the profession. And he came to do a couple of lectures, and I think because he speaks Cantonese and because the students could relate to him very easily it was quite successful. And this is now ongoing. In general, I think that teachers had many different opinions, but it isn't typical to get teachers to express fully what they feel, and that's maybe a characteristic of living and being in Asia.

L: The next question kind of flows with it, you already kind of answered half of it, but what changes or future plans does the CCVC have on the recommendations?

B: Recommendations are recommendations. Sometimes project constraints, time constraints hold us back from carrying out 100% of what was recommended, so we're doing it stage by stage. I think another point they discussed was being a true vocational school, where by perhaps at the end of form 4, the start of form 5, but especially for certificate courses we could guide the students much more in their choice of vocation, basically because even at certificate course level, many of the students have little or no idea of what they wish to or want to do when they start working. I think that bits and pieces of the recommendation were actually carried out very shortly after they left, I can't be that specific at the moment, but personally I constantly refer to the WPI presentation, because there are a lot of useful suggestions there that either directly or indirectly be carried out. The problem at the moment that we're suffering from is funding, for example

we would like to have much smaller classes because currently we have 40 students or thereabout in every class. I'd like to cut it down to 20, but... difficult. Although in light of the recent announcement that the government will put 1.6 billion dollars into education, I don't know what period that covers, but I will certainly be talking of the principal about trying to find a little bit of that money or to bring a little bit of that money in our direction. As an alternative school I think we do need a lot of help. Our numbers of students, because of their nature, tends to drop after the first term. Not just in form 4 and form 5, but also in certificate courses, because many students find they can't or don't want to continue with education and opt for looking for work somewhere. Or doing nothing at all, which is probably the better choice for them. So I think our school is going through difficulties, maybe partly from a misunderstanding from the Education and Manpower Bureau as to what our school is about and what we're actually doing, and in the next year I hope that we can promote the school a little bit better and with hopefully a some more funding, and try and increase the intake on successive years. We're in our third year now, and I believe that within the first five years, we actually have to show good academic results, or at least we have to improve our academic results, and that's something that, for us is very difficult.

L: First five years, so that's two years now?

B: Two more years after this third year, and that's going to be difficult, because you can't really teach that much in the two years that the students spend in form 4 and form 5, unless of course they go to certificate courses, and you see the difference in form 4, form 5 and certificate course students.

L: You notice any progress on other student's discipline and order in the classroom? You can definitely see the difference between form 4, form 5 and certificate but in general, the forms themselves.

B: I think that there's – due to their different streams, I think the behavior patterns from class to class varies because of the interest in the subjects that they're being taught, with the exception of the languages which are common to all students. The differences, there are differences but you can get a very good class with most of the students who behave very well who subscribe to the discipline procedures in the school, but you can get two or three really really badly behaved students and that spoils it for all the rest because you constantly have to start and stop, start and stop just because of two or three students. I think that my personal opinion is that we may not be – probably for good reason – harsh enough with some of these students. They really have to understand that school is a place for study, not for play or wrecking the classroom. At the end of the day our policies, made at the management level, will reflect the attention that we get in the classroom. And that's something that relies very heavily on good planning and good communication.

L: Has there been an increase in student motivation or interest in the material since the recommendations?

B: Umm



L: I guess the follow up is has the way the teachers present their material changed?

B: One word? No. Not really. Teachers here are very dedicated to their work. Method wise, the reality is that if you want to create a very good lesson plan, you must have the time to do that. This is something also that did come from the previous WPI presentation. They noted that teachers have zero seconds between lessons. Generally, being a teacher we have to attend a lot of seminars and teachers days and all sorts of things that are indirectly related to teaching but do take away the very precious time that teachers have. So after the students leave at 3:40, teachers are constantly busy doing things. At weekends, we find that either Saturday or Sunday or Saturday and Sunday we're preoccupied with preparing our lessons and organizing ourselves for the next week. So we do have very little time, we have no time between lessons to really think, you gotta run from one lesson to another, and I think that's something they did notice but it's clearly something that has to be addressed. One way they did suggest was that the duties of teachers, the extra teachings that teachers have might be more streamlined, but I can say that our new principal has initiated many changes. For example, we now have less meetings, if we do have meetings they're usually short meetings where general items are discussed first and then you break up, sometimes into more specific groups, rather than holding everyone to ransom in one meeting for the last three or four hours. And that's really what we used to do. Even our weekly dialogues are now bi-monthly dialogues and they are much shorter, and sometimes during lunchtime where we can just eat and get to the point very very quickly. So things like that have changed, in general I think that it does take a long time to put these things into practice but we're doing it slowly – and hopefully surely.

L: How often do the teachers utilize the projectors and the computer lab? I think it's different for every teacher though

B: It is. If the teacher has the time to do a powerpoint presentation, I think that can be very useful. But it's like with many things, the students with powerpoint especially, do get bored. Even though the teacher might have put a lot of effort into producing a colorful powerpoint with lots of pictures and lots of cartoons, which we do do, they're almost immune to it now. But it depends on the content of the powerpoint nowadays. If the content is interesting and exciting, the students will pay attention to it. As far as the computer room is concerned, I think that's almost exclusively used by lessons which are necessarily related to the use of the computer, for example computer studies. Obviously they have to use that, but in English, we tend to use powerpoint out of four of us I think two of us use it quite frequently. I unfortunately, being the old man in the school, I haven't used powerpoint at all, because my preference is to make human contact with the students, rather than doing it through technology. I know some of my lessons would actually go better with the powerpoint, but quite honestly I can't seem to find the time even if I utilize some of my weekends to do the powerpoint, and I'm not terribly well versed in the computer in any case. I could do it, but I don't have that inclination. I think it could help quite a lot.

L: Has there been any changes to increase parental involvement in this school?

B: Yes, good question. We have started a Parent Teacher Association, I believe one meeting has been held so far, and that, although I don't know the details of it, has been quite fruitful, in that the parents that did attend seem to empathize with our situation. I think it's good that this happens because of the nature, again, of ours students. I think that if we have a network where parents speak to other parents about their own child or the child or parent they're talking to, that's either going to be very beneficial to the understanding and support we get from the parents or it's going to end in a very big punch out (laughs). It depends – it depends on how tactful the parents are with each other. We are in throes of increasing how much parents are involved with the school. I think that's good as long as it's controlled, because parents obviously see a different side of their children than the school does and ultimately I think that can benefit instead of take away.

L: Has the school developed any more extracurricular activities for the students to participate in?

B: As far as extracurricular, I think we are doing the same amount as we have done in past years, with the addition of – we had a funding from VTS, which is vocational training and --- something. Basically that gave us a little bit of money specifically for the English language department and the Putonghua department. The theory of that is very good – we've started something, we have games in the English corner and plays in Putonghua. But our biggest problem, to be very truthful about this, is that the theory is there, we do want to get these things underway, we have to actually before the end of the year, but it's a question of resources. In order to get the students to the English corner, to play games in English or participate in plays in Putonghua, we have to have teachers present to be able to guide them, and that's a very difficult thing. It's a good thing for the students in that we got funding, but it's a little difficult on teachers because it puts a lot more pressure on them in terms of their own timing, because these things have to be carried out during lunchtime or after school.

L: We noticed that teachers have a lot of administrative responsibilities that they have to take care of. Has there been any additional personnel who have been hired?

...

B: Talk about .how to operate computers properly and a system properly. Unfortunately for me, everything's normally in Chinese, so I usually take a half day off. If we were to agree that the improvements and enhancements of technology and the use of technology of the school is a good thing – because I think there's two ways, you either think that technology is good and it benefits the students, or it's not good. If we think that it's good, I think that we should increase our teaching and our learning of the different software packages that you can get. I think that that would be interesting to do. At the same time, I think that what we have to do is also look at our lesson timing, because in order to set up whatever we're going to teach on the computer, it takes time. Time out of a 40 minute lesson really puts you down to 25-30 minutes of real teaching. If we're talking about the computer labs to move the students from the classroom will also take 10-15 minutes, so you're losing time whatever happens. What I'd like to do is maybe relook at our

timetabling and our scheduling of our timetables and, if the answer is going in the direction of IT, I'd like to increase the time for each lesson but decrease the amount of lessons we have in a day. I think that would be the logical action.

L: The demerit system – what are your thoughts on that? Does it work, does it not work, do you have any reservations towards it?

B: There are two ways, it's either merit or demerit, and in our school we tend to have our students accumulating more demerits than merits. I think in theory it can work, but remembering that we only have one discipline master – one discipline master – in a school where we need to take more disciplinary measures, I think that is something that we have to address very quickly. I've been saying this for the past 2 years and unfortunately it has fallen on deaf ears.

....

B:...Every teacher has a different outlook, a different opinion on what is good discipline and what is bad discipline, and that obviously reflects on how we give merits or demerits. What I think we need to do is firstly increase our disciplinary stock, and then institute a merit or demerit system that can really work, because teachers will handle each in a different way, according to their opinions of the system. So to have consistency across the board in terms of giving demerits or giving merits is very difficult, even though there is a chart, the teachers will use flexibility. And that will vary also according to which student or which class they're talking to. But to answer the question, I think that if the merit or demerit system was simplified or made more workable, that would be a good thing for us.

L: More structured, in a way?

B: Yeah, I think it has to be structured in a very realistic manner. I think at the moment it's not that realistic because we have students that, on the negative side, will accumulate 20 demerits and they don't care about it. So, to me, it's ineffective. We must have a system in place that is effective that really works on the students. And one of the things again that came from WPI was that: Why don't you make the punishment something that the students really care about? For example, if the students were really poorly behaved, if they did some sort of community work within the school – not without the school, within the school, for example if they were asked to clear up rubbish. Students will lose face if they are seen by other students clearing up rubbish, so to me they would avoid it like the plague. "I don't want a demerit, because I'm definitely not going to clear up rubbish." And that works, I think that that works. But to tell them that you have to sit in, the way we will take students into detention classes, same as everywhere around the world, and have them sit there for 40 minutes. Sometimes you'll get three students and three teachers in there – so you got a 3 on 3, and this has happened. Sometimes you'll have one teacher and one student. It doesn't work, and it's very clear that it doesn't work, because our students will say 'Ok, I'll stay there for 40 minutes, do nothing, maybe SMS under the desk, go home, end of story.' Write off the demerit. It does not work. We have to be very realistic about it and come up with forms of giving merits and demerits, with the demerits

being things the students would not like to do and the merits being something the students would like to receive.

L: Overall, how have the students reacted from the recommendations from last year?

B: Overall, I think that the teachers so far have benefited more from the WPI presentations than the students have, because I think that whatever plan you put into practice takes time to settle in. Directly the students haven't really benefited much, indirectly there are some things the students will feel better about. For example, we try not to patrol so much. They feel that when we patrol, it's like being in a prison. We've cut a lot of things down, so if we continue to look at the presentation that's done and what we put into it in terms of really making use of the presentation – and hopefully for your presentation as well, if we take those findings and consolidate them I think that we will benefit a great deal because it's basically a group of people looking at a situation that we may not be able to see ourselves, so we will see what happens.

Thank you, guys.

## Appendix G: Interview Protocol for Teachers

Teacher:

Subject:

Date of interview:

How long have you been teaching?

Are you responsible for any other duties besides teaching at this school?

Do you think that the CCVC intranet (eClass) will save you time or produce more work for you?

Do you think that the students will be more or less interested if they can complete assignments online?

Have you used technology before in your lessons? If so, how have the students reacted?

Have you had any teaching method that has really caught the students' attention at this school?

## Appendix H: Interview Summaries of Teacher Interviews

The following interviews were recorded on paper. A sound recorder was not used as we felt that it may alter the interviewee's responses. Before any questions were asked, the interviewee was assured that the interview would be anonymous.

**Teacher A**

**Subject: Chinese**

**Date of Interview: 17.1.2006**

How long have you been teaching?

**Three years.**

So besides teaching, do you have any other duties or jobs at this school?

**Yes, I have other admin jobs. I am a member of the parent teacher association, counseling and guidance, the promotion team, movie and animation, and the school radio.**

Have you ever tried using technology in your lessons? Maybe PowerPoint or projectors?

**Sometimes. When I use PowerPoint some students become more misbehaved. There are two kinds of students: some sit down and listen and others play more when I use PowerPoint.**

Has there ever been a point where you were able to grab most of the students' attention in a class?

**Before a test or an examination, most of the students will pay attention. A few guys not willing to attend or listen, but when they are absent or settle down the class becomes better.**

Do you think that the new intranet at CCVC, or eClass, will save you time or produce more work for you?

**eClass was just established so I haven't had much time to use it. I will use the email but I have not used it much yet.**

Do you think that the students would be more interested in completing assignments on the Internet?

**Maybe some students will. The students will be able to take more time to complete the class material on their own time and it can save me time in class so I can teach other things.**

Ok, thank you for your time and we appreciate your cooperation. Have a good day.

**Teacher B**

**Subject: Geography and Travel & Tourism (T&T)**

**Date of interview: 17.1.2006**

How long have you been teaching?

**Since he graduated from college he's been teaching at the CCVC (2 1/2)**

Are you responsible for any other duties besides teaching at this school?

**Certificated Coordinator for T&T, Leader of basketball team, Climate committee, Travel Club, Other?**

Have you used technology before in your lessons? If so, how have the students reacted?

**Uses powerpoints. Used google world before.**

Have you had any teaching method that has really caught the students' attention at this school?

**Video is more attractive. Video to promote T&T (download fro website). Also used a worksheet with video**

**He feels that the HKCEE limits what he has to teach. Usually he can make more interesting presentations and lectures when it's not on the exams.**

Do teachers share lessons/classes/ect?

**Yes, teacher share. Shares with Gary (another T&T).**

Do you think that the CCVC intranet (eClass) will save you time or produce more work for you?

**Not sure if it will help because it's too early. Open to try it though. Thinks that initially it will take up more time but them will be better. Could be more interesting for the students. Gives teachers access to school work through the internet while at home.**

Do you think that the students will be more or less interested if they can complete assignments online?

**Not sure. Students usually don't do homework at home when given.**

**\*usually the hwk given out is completed in class.**

**Percentage of students that return homework:**

**If interesting 90-95%**

**If not interesting 40-50%**

**He really would like them to learn, but the students do not want to think. They would much rather just have the teacher give them the answers to hwk assignments. But then they are not doing anything thinking and probably not learning.**

**Teacher C**

**Subject: Math**

**Date of interview: 18.1.2006**

How long have you been teaching?

**4<sup>th</sup> year teaching, and 2<sup>nd</sup> year at the CCVC**

Are you responsible for any other duties besides teaching at this school?

**Discipline**

**Patrolling, talking w/ kids, find out what they're thinking,**

**Usually they are "naughty", students don't want to study**

**Only want to socialize**

**Member of extra curricular activities**

Have you used technology before in your lessons? If so, how have the students reacted?

**Powerpoint**

**More interested but then sleep. Took too long to prepare up to 2 days.**

**Usually not worth it**

Have you had any teaching method that has really caught the students' attention at this school?

**"If the kids see that you are serious they are more likely to pay attention"**

Do you think that the CCVC intranet (eClass) will save you time or produce more work for you?

**Much more work of course. They aren't good at using the computer to learn all they do is play games, chat, and listen to music with computers**



## **Appendix I: Interview Protocol for Students**

Do you feel that you put in more effort or less effort than the average student in your class?

Do you feel that class participation is an important part of learning something new?

What do you think is different about the CCVC?

What was the most interesting experience you have had in school? What was the least interesting experience?

If you were teaching a lesson, is there anything you would like to do differently?

Do you think technology helps you learn better in the classroom (e.g. PowerPoint, video and sound clips, etc.)?

What kinds of activities are you involved in after school? What motivates you to do them?

What do you feel the benefits or drawbacks are of an education?

## Appendix J: Interview Summaries of Student Interviews

Student A, 19 Years Old

Stream: Travel & Tourism

What do you think is different about the CCVC from other schools?

**Getting bad grades because he's having trouble studying with the behavior of the other kids**

Do you feel that class participation is an important part of learning something new?

**It's not important to the other kids. Other kids don't care about their future they just want to play.**

How do you feel about your teachers? Do you feel comfortable talking with them outside of the classroom?

**Talks to some of them, but only talks about personal matters to Bruce and Nina.**

What was the most interesting experience you have had in school? What was the least interesting experience?

**Most: Magic trick.**

**Least: Some teachers are not nice but only act like that in front of other teachers. They are faking it and they don't actually care about the teachers.**

If you were teaching a lesson, is there anything you would like to do differently?

**I would be more friendly, have more conversations with the students. "If the students know you then they will listen to you."**

Do you think technology helps you learn better in the classroom (e.g. PowerPoint, video and sound clips, etc.)?

**It's about the same nothing that much different. If the teachers use the projector and turn the lights off the kids fall asleep.**

Goals?

**He wants to continue studying in design. He likes to create/design things.**

Benefits of education?

**Able to get a job, not a good job, but a job. Better than nothing.**

Student B, 17 years old

Stream: Commerce

What do you think is different about the CCVC from other schools?

**In other school forms 1-3 were very serious. Here at CCVC there are no rules. Teachers don't punish naughty students.**

Do you feel that you put in more effort or less effort than the average student in your class?

**In the previous school, other kids worked a lot harder than her, but here she tries to put forth effort, but the classes are noisy because people are always talking. It's hard to concentrate.**

-----  
Another girl enters and just observes  
-----

Do you feel that class participation is an important part of learning something new?

**Skipped over this one?**

How do you feel about your teachers? Do you feel comfortable talking with them outside of the classroom?

**The teachers tell us to study more. They don't punish naughty kids or the best students. She is comfortable to talk with the teachers because she knows she won't get into trouble.**

What was the most interesting experience you have had in school? What was the least interesting experience?

**Playing games and being with friends. Not learning anything**

If you were teaching a lesson, is there anything you would like to do differently?

**Play with them more. Have fun. Play games on a certain subject.**

Do you think technology helps you learn better in the classroom (e.g. PowerPoint, video and sound clips, etc.)?

**Projector helps a little bit, but she would rather have do it in writing.**

What kinds of activities are you involved in after school? What motivates you to do them?

**Shopping, playing computer games, DATING**

What do you feel the benefits or drawbacks are of an education?

**"It's difficult to find a job without some sort of education. I want to be a kindergarten teacher when I grow up, but I don't want to work for it now. Right now I just want to play." It's a lot of work to become a teacher. Need to grow through F6-F7.**

Is the HKCEE fair?

**She feels that the HKCEE is not fair**

**Student C**

**Stream: Commerce**

What do you think is different about the CCVC from other schools?

**“More free”**

**Transportation is very expensive. CCVC is in the middle of no where**

Do you feel that class participation is an important part of learning something new?

**Feels that this isn't important. No plan for future just want to play.**

How do you feel about your teachers? Do you feel comfortable talking with them outside of the classroom?

**Feels the teachers are very nice. Only talks to the social worker about stuff outside of the school**

What was the most interesting experience you have had in school? What was the least interesting experience?

**So much freedom. He loves to play with computers. Likes any type of computer classes**

If you were teaching a lesson, is there anything you would like to do differently?

**“It's hard to teach here because the students are so naughty and noisy”**

Do you think technology helps you learn better in the classroom (e.g. PowerPoint, video and sound clips, etc.)?

**Using the projector helps Hugo learn, but usually sleeps through the classes.**

Goals?

**Get a job after school that is related to computers. Knows he has to work hard but for some reason just doesn't.**

*Ran out of time with this one...*

## **Appendix K: Interview Protocol for IT Director**

Do you think the teachers are teaching with technology effectively?  
Why or why not?

Do you think teachers will use eClass?

What are some of the biggest problems with the computer labs? (Why do they go unused?)

Are there any problems with theft or vandalism of the computer equipment? If so what kind?

Are there any preventative measures taken against theft or vandalism, like computer locks? Are there any measures you think should be taken?

Is there any software on the computers that blocks certain applications, websites or games to ensure that students actually work? Have any been considered?

How do you feel the software to prevent the students from accessing certain websites is working? Do you have any recommendations to change it? Should there be different/additional software?

## Appendix L: IT Director Interview Transcript

Interviewer: Adam Sheehan

Interviewee: Wong Wai

Adam: We're gonna ask questions about technology, but first, how long have you been a teacher here?

Wong Wai: I've been teacher here for 2 years.

A: And what subject do you teach?

W: I teach computer and information technology. Also, one subject of the certificate course, Technical Computer.

A: Do you use these labs?

W: Yes. Usually I use this lab (604), and sometimes I use the lab over there (602).

A: So what kinds of technology are available at the CCVC?

W: We, uhh... Do you need the details?

A: No, no, maybe like... computers or projectors.

W: In the CCVC, we do have about 300 computers. For the teachers and also for the students. And each teacher will get his own notebook or laptop. Then we have 4 computer rooms, one is the computer room, of course. Then the ??? computer aid learning center. This is for my subject. Also, we have a design room, which is designed for the arts and designed for those students. Also, we have the 4<sup>th</sup> room called MMLC, Multi Media Learning Center. It's for students who really want to use technology to learn a language, say Chinese, English or Putonghua.

A: Do you think teachers utilize all the technology? What do teachers usually use?

W: Teachers usually use the projector in the classroom. Also, I think all the teachers have used the internet to search for information for their teaching materials.

A: Do you think this is effective for teaching? Do you think the students learn better using technology?

W: Yeah, I do think so. I think that inside the classroom, for the traditional teaching, say just take a book, students get bored. But if we use the computer, use the projector, the students may think that it is interesting.

A: Do you think teachers will use eClass, the CCVC intranet?

W: Yeah, and for the CCVC intranet, we just proposed it this year, and the form 4 student, they ??? yet. But for the form 5 student, they use the intranet to use the HKCEE. They need to compose a web page and upload it to the (intranet)?. Then, they can asses the own web outside the school.

A: We heard that sometimes the computer labs aren't used as frequently as they could be. Any reasons why the teachers don't use the compter labs as frequently?

W: I think that for my subject, computer subjects, or even design, teachers need technology to teach the students in using software. But for other subjects, say for other languages, some teachers, they don't know how to use or they even don't know what software is suitable for them to teach the students.

A: Have their been any cases of vandalism or theft with the students damaging property?

W: We have some cases, some students take the RAM. But it's not for my subject, it was in the design room. But we can't find it because the teacher did not know the RAM was

being taken. Our technician found that there was something wrong with the computer, then we opened the case and the RAM is missing. We asked the teacher, but the design teacher did not know the RAM was missing.

A: Has there been any attempts to prevent the damage?

W: Yeah, there is a lock. Before we didn't use a lock, we just used a wire, and the student can open it using scissors. Now we use a lock.

A: When the students come here to use the lab, I've seen a lot go on the internet. Is there any kind of software to block this?

W: Yeah. For Form 5 students they need to use the internet to finish their HKCEE project, but the form 4 students need to know how to use word or excel. The internet can be blocked.

A: Are there any recommendations you can make to improve the use of the computer labs? Maybe to appeal to the teachers who don't use it as frequently for subjects such as English?

W: I think the problem is: For me, I study computer science. I really can't do a lesson plan for English lessons. I think the main point is that if the English teacher wants to use the computer to conduct his lesson, I think he can ask us for suggestions or any idea on how to conduct his lesson. But I really can't design a lesson. I can't design a lesson using technology to teach English. Say for a Putonghua session, the teacher wants to use the computer to do a voice recording. Then our department can provide software and a headset and go to the MMLC where the lesson can be conducted. But for some teachers, they come here and say 'I want to use the computer to teach Chinese or English', I really can't help because I am in computer science, not in Chinese or English.

A: Finally, is there any technology that you'd like to see in the future at the CCVC?

W: In the future, in my plan I will extend a ??? for the ??? required by the EMB and also our principal wants to investigate a new technology. I'm not sure whether it is new or not but there is only one school that uses the technology. It is just a normal screen and the students can come up to write on the screen and display or save to the computer.

A: Smartboards?

W: Yeah. I think there is only one school in Hong Kong that uses the smartboards.

A: So has he had a chance to purchase this, or is he just investigating?

W: I am not investigating, but I am not sure whether it is possible, because we need some other resources. Maybe I need to have a new proposal to get some resources.

A: Ok. I believe that's all. Thanks a lot, we really appreciate it.

## **Appendix M: Interview Protocol for Social Workers**

In general, what services do you offer to the students?

What kinds of problems have students come to you for in the past? What is the most common problem seen among students?

Does discussing the problem with students generally help them?

If not, how have you treated these problems? Have you noticed any progress?

How many different students visit you in a week? How frequently do these students visit?

Do the students who come to see you typically have goals in life or are they unsure of their future?

Do you feel that all of the students are aware of your services?



## Appendix N: Social Worker Interview Transcript

Interviewer: Adam Sheehan (with questions from Bruce Findlay)

Interviewee: CCVC Social Workers. Lydia and Calvin

Adam: So, first of all, how long have you been working at the school?

Female Social Worker: It is my second year

Male Social Worker: I've done this for three years already

A: And what kind of services do you offer the students?

L: Counseling a lot, including the behavioral problem they have in school, some family problems, some problems with dating and some emotion, or some problems about career choice.

C: I assess related problems. Some students have some problem with legal issues, for example they are sued. We inform them about the process. Apart from that we also provide group program services to the students. Some of the programs or groups are developmental. Let them have self improvement and personal growth, leadership training, volunteer services, and some other programs which are remedial, which means that the program and the groups are targeted on specific problems. For example, we find that they are frequent drug users, maybe they have a problem with sex. We open up small group and do something with them and let them learn something in the group.

A: So you mentioned drug problems and sex problems. Are there any other common problems you see with students?

L: I think it is emotional control. A lot of students have problems with their teachers and with their peers, so we also have some groups to help them to control their emotion properly and how to deal with conflict with their peers and teachers, and how to improve their school performance. They have a common problem that they always go to school late or are absent from school. I think It is a serious problem in the school so we try to have some group and ask them to develop a goal for them and how to improve the problem, how to set goals so they can follow it, and we give them some ????? and let them play with us so they can have the motivation to change.

A: Have you noticed any kind of progress with the students? Do they come in here frequently? If a student comes in here, do you notice that their behavior changes as they get more counseling?

C: It depends on the cases. For most of the cases, the students have improvement after receiving the counseling services. We refer them to some of the groups or programs we organize. But for maybe 10 to 13 percent of the students they still have problems. The problem still exists after receiving our service.

L: I think it takes time for them to improve. We take a long time to engage with them. At the beginning we don't know the students, so we should play with them and have a lot of time to engage with them so that they trust us and (maybe talk about some)? big issue. They talk about their family, they talk about their personal problem and some of them have some changes that maybe take a year. Maybe when they're in form 4 they are very naughty according to the teacher, and after a year, they promote to form 5 and their problem will get settled. So I think that improvement really takes a long time.

C: And the pace is really different from students to students, and some of them we take maybe half a year to build up a relationship and rapport with them. After this we start

work on their ????? problem. For this school, the system is a little bit special from the other schools because people come up here for form 4 and they leave the school at form 5, and we only have 2 years to work on their problem. It is a little bit difficult, you know? For example they have a family problem or relationship problem with their parents. For long counseling periods, it takes maybe one year to work one of their problems. But after we build up a relationship with them for 6 months and need to work with them for one year, they leave the school.

A: About how many students come to see you in a week? How frequently do students come?

L: It is difficult to count. Because we have statistics that say up til now I have fifty cases. Calvin also has fifty cases.

C: Sixty cases.

L: Sixty. But how many a week? I think on average, I have maybe 3 counseling sessions a day and a lot of consultation sessions.

C: Consultation sessions are some counseling sessions which we do not follow as cases, but they just come up to us and they present their problem and we give some advice or some counseling and they leave. The time period of consultation may be short, it may be long. In effort we should have 3 counseling sessions every day. But if we have programs or groups, the number of the sessions will reduce.

Bruce: May I ask a question? Have you ever had to counsel any teachers?

C: Yes. We have good relationships with most of the teachers. If they have a problem, some of them will find us actively. For other cases, we observe the teachers and if we find them and they look unhappy or they look strange we will ask them what happened and provide them support. Which is maybe informal, but as a friend...

L: Sometimes we act as a mediator between the student and the teachers, because they have some conflict and we try to know more about their different perspective and try to ask them to come to our room together and talk with each other. And sometimes it is effective and they can have a new relationship after that.

A: Do all the teachers and students know about your services at this school? Is it advertised to all the students?

C: We always request every opportunity to advertise the service, and in the beginning of every year we will go to the stage at least once to tell them if you have any problem or if you want somebody to talk with you, you can find us. So they know that we provide counseling service. And for the group and program services, it is on an activity basis. We have the program or the groups we sat with and we ask them to register, and this is the way they know our services.

L: And we have an orientation program in September, so they can have a day to play together and know me and Calvin.

B: Can I ask another question? What do you think is the main reason why students, specifically of CCVC, have so many problem of emotion, as opposed to, for example, a Band 1 or a Band 2 school? Why do you think CCVC students have these problems? Is it family oriented, does it have something to do with confidence, is it academically oriented, what is the main problem?

C: These are complicated reasons. I think family problems are one of the main issues. Some of the students tell us that they always shout at the teachers because they even do it for their parents. They shout at their mothers, shout at their fathers, and so do their

parents on them. Also, maybe some reason is about their self esteem, and some of them, maybe half of them are delusional because of their previous school. They do not achieve good academic results and they are too active or too talkative to become a good student at their previous school, so they do not trust their teachers and they think that every sentence or comment on them is negative, and they don't know that sometimes the adults give them comments that are for their own benefit. They don't know, so we need time to change this belief of them.

L: In my opinion maybe it is because of their poor academic results. This factor will affect other factors when they cannot have good academic results. Their family will push them and give them a lot of pressure, and it will create tension between them. Then they don't have good academic results and they will try some other thing to achieve themselves. Maybe they try drugs, they go to disco, they attach with some bad peers [Fall into the wrong crowd?], so they can have another kind of achievement. So the factors affect other factors. So it's a really complicated problem.

C: And many of them have no academic achievement, which can be shown in formal work surveyed by us, because we have a learning difficulty questionnaire. Which is for ?primarily sick? students. We do it to some of the students and find that maybe thirty to fifty percent fail in the ?primary sick? questionnaire about learning disabilities. In this age in Hong Kong for the form 4 students, even we know that they have learning disabilities or learning problems, few resources or few works can be done on them because they are too old on this system.

A: Do you have any suggestions on how maybe teachers could adjust their lessons to adjust to these learning disabilities? Maybe there'd be better ways to teach each lesson?

C: It is another complicated problem.

L: It is a dilemma because they should attend public examinations. If they cannot achieve good results in these examinations, the school may have a problem because the problem is the students have such poor results. So if they do not follow the schedule it is a problem, but if they follow the schedule it is impossible for the students to follow. I think it is a really difficult problem.

C: My opinion is similar to Lydia's. The most difficult question is that every ????? expected that the students need to see on the Hong Kong CEE exam. It means that the teachers need to follow the syllabus to teach the students. But the syllabus is far more difficult for the student's ability. I just imagine, if the teacher could just forget the syllabus for the HKCEE and taught what they wanted to teach and play some games with them, maybe the students could benefit more. But even the principal needs to face the public. Everybody expects the students to do this. I don't know how to solve this one.

B: I think if I can say, Calvin, it's a bit quaint. As a teacher, we don't have pressure at the CCVC to teach towards the public examinations, but there is an unseen pressure. We know that the EMB expects our school to show good results and we are now in our third year, but by the fifth year we actually have to document our results, and if they are not good then it may have to question the future of the CCVC. I totally agree with you, it would be more appropriate to be able to play fun then games with students, but we have to teach them academically and that's the dilemma of the teacher. One question I would like to ask is: Part of this project is about how information technology or new ways of teaching, perhaps through computers or some form of technology, weather that can help our students at CCVC to learn better. Is there any technological method that they use in

social work as opposed to talking face to face with students? Because face to face with students seems like the personal touch is very much needed. The reason that I ask the question is that we're trying to introduce ways in which technology can help us in our lessons to perhaps try to captivate the interests and enthusiasm of students. Do you adopt any of those things in social work? Is there the budget for it?

C: No, I think it's not a budget problem. For case counseling sessions I rarely use IT technology because the students just like to talk with us face to face. I tried before to communicate to the students in MSN, ICQ and to build up a relationship, but sometimes I need to do it at home and it affected my daily life and my personal life so I do not do it anymore. But I think IT technology sometimes helped us doing programs or groups. I remember that in November we do the 'Love Is' talk, and we use a lot of songs and a lot of video and asked the teachers to roleplay the students and play it back to the students and highlight what the problem encountered is in school, and it really helps, the students find it interesting.

L: For me, I think I certainly use information technology in counseling sessions. Sometimes I will use the internet to find a job and find some study program with them together. Yes, there is one example I can think of.

C: In most of the cases I use the computer with the student to find jobs and to find courses they are interested in. I think that in other situations I use the computer in case counseling sessions, like if they have a problem with love I play a love song to them and ask them to ??? on the problem. I'm not a frequent user.

A: Well, I believe that's all. Thanks a lot for your time, we really appreciate the interview.

## **Appendix O: Interview Protocol for Discipline Master**

What is the code of discipline? (Main rules)

What types of penalties are there for misbehaving?

In one day how many students do you discipline?

- What type of things are students disciplined for?

Are parents notified when students misbehave?

Are students kicked out the school? What are the causes of being kicked out?

Do you agree with the discipline code here?

If anything, what would you change about the discipline code?

Do you feel that you are having an affect on the students? Maybe struggling with some?

## Appendix P: Discipline Master Interview Transcript

Interviewer: Adam Sheehan

Interviewee: Mr. Choi, Discipline Master at CCVC

Adam: How long have you been discipline master here?

Mr. Choi: About half a year.

A: Are there any set rules for the entire school either inside the classroom or... just rules that apply to everybody?

C: Apply to a large part of the students. Of course some students may not comply with the rules and regulations. Maybe they have emotional or behavioral problems.

A: Is there a written document with all the rules that the teachers have to follow? Do the teachers know all the rules in the classroom?

C: I think the teachers know the rules and regulations, but I think in my observations it is difficult to control the students and make them obey the rules and regulations. They cannot control their behavior.

A: What kind of penalties are there for the students who disobey?

C: Many methods, it depends on the student's personality or characteristic.

A: Are there any rewards for students who have good behavior?

C: It also depends on the students' personality. Some students may like prizes, some may like praise from the teacher.

A: What is the most common thing that students are disciplined for? The most common form of misbehavior? What is most common for the students' misbehavior?

C: The most common behavioral problem is talking in the classroom.

A: Are the parents of the students notified for any misbehavior?

C: Maybe all parents knows the problems in behavior, because the class teacher always inform the parents to tell them about their student in the classroom or in school.

A: So they call them on the phone?

C: Mmm hmm.

A: Have there ever been any instances where the student has been kicked out of the school?

C: Yes, some students are kicked out of the school because their behavior problem is serious. They cannot improve their problem, so no other method is left.

A: Do you have any suggestions or recommendations that you'd like the school to follow to improve the discipline?

C: The main problem that I see is the teacher in the classroom – their classroom management skill. I think if their classroom management skill is good, their problem behavior reduces. I think the training of classroom management skill is very important here. Because I see ????? less experience to handle the students' problem behavior.

A: Have you noticed any progress in behavior from form 4 to form 5? Any improvement?

C: I see some improvement, because form 4 students know their behavior causes a serious result, maybe one demerit, 2 demerits. If they fail, we will kick them out. They begin to improve their behavior.

A: For the merit system, how do students remove demerits?

C: They can attend our program to reduce their demerits. They can ask for teachers to sign to praise behavior. Another plan for them to reduce demerits.

A: How would they gain merits? Can they get a merit, like a positive...

C: Yes. Some students come to a school program or activity, like a volunteer work. The teacher or social worker will give them some merit.

A: Are there awards for having merits?

C: Yes. We will prepare some certificates, and give them. We will recognize their good behavior.

A: Do you have any recommendations for the merit system?

C: Because this school is a new school, the discipline system is improving. I think the system should be corrected or changed somehow to make the system more perfect.

A: Ok, that's all I have. Thank you a lot for your time, I really appreciate it.

## Appendix Q: Student Questionnaire

Gender (check one): Male \_\_\_\_\_ Female \_\_\_\_\_

性別 男性 女性

Form: \_\_\_\_\_

形式

Age: \_\_\_\_\_

年齡

Stream (circle one):

Tourism and Travel

旅遊業和旅

Animation

動畫

Commerce

商務

Never

從未

Rarely

很少

Sometimes

有時

Mostly

主要

Always

總

I find class boring

我發現課堂令人厭煩

1

2

3

4

5

I pay attention in class

我在課上專心

1

2

3

4

5

I enjoy when teachers use the projector in class

我享受教師在課上使用放映機

1

2

3

4

5

I prefer when the teacher uses the microphone in class

我更喜歡教師在課上使用揚聲器

1

2

3

4

5

Mobile phones in class are disruptive

流動電話在課上是破壞性的

1

2

3

4

5

Teachers use the projector too much in class

教師在課上使用放映機太多

1

2

3

4

5

PowerPoint Presentations are boring

PowerPoint受課是令人厭煩的

1

2

3

4

5

PowerPoint Presentations are hard to learn from

PowerPoint受課比較難學習

1

2

3

4

5

I use electronic devices (mobile phone, MP3, cameras) during class

我在上課時有使用電子儀器

(如移動電話, MP3, 照像機)

1

2

3

4

5



I learn a lot from using the internet at home 我從在家使用互聯網獲悉很多	1	2	3	4	5
I like going to the computer lab 我喜歡去電腦室	1	2	3	4	5
I do my work in the computer lab 我在電腦室做我的工作	1	2	3	4	5
I learn something useful from computer lab assignments 我從電腦室的習作務學習有用的事情	1	2	3	4	5
I browse the internet, play games and chat online in the computer lab 我在電腦室瀏覽互聯網， 玩遊戲並且在線聊天	1	2	3	4	5
Computer lab assignments are boring and/or repetitive 電腦室的習作是令人厭煩和/或重複的	1	2	3	4	5

On average, how many hours a day do you use the internet? \_\_\_\_\_  
平均而言，你一天有多少小時上網？

What do you use the internet for (Check all that apply)? 你上網會做些什麼？

E-mail 電子郵件 \_\_\_\_\_ Research/School 搜集資料/學習 \_\_\_\_\_ Chatting 聊天 \_\_\_\_\_  
 Downloading Music or Videos 下載音樂或錄像 \_\_\_\_\_ News 新聞 \_\_\_\_\_  
 Online Games 網上遊戲 \_\_\_\_\_ Shopping 購物 \_\_\_\_\_ Other(s) 其他 \_\_\_\_\_

Check all that you use at home: 你在家會使用些什麼

Internet 上網 \_\_\_\_\_ MP3 or Minidisc Player MP3 或者小光碟播放器 \_\_\_\_\_  
 E-mail 電子郵件 \_\_\_\_\_ Portable Games (DS/PSP) 便攜式比賽(DS/PSP) \_\_\_\_\_  
 Mobile Phone 流動電話 \_\_\_\_\_ Playstation, Gamecube or Xbox \_\_\_\_\_  
 Digital Camera 數碼相機 \_\_\_\_\_ Palm Pilot 電子手掌 \_\_\_\_\_  
 Other(s) 其他 \_\_\_\_\_

Do you have your own computer (not a family computer): Yes No (circle one)  
你是否擁有一部個人電腦(並非一部家庭電腦)

How often do you and your class go to the computer lab at the CCVC?

你有幾多時間會在CCVC 使用電腦室？

- a. Once or twice a week 每周一次或兩次
- b. Once or twice a month 每月一至兩次
- c. Once or twice a year 每年一至兩次
- d. We have never been to the computer lab 我們從未到過電腦室

What do you think you learn from most?

你認為什麼學習教授最好？

- a. Lectures 演講
- b. Powerpoint slideshows 電腦投影片
- c. Video presentations 影像表達

What do you pay attention to most?

什麼學習教授你要最專注？

- a. Lectures 演講
- b. Powerpoint slideshows 電腦投影片
- c. Video presentations 影像表達

If the teacher uses the projector in class, I am \_\_\_\_ to pay attention

如果教師在課上使用放映機，

我\_\_\_\_\_會專心

- a. More likely 更可能
- b. Just as likely 一樣可能
- c. Less likely 不那麼可能

If the teacher shows a video in class, I am \_\_\_\_ to pay attention

如果教師在課上使用影像教授，

我\_\_\_\_\_會專心

- a. More likely 更可能
- b. Just as likely 一樣可能
- c. Less likely 不那麼可能

1. When you have a few minutes with nothing better to do would you be more likely to:  
有空時你會？

- A. stare into space or doodle. 呆望或注視四周
- B. talk to yourself or to others. 自言自語或與人傾訴
- C. pick something up to read. 搵野讀
- D. do something practical, like fix something or straighten up your room.  
搵有些實際野做,如打掃房間

2. You are not sure whether a word should be spelled 'dependent' or 'dependant'. Do you:  
你唔肯定dependent 同dependant 點串,你會:

- A. look it up in the dictionary. 查字典
- B. see the word in your mind and choose by the way it looks. 隨心所欲
- C. sound it out in your mind. 嘗試讀出來
- D. write both versions down on paper and choose one. 將兩個版本都寫出來

3. You want to plan a surprise party for your best friend's birthday. Do you:  
你想設計一個驚喜生日派對給朋友,你會

- A. talk about it on the phone with your other friends. 用電話通知其他朋友
  - B. make lists of what to do and what to buy. 寫下要做什麼買什麼
  - C. picture the party activities in your mind. 隨心構思派對活動
  - D. invite friends and let it develop. 邀請朋友一齊設計
4. You are going to make or build something special for your family. Do you:  
你想給家人做一些特別的事,你會:
- A. make something without the need for instructions. 就咁做一樣野
  - B. thumb through some books and magazines looking for ideas. 透過書及雜誌找靈感
  - C. refer to a specific handbook where there are good instructions.  
透過一些手冊及指引去做
  - D. talk it over with some friends. 問朋友意見
5. You are really pleased with your acceptance for a summer program. This is also of interest to two friends. Do you: 你有一個暑假計劃,而你得知友人對此亦有興趣,你會:
- A. take them to see the program in action. 親自帶他們參加
  - B. show them the brochure and information you've found about it.  
給他們該計劃的資料自己參加
  - C. start practicing the activities you'll be doing in the program. 開始練習計劃的活動
  - D. describe to your friends the activities you'll be doing each day of the program.  
同朋友講述計劃每日的詳情
6. You are about to buy a new mp3 player. Other than price, what would most influence your decision? 你想買一部mp3機,除了錢之外,有什麼會影響你的決定?
- A. the salesperson telling you about it. 售貨員的說話
  - B. reading the details about it. mp3機的功能
  - C. playing with the controls and listening to it. 嘗試該機的功能
  - D. it looks really nice and it is something you could picture in your room. 外型
7. Recall a time in your life when you learned how to play a new board game or computer game. How did you learn best? By: 當人試新game既時候,你會:
- A. watching others do it first. 睇人打先
  - B. reading instructions. 睇攻略
  - C. listening to somebody explaining it. 聽人解釋一次
  - D. doing it or trying it for yourself. 自己試玩一次
8. After reading a play you need to do a project on it for your English class. Would you prefer to: 當你睇完一套話劇之後要做一份英文報告,你會:

- A. read a speech from the play in front of the class. 讀一下劇中對白
  - B. draw a poster showing something that happened in the play. 畫海報來表達
  - C. act out a scene from the play. 做出來
  - D. write your own review on the play. 寫感想出來
9. You are about to try to hook up your parent's new computer. Would you first:  
你會買一部新的電腦回家,你首先會
- A. unpack the box and start trying to put the pieces together. 嘗試組件
  - B. read the manual that comes with the computer. 睇指引
  - C. telephone a friend and ask questions about it. 打電話問朋友
  - D. look at the pictures in the manual and on the box. 看圖解畫
10. You need to give directions to two friends to go to a house nearby. Do you:  
你朋友要來你屋企,你會
- A. draw a map on a piece of paper. 畫地圖
  - B. tell them the directions. 說出正確的方向
  - C. write down the directions on a piece of paper. 寫下正確的方向
  - D. walk them over there yourself. 讓他們自己找
11. You have a problem with your knee and it hurts when you play your favorite sport. Would you prefer that the doctor:  
當你運動時弄傷膝蓋,你會問醫生:
- A. describe to you what is wrong. 你出左什麼問題
  - B. give you an article or brochure that explains the common problems with knees.  
給你一些報告及文章來解釋問題
  - C. show you a diagram of what is wrong. 用圖表示你的錯處
  - D. demonstrate with a model what is wrong. 用一個模型來表示你的錯處
12. A new movie has arrived in town. What would most influence your decision to go (or not go)?  
有一套新戲上映,有什麼因素影響你的選擇?
- A. you hear friends talking about it. 聽朋友講
  - B. you read what others say about it in a magazine. 雜誌影評
  - C. you see a preview of it. 預告片
  - D. it is similar to others you have liked. 喜好的類型

13. Do you prefer a teacher who likes to use: 你想老師用什麼教材?
- A. textbook and handouts. 教科書及筆記
  - B. diagrams, charts, pictures and slides. 圖表,相片
  - C. field trips, labs and hands-on sessions. 實地考察, 實驗
  - D. Class discussions and guest speakers. 討論及客席演講

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Christchurch, New Zealand and Charles C. Bonwell, Green Mountain  
Falls, Colorado 80819 U.S.A.

## Appendix R: Student Questionnaire Results

Total Questionnaires Received: 191

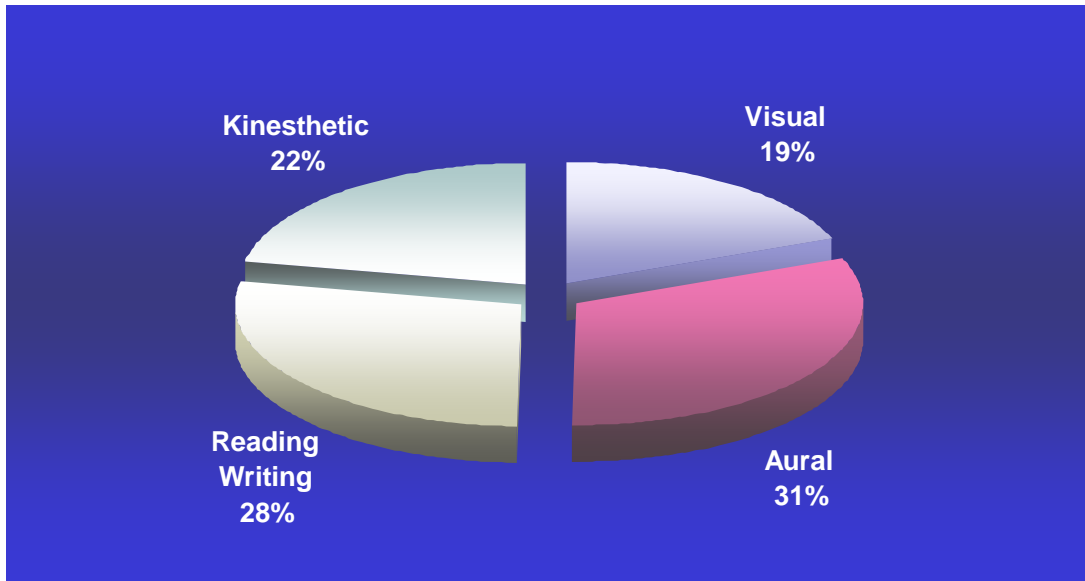
	1: Never	2: Rarely	3: Sometimes	4: Mostly	5: Always	No Ans.	Average
Q1: I find class boring	12	48	105	16	6	4	2.765
Q2: I pay attention in class	2	31	96	48	14	0	3.215
Q3: I enjoy when teachers use the projector in class	9	32	91	42	16	1	3.126
Q4: I prefer when teachers use the microphone in class	28	47	79	26	10	1	2.7
Q5: Mobile Phones in class are Disruptive	43	50	57	20	21	0	2.613
Q6: Teachers use the projector too much in class	27	100	52	8	4	0	2.277
Q7: PowerPoint Presentations are Boring	28	68	73	13	9	0	2.55
Q8: PowerPoint Presentations are hard to learn from	34	58	71	16	12	0	2.366
Q9: I use electronic devices (mobile Phones, MP3, cameras) during class	44	63	62	14	8	0	2.366
Q10: I learn a lot from using the internet at home	12	22	58	60	39	0	3.481
Q11: I like going to the computer lab	5	21	56	60	48	1	3.658
Q12: I do my work in the computer lab	14	31	72	41	33	0	3.251
Q13: I learn something useful from lab assignments	8	29	96	35	23	0	3.188
Q14: I browse the internet, play games and chat online in the computer lab	22	44	70	33	22	0	2.942
Q15: Computer lab assignments are boring and/or repetitive	35	48	69	27	12	0	2.649

Q16: On Average, how many hours a Day do you use the internet for?	Average Internet Hours 4.421					
Q17: What do you use the internet for? (check all that apply)	Use	Don't Use	No Answer	% Using		
17a: Email	115	63	13	64.6%		
17b: Downloading Music or Videos	120	58	13	67.4%		
17c: Online Games	113	65	13	63.5%		
17d: Research/School	85	93	13	47.8%		
17e: Shopping	19	159	13	10.7%		
17f: Chatting	126	52	13	70.8%		
17g: News	57	121	13	32.0%		
17h: Other(s)	42	136	13	23.6%		
Q18: Check all that you use at home:	Use	Don't Use	No Answer	% Using		
18a: Internet	154	20	17	88.6%		
18b: Email	96	78	17	55.2%		
18c: Mobile Phone	119	55	17	68.4%		
18d: Digital Camera	60	114	17	34.5%		
18e: MP3 or Minidisc Player	110	64	17	63.2%		
18f: Portable Games (DS/PSP)	25	149	17	14.4%		
18g: Playstation, Gamecube or Xbox	34	140	17	19.5%		
18h: Palm Pilot	13	161	17	7.4%		
Q19: Do you own your own computer? (Not a family computer)	58	74	59	43.9%		
MULTIPLE CHOICE:						
Q20: How often do you and your class go to the computer lab at the CCVC?	Weekly 122	Monthly 48	Yearly 7	Never 4	No Ans. 10	Avg 1.409
Q21: What do you think you learn from the most?	Lectures 51	PPT 62	Video 57		No Ans. 21	Avg 2.035
Q22: What do you pay attention to the most?	Lectures 50	PPT 64	Video 53		No Ans. 24	Avg 2.018
Q23: If the teacher use the projector in class, I am ___ likely to pay attention	More... 48	Just as... 103	Less... 25		No Ans. 14	Avg 1.859
Q24: If the teacher shows a video in class, I am ___ likely to pay attention	More... 50	Just as... 97	Less... 30		No Ans. 14	Avg 1.887

## VARK Breakdown of Learning Styles

NOTE: A portion of students tested were found to be multimodal, which means they preferred 2 learning styles equally. Because of this, the total number of answers for this section (227) is greater than the number of questionnaires received (191).

	Visual	Aural	Reading/Writing	Kinesthetic
Student	43	71	63	50





## **Appendix S: Hong Kong's Education System**

The Hong Kong Educational System was largely impacted by the British colonization (Bray & Lee, 2001, p.165) However once Hong Kong was on its own, the government sought out to change the private sector structure which was for the elite and 'selective' to an expansion of education to avoid child labor; the focus changed to secondary schools (Bray & Lee, 2001, p. 166)

The educational system of Hong Kong can be broken down into four sections: kindergarten education, primary education, secondary education, and tertiary education. According to Wikipedia (2005), there are three types of comprehensive schools in Hong Kong: the government schools available to the public, the subsidized schools which get government funding but are run by non-profit organizations, and the private schools run where admission is based on academic merit and less on the finances of the family. For the most part, there are strict discipline codes among all schools and a majority of students wear uniforms in Hong Kong.

Kindergarten education extends to the first three years before primary school where students are typically admitted around the age of three (Education and Manpower Bureau, 2005). Classes are often split into morning and afternoon classes where students in the morning typically get better help and care. At this point in the educational system, educators are trying to develop well-rounded students by exercising their physical, intellectual, social, and emotional aspects.

Immediately following kindergarten around the age of six, students in Hong Kong enter their primary education sequence (Education and Manpower Bureau, 2005). The primary education curriculum in Hong Kong covers basic subjects such as math, science, social studies, and art while also teaching Cantonese, Putonghua (Mandarin), and English. Although most local schools teach in Cantonese with English as the second language, some international schools teach primarily in English and some provide education in alternate languages. The Academic Aptitude Test, a test administered to students who completed primary school, was cancelled in 2000. This test was used to determine a school's band, which is a class system of the education criteria that measures how elite a school might be. The band is now determined by the academic standards of the school.

Hong Kong's secondary education begins around the age of twelve and is divided into seven forms (Education and Manpower Bureau, 2005). During the first three forms, students receive a general education similar to the topics found in primary education. Forms four and five are geared towards preparing for the Hong Kong Certificate of Education Examination (HKCEE), a comprehensive exam taken by students at the end of Form five. The HKCEE covers a broad range of subjects and requires a passing grade to complete Form five. Students that have satisfactory grades are then promoted to Form six and seven where they prepare to take the Hong Kong Advanced Level Examination (HKALE). This exam is the gateway to admission into universities and is taken at the end of Form seven. Although the HKCEE and HKALE are based on standard syllabi it is an elite system where success is found in the top 20-30% of students, mostly due to their English literacy (Bray & Koo, 2004, p.55) According to Wikipedia (2005), tertiary

education in Hong Kong is the equivalent to the United States' college and university level education, where several associates, bachelors, masters, and doctoral degree programs are available.

Topley (1981) illustrates the age breakdown for each Form shown below in Table 3. The CCVC is a senior secondary school with students ranging from age 15 to 19 in Forms IV-V and certificate courses (Findlay, 2005).

**Table 3 – Age Breakdown per Form**

<i>School Level</i>	<i>Ages</i>
Kindergarten 1-2	3-6
Primary 1-6	6-12
Junior Secondary (Form I-III)	12-15
Senior Secondary (Form IV-V)	15-17
Form VI-VII	17-19

### *Recent Educational Reforms*

The Education and Manpower Bureau (EMB) (2005) of Hong Kong groups the current educational reforms into four sections: broad reform measures, student entitlements of learning opportunities, suggested agenda for specific changes, and enablement measures. The broad reform measures are aimed to develop a curriculum that would promote “lifelong learning experiences” by balancing the curriculum in five key areas: meeting the students’ needs, interests, and abilities as well as school context and evaluation of the curricula/courses. This includes enhancing teaching and learning qualities by incorporating “a conceptual roadmap of lifelong learning” by cross-linking the

curriculum with social and economic elements as well as implementing diverse teaching styles and feedback on improvement. The next reform section focuses on the students and their entitlements to education. This ensures that each student will have a range of learning opportunities and activities to develop social skills, ethics, and physique in their early childhood and a broad yet balanced curriculum for the nine years of general education. The development of a new curriculum is being discussed which proposes changes to the key learning areas by evaluating long and short term goals and enhancing knowledge and skills in the different learning areas. The enablement coordinates all the parties involved as well as adjusting the system, managing it, and looking at the professional development of the teachers through networking and conferences.

Even with the reforms in the education system, it is felt that the EMB doesn't understand the needs of the CCVC and the uniqueness of the students that go there. Lifelong concepts are being taught but the reforms aren't drastically changing the curricula being taught for the HKCEE (Findlay, 2006).

## **Appendix T: Assertive Discipline**

One of the major problems that has been plaguing classrooms for decades is that of maintaining discipline in the classroom. Unruly students can frequently disrupt lessons, taking away limited class time and ruining the learning environment for others. In this appendix we will describe one model for dealing with such encounters and how it was implemented in a particular case study.

Francois, Harlacher, and Smith believe that one probable cause for poor behavior in classrooms is that a majority of teachers have little to no training on classroom management (1999). As a result, they do not know how to handle the emotional, behavioral, physical, and learning problems with their students and teachers use a myriad of discipline methods for dealing with such cases. Different teachers have different opinions on what is acceptable discipline, therefore no clear-cut standards of student behavior are established and all consistency is lost.

Discipline in a classroom can be split into two distinctive categories: reactive and proactive (Francois, Harlacher, & Smith, 1999). Reactive discipline occurs when there is a disturbance in the classroom and the teacher decides how to respond on the spot. This kind of fast judgment often leads to inconsistencies from student to student and can have a detrimental effect on the students' attitudes toward discipline. On the other hand, proactive discipline requires forethought and planning to determine the appropriate consequences for certain behavior. By establishing a thought out plan of action, teachers

will feel more confident in handling disturbances and remain consistent. One system of proactive discipline that we will discuss here is assertive discipline.

Assertive discipline is a highly structured system used to modify the behavior of one or many students (Francois, Harlacher, & Smith, 1999). It requires that clear expectations of student behavior in the classroom be established and communicated to the students, and that positive repetition should be used to reinforce the desired behavior and negative consequences should be used only when necessary. Teachers utilizing assertive discipline should remain calm but firm in their manners to remain consistent.

One case study that utilized assertive discipline was conducted by Francois, Harlacher, and Smith in 1999 in a western Illinois high school. The goal was to decrease student misbehavior in the classroom while also increasing student motivation through varied learning styles. Based on data from pre-intervention and post-intervention student surveys, 25% of the students felt that assertive discipline improved student behavior, 18% of students felt more motivated after the study, and there was a 10% decrease in the amount of discipline problems reported by teachers.