“Setting up and implementing a class for Year 4 to 6 students on the design, evaluation and construction of web pages from a multiple intelligences perspective: an action research study”

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Abstract

The purpose of this action research study was to find out what considerations, from a multiple intelligences perspective, need to be taken into account when setting up and implementing a class on the design, evaluation and construction of web pages by Year 4 to 6 students. The teaching sessions are the first cycle in implementing classes for constructing web pages to showcase the work and activities that form part of the respective classroom programmes. The process included teaching the participants about the eight modes of intelligence as defined in Howard Gardner’s Multiple Intelligences theory, developing criteria for evaluating web pages from a multiple intelligences perspective, as well as teaching the skills needed to utilise the software programs to create their web pages. Despite the intended focus on content and viewing it from a multiple intelligences perspective, technical skills for creating the web pages gained precedence. Giving students the opportunity to demonstrate their learning, using ICT, in a way that best reflects the way or the intelligence modes they use to construct meaning has implications for educators and students. The gaining of technical skills, associated with emphasis on utilising ICT, needs to be balanced with the importance of the content and construction of meaning.

Introduction

The school where I am currently employed is being networked. The Board of Trustees, management, and staff are interested in being able to have students, parents and prospective parents have on-line access to the work being undertaken throughout the school. With this in mind, I believe that the students should have a major input into the
web page layout and the content to be showcased for their classroom. This would mean that the students would need to be taught about web page design and construction as well as have the opportunity to view the web pages of other schools. This teaching could take place as part of a specialist class, as in this study, or within the class as part of integrated instruction. Teachers need to understand the basics of web page design and value the importance of content in order to be able to guide their students appropriately (Anderson, 1996; Chrisp, 2001).

The past experience of students publishing their work has been mainly creating a ‘good’ copy of a story, producing a project booklet, or having their artwork framed and hung up. These were on display in the classroom and could only be viewed in this one location. The publication of this same work on a web site means that the work can be viewed from home or office, with the possibility of a far greater audience being able to engage with the work being presented (D’Ignazio and Davis, 1997). A school website can be an informative communication tool for students, staff and the community. It is not only a way to convey information, but also can serve as a showcase of the work that is being produced in the school by a variety of students. Students are able to take on an active role in the collation, authoring, and publication of materials for a school’s website (Wells, 2000).

The enhancement of teaching and learning should be the function of information and communication technology (ICT) in schools. Student-created web pages are becoming more commonplace as a way of presenting student work. Design and content need to be
major considerations when encouraging this form of visual presentation. Some students will only be interested in the ‘gimmicks’, creating a page that is full of graphics and links, while others will find that the structures are too restrictive to allow them to showcase their work as they want to (Anderson, 1996).

A web page can be just a few words or it can be an interactive site with video, music files, links and/or extensive text (Bruce, 2000). Whatever format the web page takes, the purpose and audience for the web page must be clear. Students need to feel ownership of their work and would benefit from being in charge of individual pages or contributions to a set of pages for a classroom. Web page design and construction should be creative as well as cognitive experiences. Students should be encouraged to be imaginative with their use of the medium and to utilise a variety of content to demonstrate their learning and understanding of concepts (Dalton, 2000). There are a variety of web page software applications available on the market. Some make claims that a web page can be made in a matter of minutes. Dalton (2000) cautions that teachers and their students will invest a considerable amount of time and effort in designing, developing content, and constructing the web pages. This form of ICT is not going to be a ‘filler’ activity before the bell rings but, rather, a long-term project.

I have an interest in Multiple Intelligences theory and how the theory can be applied to ICT teaching and learning. There are claims in ICT literature about how multimedia encourages the use of a number of intelligences in the construction of knowledge (Toomey and Ketterer, 1995; Veenema and Gardner, 1996; Luskin, 1996; Weiss, 2000).
If the students are going to be the designers of the web pages, how do these claims affect them? Luskin (1996) put forward that understanding the message (perceptions, emotions, behaviour, etc.) that one wants to put across to their audience is fundamental to the purpose, design and construction of new software. I believe that this also relates to designing and constructing a web page. This means that the students will need to be aware of the modes of intelligence that they are trying to appeal to in the layout and content of their web page. The use or absence of sound, video, and print appeals to individuals to differing degrees depending on the intelligences they have a strength in. The literature cautions us as educators to regard technology merely as a tool and not allow it to dictate educational goals (Toomey and Ketterer, 1995; Luskin, 1996; Veenema and Gardner, 1996; Weiss, 2000). Howard Gardner, who first outlined Multiple Intelligences theory, states that multimedia presents materials via a range of intelligences and can address a range of intelligences although Gardner is skeptical about its use in addressing the personal intelligences, inter- and intra-personal (Weiss, 2000). Armstrong (2000) advises that in order to have students utilise the various modes of intelligence, the classroom environment itself, must cater for the multiple intelligences.

None of the literature I reviewed directly related to Multiple Intelligences theory and web page design and construction. However, I believe that the information regarding multimedia can be related to web page design and construction in that a web page becomes a multimedia presentation with the use of video, audio, text and images, and the decisions regarding the content for the intended audience that will need to be made by the students. This idea of a multi-sensory presentation allows students to express themselves
in a way that is consistent with the modes of intelligence they favour (Chrisp, 2001; D'Ignazio and Davis, 1997; Weiss, 2000).

Research Questions

The key research question of this project is, "What considerations need to be taken into account, from a multiple intelligences perspective, when setting up and implementing a class for designing, evaluating, and constructing web pages?" The class for the project involved a group of students from Years 4 to 6.

The sub-questions of this project include the following:

- What needs to be put in place, e.g. equipment, for the students and teacher before the class commences?
- What computer skills do the participants need to be able to use the web page software?
- How much information about Multiple Intelligences theory does a student need when designing and/or evaluating a web page?
- How do students apply Multiple Intelligence theory when they critique a web page design?
- How effectively are students able to apply the criteria for determining what constitutes 'good' web page design to web pages of other primary schools?
- What support do the students need during the designing, evaluating, and construction phases of the project?
- How effective was the teaching methodology that was used for the project?
Multiple Intelligences Theory

The theory of Multiple Intelligence was first outlined in, Frames of Mind, published in 1983 by Dr Howard Gardner, a cognitive psychologist and professor of education at the Harvard Graduate School of Education. This was not a totally new theory but rather one that had built on the earlier work of a number of theorists. Multiple Intelligences theory was intended to challenge the traditionally held view that intelligence was a single capacity. Gardner’s definition of intelligence is, “intelligence refers to the human ability to solve problems or to make something that is valued in one or more cultures” (Gardner, 1993a:x). Gardner originally put forward that there were seven intelligences: verbal/linguistic, logical/mathematical, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal and intrapersonal. My understanding of the definitions of these intelligences is as follows and are adapted from Campbell, Campbell, and Dickinson (1999):

- **Verbal/Linguistic**: the capacity to use language, written and spoken, to express what is on your mind and to understand other people.

- **Logical/Mathematical**: the capacity to see patterns and relationships, reason deductively, and think logically.

- **Visual/Spatial**: the capacity to represent the spatial world internally or externally in order to solve problems or gain understanding.

- **Bodily/Kinesthetic**: the capacity to use your whole body or parts of your body to solve a problem, make something, or put on some kind of a performance.

- **Musical/Rhythmic**: the capacity to think in music, to be able to hear patterns, recognise them, remember them, and manipulate them.
- **Interpersonal**: having an understanding of other people and their points of view / feelings.

- **Intrapersonal**: having an understanding of one’s own feelings and motivations.

Later Gardner added an eighth intelligence, Naturalist. The naturalist intelligence is the ability to recognise and classify plants, minerals, and animals. Gardner put forward this eighth intelligence, as he could not explain this capacity properly using the existing intelligences (Checkley, 1997). This eighth intelligence has been met with some skepticism in its being accepted as a ‘full’ intelligence (Morris, 1998). Gardner raises the possibility of other intelligences existing. These new intelligences could possibly include existential and spiritual intelligences (Armstrong, 2000). However, each ‘intelligence’ must meet eight criteria in order to be considered an intelligence as opposed to being a skill, aptitude, or talent (Chapman, 1993). The key principles of Multiple Intelligence theory are:

- Each person possesses all eight intelligences to some degree.

- Most people can develop each of these intelligences to an adequate level of competency.

- The eight intelligences very rarely operate independently, with the various intelligences used in conjunction with each other as individuals develop skills or solve problems.

- There are many ways to be intelligent within each category; with no standard set of attributes that one must have to be considered intelligent in a particular area (Armstrong, 2000; Gardner, 1999).
The standard view of intelligence is that it is something you are born with and only have a certain amount of. It can be tested to indicate how smart you are. The theory of multiple intelligences challenges that view. It changes the question from, 'How smart are you?' to 'How are you smart?' (Oliver, 1997, p.61). Gardner puts forward that people have a number of intelligences or abilities, rather than a single intelligence. According to Multiple Intelligences theory, people learn through each of the eight intelligences. The differences between individuals lie in the strength of their various intelligences (Oliver, 1997).

Many educators have embraced the theory of Multiple Intelligences because it confirms what they have always known; that students have different capacities for learning in different areas and need to actively participate in their own learning (Latham, 1997). The strength of the theory for use in the classroom is that it denies that children are limited in their potential to learn, and assumes that all children can learn by making use of the full range of intelligences. This shifts the emphasis from how teachers should teach, to an emphasis on how students learn. The implication of the theory is that teaching and learning should focus on the particular intelligences that an individual has strength in as well as giving opportunities to develop their less preferred intelligences. All eight of the intelligences are needed to function productively in society. Traditionally schooling has favoured the verbal/linguistic and logical/mathematical intelligences (Armstrong, 2000; Gardner, 1993b). Gardner (1999) suggests a more balanced curriculum that incorporates the arts, self-awareness, communication and physical education. Teachers should think of all intelligences as equally important although what our society and cultures value dictates what is taught in schools.
Research Strategy and Data Collection Methods

The research strategy that I have used for this research project is an action research form of the case study approach. I have chosen this method, as I was interested in researching my own teaching practices while providing an opportunity for a group of students to learn about web page design, evaluation and construction, from a multiple intelligences perspective. This study forms the first cycle of the action research process as classes for web page design and construction will be continued at the school in the next school year. The successes and findings made during this study will form the basis of how the subsequent class is set up. However, action research was also undertaken as each lesson formed a part of the self-reflective spiraling cycle (see Figure 1) of plan, act, observe, reflect, re-plan, further action etc. (Cohen et al, 2000; Kemmis and McTaggart, 1992; Kemmis, 1993; Wood, 1988).

Figure 1: The action research cycle

![Diagram of the action research cycle: PLAN -> ACT -> REFLECT -> OBSERVE -> REVISED PLAN -> ACT]

Adapted from Kemmis and McTaggart (1992, p.11)

This self-reflective research strategy allowed me to make adjustments and enhancements of the lesson content that were implemented during subsequent teaching sessions of the
study (Cohen et al., 2000; Kemmis and McTaggart, 1992). Reflection needs to occur not only in the final stage of the cycle but at every stage. This idea of reflecting on each aspect is critical as the researcher is also a participant in the context they are studying (Cohen et al., 2000; Gay and Airasian, 2000).

As well as being the researcher, I was also the teacher of this class. The action research method is appropriate for undertaking this dual role, as I wanted to improve my own practices and understanding, while researching the learning opportunities I created for my students (Bigum, Henry, and Kemmis, 1987; Cohen et al.; Gay and Airasian, 2000; Neuman, 2000; Taylor and Bogdan, 1998). Gay and Airasian (2000) put forward this definition of action research:

"Action research is a process in which individual or several teachers collect evidence and make decisions about their own knowledge, performance, beliefs, and effects in order to understand and improve them. Thus, the main reason for teachers engaging in action research is to learn and improve their own teaching activities" (Gay and Airasian, 2000, p. 593).

There were previously no opportunities at the school for the students to learn about web page design and construction. As the resource teacher of ICT at the school, I need to keep expanding my knowledge and to promote using ICT to enhance teaching and learning. Identifying what is available and my own beliefs about what can be done about the issue are part of the reconnaissance (preliminary information gathering) phase of the action research model (Mills, 2000). The project involved a one-hour session per week over a period of eight weeks. During these sessions, the class was taught and worked through an overview of Multiple Intelligences theory, viewed and evaluated web pages, reviewed/learned computer skills needed for using Claris HomePage software, and designed and constructed web pages.
As well as the strengths I have outlined, the case study approach also has weaknesses. These weaknesses include the results not being able to be generalised (although the reader can decide whether the findings align with their experience), being prone to problems of observer bias, and not easily open to cross-checking and therefore seen as selective, biased and subjective (Burns, 2000; Cohen, Manion, and Morrison, 2000; Cresswell, 1994; Neuman, 2000; Taylor and Bogdan, 1998). Taylor and Bogdan (1998) also put forward that observations and subsequent findings are viewed through the selective lens of the researcher. The researcher needs to state their perspective and examine their findings in light of this perspective. I am the resource teacher for ICT at this school and responsible for the promotion and professional development for utilising ICT in the teaching and learning process. Therefore this is the perspective that I view this research project from.

An important issue in case study research is the selection of information. A case study is not concerned with the frequency of a behaviour or occurrence but rather the significance of the behaviour or occurrence. Although an incident or behaviour may occur only once, it can be significant in giving insight into the participant's perspective and key to understanding a situation (Cohen et al, 2000). “The case study is the preferred strategy when ‘how’, ‘who’, ‘why’, or ‘what’ questions are being asked” (Burns, 2000, p.460). The research question and sub-questions that I have put forward are open questions and therefore well suited to a case study approach to this action research. For this reason, I believe that the case study approach was the best method to find answers to the questions I have raised in my research project. The questions I have raised ask about the
significance and effectiveness of methods I have chosen rather than seeking a frequency account of an event. The possible improvements in one's practice through the findings and method used, within their own classroom, are the value of action research. It does not have to be representative of the population (Burns, 2000; Cohen et al. 2000; Kemmis and McTaggart). My interest in working with this particular group of students, at this particular school, on this particular project was to assist me in developing a programme of work for future classes on these topics.

Burns (2000) puts forward a further concern about using the case study approach. He states that there can be subjective bias when selecting evidence to refute or support, or when choosing a particular explanation for the evidence found. I kept this in mind while composing the final report. This notion demonstrates the need to be able to use documented evidence critically and support decisions with related literature and/or justification. In order to lessen the potential of this subjective bias, I had co-analysis done by a fellow student on some of the raw data.

The main techniques used in the case study approach are observation, interviewing, and document analysis (Burns, 2000). Data collection was a combination of observations, informal, semi-structured interviews, and work samples that provided the evidence for critical reflection of my teaching practices. This combination of information-gathering methods allowed for the triangulation of data, thus improving its validity and reliability (trustworthiness) (Burns, 2000; Cohen et al. 2000; Taylor and Bogdan, 1998). Action research, being a specific issue in a specific context, really only has internal validity as
the findings only have relevance for that particular setting. With action research, the
teacher becomes the researcher and thus gives them greater influence over what counts as
educational research (Burns, 2000).

Observations occurred while participants worked on their web pages and while
evaluating web pages from other schools. This involved recording what the participants
were working on and what support/assistance they requested (Alton-Lee, 2001).

Informal, semi-structured interviews were undertaken with individuals during the
sessions. Using informal interviewing allowed the participants to describe their own
experiences in their own words. The information from the interviews was combined with
what was evident from the work samples. These interviews were audio-recorded to assist
with the accurate recording of data. The participants had the right to request that the tape
recorder be turned off if they so wished. A group interview/reflection at the end of each
session was also used to adjust teaching for subsequent sessions and addressed any
crns and/or share information between group members. I was aware of the fact that
the participants may not have wanted to share their thoughts/concerns in front of the
others (Burns, 2000; Cohen et al, 2000).

Work samples were collected for each participant at the end of each session. Work
samples from the construction of their web pages were stored electronically from their
work on the iBooks. Progression of work on the construction of his or her web page was
recorded for each participant.
Video recording of sessions assisted me in evaluating my teaching techniques and methodology in relation to this research study. This critical reflection on the sessions was with a view to improve delivery for subsequent teaching sessions. Video recordings also assisted with the accuracy of recall of data as well as allowing me to view the sessions more objectively. These video recordings were transcribed and a fellow student checked the accuracy of the transcriptions (see Appendix 4 for an example of transcription).

A reflective journal was also kept so that I could record any incidents, insights, thoughts about the sessions and my teaching. Copies of lesson plans were also used to assist in recording the intentions of the sessions and my teaching (Cohen et al, 2000; Mills, 2000).

One of the criticisms about using the case study approach is the amount of data that is generated and therefore more difficult to analyse fully. I believe that the research question that I set out is specific and that the length of the project meant that an unwieldy amount of data was not produced. I endeavoured to analyse the data as it was gathered rather than gather all the data first and then trying to analyse it (Burns, 2000). Coding of the data was used to establish categories that became apparent when analyzing the data. These categories became the basis of this report (Bogdan and Biklen, 1992; Cresswell, 1994).
Ethical Issues

Informed consent was obtained from the following people:

- The principal of the school, as the representative of the Board of Trustees in order for the project to take place at the school.

- The classroom teachers were informed of their part of the project. This was part of the principal’s role in consenting to the project taking place in the school.

- The parent(s) of the students needed to voluntarily give consent for the students to participate, as the students are minors.

- The students would need to voluntarily consent to participate in the project.

Please see Appendix 1 for information letters and consent forms.

Privacy

Privacy was maintained by identifying the child by a pseudonym only – in the report, on data collected, and work samples. The school is referred to as ‘the school’. All information and work samples collected are kept in a locked filing cabinet at my home. Only my project supervisors, the course co-coordinator, and myself have access to all of the information. The students and their parent(s) have access only to the data that I have gathered about that particular student. No unauthorized access to the data will be given, now or in the future. This includes the staff at the school where the project took place.

Participants

The participants in the project were from the Year 4 to 6 classes at the school where I am
currently employed. I chose to work with students at these levels and at this school, as I was familiar with the computer skills that are outlined in the classroom programmes at these levels. The classroom teacher of each of the ten classes were asked to identify one student that they had found to have a high degree of skill level when using computers during their classroom programme. I chose to work with students with this level of skill to alleviate some of the technical requirements for constructing a web page. The focus of the sessions was to gain feedback regarding the teaching strategy / methodology used rather than focusing on technical issues. The ten students and their parents were then approached about participating in the project through the information and consent letters being sent home with the student by the classroom teachers. The students and their parent(s) voluntarily consented to participate in the project. If a student and/or their parent(s) did not wish to participate in the project, the classroom teacher, using the same criteria, chose another student and the consent process was repeated. The names of the students who would be participating in the project were not made known to me until they had returned the signed consent forms to the classroom teacher. No coercion of the students or their parents was undertaken. One student from each class was used in order to produce a web page that reflected that particular classroom. The web pages produced could be used on the school intranet network, with the permission of the student, at some date in the future. An intranet network means that there is restricted access from outside the school, usually controlled by password, but allows for easy access from within the school to the Internet. This use of the web pages is beyond the scope of the project and would be up to the school management to pursue if so desired.
Teaching Sessions

The project involved eight weeks of teaching sessions. There was one session per week and each session was approximately one hour in length. All sessions took place in the Special Needs classroom that has been set up to accommodate groups withdrawn from their regular classroom to participate in remedial/extension sessions. Portable computers (iBooks) were used for all sessions with each child having exclusive access to an iBook for the session. The software application, Claris Home Page, was used to construct the web pages. The software applications that were used to support the work being done on the web pages were ClarisWorks, KidPix, and WWWArt.

The eight teaching sessions for this research project were a combination of teacher instruction about Multiple Intelligences theory and the computer skills needed for working on a variety of programs, and the designing, evaluating, and construction of web pages. Session 1 was set up to outline what the eight sessions would entail and to introduce Multiple Intelligences theory to the participants. A photocopied sheet on the multiple intelligences (see Appendix 2) was given to each participant and was used as a catalyst for discussion (Armstrong, 2000). Each participant completed a multiple intelligences inventory that gave an indication of his or her preferred modes of intelligence (see Appendix 2). Session 2 was an opportunity for the participants to view the web pages of other schools, and to develop and utilise criteria for evaluating these web pages from a multiple intelligences perspective. Session 3 and 4 were teaching sessions on the computer skills needed to utilise the WWWArt and Claris HomePage programs. The participants were taken through a step-by-step approach in order to learn
and practice using the programs and create web pages that were linked together. Blue is
the accepted colour of links on the Internet and this convention was followed when
constructing the web pages for the classrooms (Chisp, 2001). Session 5 was for
reviewing Multiple Intelligences theory and designing the web pages on paper. The web
pages were planned on paper in order to put ideas together and create a blueprint to work
from. Session 6 and 7 were for the actual creation of the web pages on the computers.
The participants worked independently, and with assistance from the teacher and each
other. The web pages were completed in Session 8. The participants were interviewed
individually and then collectively about the multiple intelligences content of their web
pages. A group interview about the nature of the sessions and what improvements could
be made concluded the sessions.

Resources

The equipment required to proceed with the action research project (Mills, 2000) were
eleven portable computers (iBooks), Claris HomePage and associated software, a
television monitor, access to an Internet connection, a digital camera, a hand-held tape
recorder and a video camera.

Findings/Analysis

Raw data in the form of work samples, interviews, observations, video- and audio-
recordings were used in the analysis of the teaching sessions. Using a variety of data
sources offered a way of triangulating the data (Davidson and Tolich, 1999). Data were
analysed by looking for underlying or common themes as well as anomalies. The
analysis of the data was undertaken by coding the transcriptions of the audio and the video recordings. Categories became evident as the analysis continued (Cresswell, 1994). The broad categories that became apparent were web page content, teaching computer program skills, teaching about multiple intelligences, and teaching methodology. I then considered the questions posed at the beginning of this research study and how the data within the broad categories could shed some light on possible answers. I will explore the possible answers that the findings, identified within the broad categories and sub-categories, present for the research questions posed in the Discussion section of this report.

The category of web page content was evident in Session 2 (viewing and evaluating web pages of other schools), in Session 5 (designing web pages), and in Sessions 6 to 8 (creating web pages). Further analysis of this broad category of web page content revealed the categories of a) criteria for evaluating web page content; b) ideas/suggestions for content; and, c) content reflecting each of the eight modes of intelligence. An example of the category criteria for evaluating web page content can be seen in the videotape transcription from Session 2:

Teacher: There are items or features that each web site should have in order to be considered a good web site. As a group, I want you to discuss some ideas and I'll help with some ideas a swell. What did you come up with?

Karen: Lots of pictures and information.

Teacher: Good. Michael?

Michael: Interesting pictures and information.

Teacher: Good. Susan?
Susan: Information and pictures that are interesting.

Teacher: Good. All of you said about information. If it is an information site, does the information have to be accurate?

Group: Yes.

Teacher: Some of the things that should be on the web site is what it is about and who is responsible for the website. Also, there should be contact details on the page so we know it is a legitimate site and not a trick site. The layout of the page, how the words and pictures are put on the page, is important. Also, a good web site has links to other pages that have more information.

An example of ideas/suggestions for web page content is evident in the videotape transcript from session 5:

Teacher: Okay. Let's just stop for a moment and help each other out. Sometimes, it's hard to think about what we've been doing in class but somebody might say something that sparks something for you. Okay, who's got a few things down? John, can you start us off?

John: Teacher's name, written language, technology topic.

Teacher: Great start. Michael?

Michael: Volcano trip, town planning, clay, plays in reading.

Teacher: Great. Anybody else?

Karen: I had volcanoes, topic and story writing.

The category of content reflecting each of the eight modes of intelligence is presented in the videotape transcription from Session 8. An example of one of the modes (verbal/linguistic) is as follows:

Teacher: Excellent. Now I want you to think about your own web pages. I'd like you to think about what parts of it would appeal to people who had verbal/linguistic intelligence, being word smart.

Karen: Lots of writing.
Susan: Like all the bits that gave information about what we’ve been doing.

Teacher: Okay. Chris?

Chris: Like the poems or stories we included.

The broad category of web page content was also evident in the final products (web pages) produced by the participants (see Appendix 3).

The category of teaching computer program skills became evident when analyzing the videotape transcripts of Sessions 3 and 4 (learning and practicing using *Claris HomePage* and *WWWArt*) and of Sessions 6 to 8 (creating web pages). Further analysis of this broad category of teaching computer program skills revealed the sub-categories of a) computer skills directly associated with using the program, *Claris HomePage*; and, b) computer skills associated with programs used in conjunction with the web page software. An example of the category of computer skills directly associated with using the program, *Claris HomePage* can be seen in the videotape transcription from Session 3. This section is about using the preview mode button to establish whether the links to the other web pages has worked:

Teacher: Right, has everybody got two links on each of their three pages? (Agreement from participants). Now we need to check our links out. Go to the second button at the top, ‘Preview Page’. Click on it and then move the pointer to one of your links. See how the pointer becomes a hand? Now you can click on your link and it will take you to that page. Try it out please. Did everybody go to the page they selected?

Karen: How do you know?

Teacher: Look at the name of the page on the gray bar at the top. Was that the page you clicked on?

Karen: Yes. Oh I see. I’ve got it.
The teaching of computer skills for the other programs used to support our web page construction were evident and an example of this is seen in the videotape transcript from Session 6:

Teacher: Okay you need to think about where you are going to position your writing and pictures according to your design. If you want to import some writing or pictures from another program, that is not a problem. So if you want to do a picture in KidPix, hide this program and go into KidPix and draw your picture. I’ll help you with the steps but you’ll need to save your picture, lasso it with the truck tool and copy it and then import it into Claris Home Page.

The category of teaching about multiple intelligences was evident in Session 1 (Multiple Intelligences theory), in Session 2 (viewing and establishing criteria for web pages), in Session 5 (designing web pages), and in Sessions 6 to 8 (creating web pages). This broad category could be separated into sub-categories for each of the eight modes of intelligence. Two examples of these sub-categories are evident in the videotape transcription from Session 1:

Teacher: Visual/spatial – it’s got a picture of an eye with some little symbols there. Anybody got an idea? Chris?

Chris: How you see stuff.

Teacher: Okay. Anybody else? The picture is a clue. (pause). It’s being able to see things in pictures or see pictures in your head too. People with this kind of intelligence can think in pictures and they learn best with visual presentations. If you are a person who can picture something before you do it, you probably have strong visual/spatial intelligence. You like things like movies and pictures and videos; use models and props; like to draw and paint and sculpt using clay. You are good at reading maps and diagrams and enjoy solving puzzles. Things that you have to look for like the pictures in the newspaper where you have to find 10 things that are different, a person with a strength in visual/spatial intelligence likes to do that.

Next one is musical/rhythmic – what do you think that one might be?

Mark: reading music and stuff like that.
Michael: playing music

Karen: patterns

Jane: playing an instrument.

Teacher: You are all on the right track. How many of you like to hum to yourself. (A few hands go up). That’s part of having musical intelligence. You often sing, whistle or hum when you are doing other things. You like to listen to music, collect CD’s and tapes and sometimes play an instrument. You are able to sing in key (well, that’s definitely not me). You remember lyrics and you can remember words to songs. So that is musical intelligence. Any questions on that? (pause).

The indicators of how successful the teaching strategies/methodology used were came from the questions the students asked/ support needed after instructions had been given/teaching had occurred, the progress made on web page design/construction, and from information gained during the informal interviews. The category of teaching methodology came through in all sessions. Further analysis of this broad category revealed the sub-categories of a) direct teacher instruction; b) modeling; c) use of individual conferences: and, d) use of group discussion. There are examples of the various sub-categories throughout the videotape transcripts. The following example of direct teacher instruction is from Session 4:

Teacher: We are not writing a word this time. Go to the word ‘Edit’ and go to ‘Document Options’. A dialog box will pop up. What I want you to do is click on the word ‘Background’.

An example of modeling as a teaching methodology can be seen in the following extract from the transcript of Session 3:

Teacher: ...You’ve got your accent palette over here on the side (circles area with pointer on the screen), it might be over, so you can just click on the gray bar and drag it over a bit.
Karen: What gray bar?

Teacher: Just at the top. Watch here on the screen behind me (points to the television monitor). See. Click on that gray bar and move your accent palette over like this. Then you’ve also got another little bar and you can just move that one off to the side. Make sure you click on the gray bar.

An example of the use of individual conferences as a teaching methodology is evident in the following extract from audio-tape transcript from Session 5 when I conferenced Kyle about the content of his web page:

Teacher: Kyle, how are you going here? Have you got your links done?

Kyle: Yeah, but I don’t know what I’m going to do on page four though.

Teacher: Okay, so what have you got? You’ve got artwork, you’ve got jump rope. I thought you were going to do topic work?

Kyle: I don’t know.

Teacher: What about a story from your class?

Kyle: Um....

Teacher: What else have you got on your brainstorm? (Looks at sheet).

The use of group discussion also came under the category of teaching methodology. The following extract is an example from Session 2:

Teacher: I want you to split into three groups and I’ll join one group so that we have three groups of three. (Move into three groups. A sheet of newsprint and a vivid is provided for each group). We also want to think about what a web site should have in order to cater for the various multiple intelligences. In your groups, I would like you to brainstorm ideas for each of the multiple intelligences. Let’s list them down the side of the page to help you remember them. Word, Number, Picture, Music, Body, People, Self, and Nature. Come up with as many ideas as you can. (Groups brainstorm ideas).

Teacher: Group 1, what did you come up with?
Susan: For word we had stories, newsletters and poems. For number, we had class numbers and think quests. For picture, we had animation. We didn’t get anything for music. For body, we got buttons to push. For people, we had photos of people and classes. We didn’t get anything for self or nature.

Teacher: Thank you. Group 2, what did you come up with?

Mark: For word we had writing. For number we had class numbers. For picture we had a school picture. We didn’t have anything for music either. For body, we had buttons and for people we had classes. We didn’t have anything for self or nature.

Teacher: Okay, thank you. And Group 3, what did you come up with?

Karen: For picture, we got photos and animation. For people we got activities and classes. For word, we got story writing and poems. For body, we also got buttons to push. And for number we got class numbers. We didn’t have anything for music, self, or nature either.

Teacher: Great work everybody! . . .

The indicators about the incorporation of Multiple Intelligences theory into the web page design/construction was able to be seen in the semi-structured interviews with the students and their work in progress. The following is an extract from the audiotape transcript from Session 5:

Teacher: Michael, can you tell me about how your web pages will appeal to people with different multiple intelligences?

Michael: For verbal/linguistic, I’ve got the stories. For visual/spatial, I’ve got heaps of pictures. For bodily/kinesthetic (pause) . . . .

It also come through in the assessment of the final product (class web page) according to the criteria established earlier about what makes a good web page from a multiple intelligences perspective. The following is an extract from the conference with Susan regarding the content of her web pages, from a multiple intelligences perspective, during Session 8:
Teacher: What features of your web pages would appeal to someone who is word smart?

Susan: The page with all of the different kinds of poems and the story about Kitty Kool’s Adventure. There is also information about the class and what we have been doing on the other pages (see Appendix 3 for example of web pages).

However, during the group interview in Session 8, Susan stated that she put what she wanted on her web pages and then thought about what would apply to the different intelligences. Two of the other participants admitted that they did not consciously consider the multiple intelligences when deciding on their design and content.

Teacher: Okay, just having to think about all that, how did you find creating web pages keeping the multiple intelligences in mind.

Chris: I didn’t really think about it.

John: I didn’t either.

The findings from the Multiple Intelligences inventory that was administered in Session 1 are as follows. The intelligences are set out from the highest to the lowest score. The higher the score, the more strength in that particular intelligence the participant is said to have.

- **Kyle**: Interpersonal (13), Verbal/Linguistic and Logical/Mathematical (11 equal), Visual/Spatial and Intrapersonal (9 equal), Musical/Rhythmic and Bodily kinesthetic (8 equal), and Naturalist (7).

- **Daniel**: Naturalist (13), Visual/Spatial (11), Interpersonal, Bodily/Kinesthetic and Musical/Rhythmic (9 equal), Logical/Mathematical (8), Verbal/Linguistic (7), and Intrapersonal (5).
• **Mark:** Interpersonal (15), Bodily/Kinesthetic and Musical/Rhythmic (13 equal), Intrapersonal and Verbal/Linguistic (12 equal), Naturalist (10), Logical/Mathematical (9), and Visual/Spatial (8).

• **John:** Visual/Spatial, Logical/Mathematical and Verbal/Linguistic (14 equal), Interpersonal and Intrapersonal (13 equal), Musical/Rhythmic and Bodily/Kinesthetic (12 equal), and Naturalist (8).

• **Michael:** Logical/Mathematical (13), Verbal/Linguistic, Visual/Spatial and Bodily Kinesthetic (12 equal), Musical/Rhythmic and Interpersonal (11 equal), Intrapersonal (8), and Naturalist (7).

• **Lisa:** Verbal/Linguistic (14), Musical/Rhythmic, Interpersonal and Intrapersonal (13 equal), Naturalist and Visual/Spatial (12 equal), and Bodily/Kinesthetic and Logical/Mathematical (11 equal).

• **Chris:** Musical/Rhythmic (15), Verbal/Linguistic (14), Intrapersonal and Logical/Mathematical (12 equal), Interpersonal, Visual/Spatial and Bodily/Kinesthetic (11 equal), and Naturalist (8).

• **Karen:** Logical/Mathematical and Intrapersonal (15 equal), Bodily/Kinesthetic (14), Visual/Spatial and Interpersonal (13), Verbal/Linguistic and Musical/Rhythmic (12), and Naturalist (10).
- **Jane**: Intrapersonal and Naturalist (14 equal), Interpersonal (13), Verbal/Linguistic, Logical/Mathematical, Visual/Spatial, and Bodily/Kinesthetic (12 equal), and Musical/Rhythmic (11).

- **Susan**: Logical/Mathematical (15), Musical/Rhythmic (14), Visual/Spatial (13), Naturalist and Verbal/Linguistic (12 equal), Bodily/Kinesthetic and Interpersonal (11 equal), and Intrapersonal (7).

The implications of the results of the multiple intelligences inventory will be explored in the following section.

**Discussion**

The purpose of this study was to discover the considerations needed to be taken into account, from a multiple intelligences perspective, when setting up and implementing a class for designing, evaluating, and constructing web pages. The considerations that became evident to me during this study were that the students needed to have 1) more grounding in and exposure to Multiple Intelligences theory; 2) a classroom environment that reflects the multiple intelligences; 3) a wider skill base in utilising the programs available to create web pages that would appeal to a variety of modes of intelligence; 4) further opportunities to view and evaluate the web pages of other schools during the design phase; and, 5) opportunities to share, discuss and receive feedback from their peers on their web page design from a multiple intelligences perspective.

The participants experience with the concept of multiple intelligences was limited and therefore was not to the forefront when deciding on the content of their web pages.
Although the participants could somewhat articulate how their web pages addressed some of the multiple intelligences, their elements were superficial in nature. A depth in their knowledge about Multiple Intelligences theory was lacking and this was evident in the answers given. The following extract is from the group interview during Session 8:

Teacher: Okay. What about Interpersonal – remember that’s between people; being people smart?

Susan: Like in the story, there’s names of lots of people.

Teacher: Okay.

Andrew: You get to know all about the school, like the people in the class and stuff.

Teacher: Okay.

Susan: Um, like, the teachers in the photos helping someone.

Teacher: Okay. What about intrapersonal? Remember that’s being self-smart.

Chris: Well, you usually look at the computer by yourself.

Teacher: Okay. Same with interpersonal. You could look at it with another person or a small group. And nature smart?

Susan: The logos with the fern leaves on the side.

Lisa: Animals.

The participants knew that interpersonal intelligence was being ‘people smart’, however, their idea of catering for this intelligence was using names of people in the stories or having pictures of people on their web page. I believe that this demonstrates a very superficial understanding of this intelligence.

Missing from the teaching sessions was opportunities to engage with the various modes of intelligence during practical activities to gain a deeper understanding of the concept
(Armstrong, 2000; Mills, 2000). This would need to become part of the teaching sessions in the next cycle.

While the participants were able to produce web pages that reflected the classroom programme for their particular classroom, the features of the final products would appeal to a limited number of the intelligence modes. The intelligences most strongly represented were verbal/linguistic (text), visual/spatial (graphics and photos), logical/mathematical (sequencing of web pages), and bodily/kinesthetic (use of 'clickable' buttons to take viewer from page to page). However, the participants were able to articulate how the web pages could be improved to appeal to a greater range of modes of intelligence. Some of the web pages included the words to skipping songs but because the ability to record sound was not available, the words were just text rather than a tune to appeal to the musical/rhythmic intelligence. The following extract is from an individual conference with Michael about his web pages from a multiple intelligences perspective:

Teacher: What features would you like to add to your web pages?

Michael: I would like to be able to record music so that it would appeal to someone who is music smart. I like web sites that you can play music on.

In order to immerse the participants in multiple intelligences, the classroom environment needs to reflect the various modes of intelligence (Armstrong, 2000; Chapman, 1993). I was conscious of the fact that I needed to provide a 'multiple intelligences rich' environment and made decisions regarding this accordingly. There were oral and written instructions to cater for the verbal/linguistic intelligence. To cater for the
logical/mathematical intelligence, I ensured that I gave an overview of the session and adhered to the plan set out. Visual aids such as the whiteboard and television monitor were used to cater for visual/spatial intelligence. To cater for interpersonal intelligence, I gave participants opportunities to work together and to cater for intrapersonal intelligence, I provided opportunities for participants to work alone. The arrangement of the desks in regards to the rest of the room did not cater for bodily/kinesthetic intelligence. Although the participants did get up from their chairs to look at another’s work or problems with their computer, this was an exception rather than a common occurrence. I did not cater for musical/rhythmic intelligence in that I did not supply music for the participants to listen to while they worked. This was an oversight on my part. However, Chris felt comfortable to hum to himself while he worked in Session 7. The room we used for the sessions has a number of windows but unfortunately these need to have the curtains drawn so that the participants could see their work on the screens. Therefore I did not cater for naturalist intelligence during all of the sessions.

Each participant completed a multiple intelligences inventory. I can only state that the inventories gave an indication of the preferred modes of intelligence for each participant, as I cannot be certain that they would attach the same response to the statements if they completed the survey on future occasions. However, I believe it did highlight for the participants, what their strengths and weaknesses as far as the various modes of intelligence were concerned. It also gave me an indication of the modes of intelligence that each of the participants operates within.
The participants needed to have a wider skill base for utilising the programs available for using to create their web pages. The programs available to the participants were *Appleworks* (Versions 5 and 6), *KidPix*, and *WWWArt*. The programs, *KidPix* and *Appleworks*, were available to and had been used by the participants on their classroom computers. From my perspective as the resource teacher of ICT, I was surprised when asked questions that are part of basic skills used in the programs that the participants had available on their classroom computers. An example of this was evident during Session 4:

Teacher: What I want you to do now is go up to the word ‘Style’ at the top and you can see there that we have font, size and colour. Remember that at the bottom of the font menu, you have an arrow and so you have a lot more fonts available.

Daniel: What is font?

Teacher: It is the kind of writing.

The skill that was particularly lacking was the ability to move between programs in order to be able to create graphics in one program and import them into the *Claris HomePage* program. This proved to be a teaching point that needed to be reiterated many times. This skill would need to be addressed in the next cycle. Reflecting on the computer skills that I covered, I should have included a session on utilising the programs, *ClarisWorks* and *KidPix*, to ensure that there was a base skill level attained by all participants.

I chose to use the *Claris HomePage* software package. It is a relatively simple program that resembles a word processor. Students can create a home page either by copying and pasting text created in their classroom word processor or by typing directly into *Claris HomePage*, and utilising a paint and draw program for graphics. Their home pages look
approximately the same as what they will look like when loaded on an Internet server. The students can post their web pages on the school’s Intranet network for those with authorized access to view (D’Ignazio and Davis, 1997). Perry (1996) states that he likes to use products, such as Claris HomePage, that are able to create web pages without having to learn coding language such as HTML (hypertext mark up language). For the students, it is similar to using ClarisWorks and KidPix that are used on a regular basis in their classroom at this school.

When creating web pages, Haynes and Mouzon (1997) state that you should begin by constructing a clearly marked home page as it is the first page a person views when he or she visits your site. It is important to a link is provided on each page to get back to the home page. A separate page should be created for each unique subject matter (Haynes and Mouzon, 1997). These concepts were reinforced to the participants during the sessions where they viewed other web pages and also when they were designing their own web pages. The following extract is an example from Session 5:

Teacher: You will only have enough room for one idea on each page. Remember the pages aren’t very big.

Susan: So I wouldn’t be able to put stories and poems and (inaudible) on one page?

Teacher: No, just one idea.

As the school was not yet networked, the opportunities to view web pages of other schools were limited and a source of frustration. During session 2 the participants were able to view the web pages of a number of schools although this viewing was limited by the fact that there was only one Internet connection. The participants viewed the web
pages via an *iBook* computer that was connected to a television monitor. This meant that the participants could not openly explore these websites and therefore the impact of this activity was lessened. I encouraged the participants that had Internet connections at home to explore these websites in their own time and gave the opportunity to utilise the school’s Internet connection to those who did not have a home Internet connection. In my opinion, the motivation for the activity (and for the project at that point) was diminished because the participants were unable to explore the pages of the web sites on their own and share their discoveries with the rest of the group. For the next cycle of teaching sessions, this lack of Internet access would need to be addressed.

Opportunities for the participants to share, discuss and receive feedback from their peers on their web page design were also limited. This meant that the majority of the feedback was coming from the person the participant sat beside during the session or from myself. As the sessions were only an hour approximately in length and only once a week, the need to get through the work for the session became a determining factor. One of the suggestions from the participants in their final group discussion about the sessions was that they would have liked more hour-long sessions per week so that they had time to be able to complete their work and have the opportunity to view the work of others. The following extract is from the group interview during Session 8:

Mark: If you had it [the teaching sessions] three days a week, you would get more work done. You’d get more on your page.

While analysing the data, I was able to draw tentative conclusions regarding the sub-questions that I put forward at the beginning of this project. These ‘conclusions’ are
based on my coding categories and sub-categories and interpretation of the data, and my experience as a participant observer in this research project. I will look at each of the sub-questions put forward in turn. The computer skills that the participants needed to be able to use the web page software were familiarity with basic skills associated with word processing programs, such as *ClarisWorks*, ability to use a paint and draw package, such as *KidPix*, and to be able to import images and text from these programs into *Claris HomePage*. The ability to independently use peripheral equipment, such as a digital camera, scanner or digital video camera, to import images and sound would have increased the variety of content the participants could have included on their web pages. The participants showed confidence in using *KidPix*, to create images for their web pages. This program is on the classroom computers and is utilised for creating a variety of visual presentations. However, the ability to independently move between programs and import text and images into *Claris HomePage* was not evident. This step needed teacher assistance in order to be carried out. A number of the participants wanted to utilise photos in their web pages. As the participants would need to be taught how to use the digital camera and there was only one camera available, I made the decision to take the photos for the participants. This meant that the technical aspect of downloading the photos onto the computers could be done in preparation for the next session rather than taking up time during a session. The number of teaching sessions for the research project would have needed to be extended in order to have taught the participants how to use this technology and the associated software. Once the pictures were downloaded, I assisted the participants to import the photos into their web pages.
The equipment, for the students and teacher, that needs to be put in place before the sessions commence are computers for each participant and the teacher, a television monitor or data projector, connections to the Internet, and appropriate desks and chairs. As each participant was creating a set of web pages for their classroom, it was essential that they each had access to a computer for their exclusive use during the session. As the participants were utilising a software program (*Claris HomePage*) that they were unfamiliar with, they needed opportunities to practise what they were taught in 'real-time'. Having to share a computer would not have allowed each participant to become familiar with the program in the time allowed for the teaching sessions. A television monitor that could have a computer plugged into it to display what was on the computer screen was used. This proved to be effective in that the participants could be shown *en masse* what button or section of the screen was being talked about. They could also view the screen if they were not able to follow my verbal instructions. The following extract from Session 3 illustrates this point:

Teacher. Great. It's called a text box. For this text box, all you have to do is click it once. Remember that you can choose down below here (area shown using pointer), have a look at the screen. Underneath my A I have...

While the television screen was adequate, a data projector would have been clearer for the participants to view and the size of the viewing area could have been increased. Having a data projector available for use would certainly need to be a consideration for the equipment required when these sessions are run next year.

The size of the desks and chairs as well as how they are set out is important. Desks and chairs need to be of an appropriate height for the participants. The desks and chairs in the
Special Needs room are the ones left over after the other classrooms are outfitted. This means that they are all sizes and needed to be matched to the size of the participant. This was definitely not a case of 'one size fits all'. The arrangement of the desks was also an important consideration in that the children all need to be able to see the television monitor and the teacher, and yet be in a position to share information and their work with fellow participants. I used a square shape with two desks for the teacher. This meant that the participants were in close proximity to each other as well as to the teacher. As the resolution of the television monitor was less than ideal, this also meant that nobody was very far away from the screen (see Figure 2). This consideration of how the desks were arranged was to address the visual/spatial intelligence of the participants.

**Figure 2: Arrangement of desks**

![Diagram of desk arrangement](image)

The question regarding how much information about Multiple Intelligences theory a student needs when designing and/or evaluating a web page is one that I cannot give a definitive answer to based on the data collected. I am only able to make inferences from the data. The participants had not been taught about Multiple Intelligences theory previously. This meant that the information they gained was from the teaching sessions during the research project. Although some of the participants were able to give
appropriate responses when questioned about the various modes of multiple intelligences, I cannot be certain that the whole group had a similar understanding. I gained the impression from the discussions that, as a group, the participants only had a superficial understanding of multiple intelligences. The following extract from the group interview during Session 8 illustrates this:

Teacher: What about what would appeal to people who are nature smart?

Susan: The logos, with the fern leaves on the side.

Lisa: [Pictures of] animals.

This leads on to the question of how students apply Multiple Intelligence theory when they critique a web page design. During Session 2, the participants had the opportunity to view web pages of other primary schools. The participants looked at the web pages and discussed the content. They then brainstormed about what the web pages needed to contain in the content and layout to appeal to the various modes of intelligence. The list included information or written work (verbal/linguistic), pictures or graphics (visual/spatial), class numbers or a maths question (logical/mathematical), buttons (links) to push (bodily/kinesthetic), pictures of people (interpersonal), pictures of nature (naturalist), and music (musical/rhythmic). The group was unable to come up with anything for intrapersonal intelligence. The websites were then viewed again and evaluated in light of these criteria. The lists for the two activities were virtually identical. I believe that the criteria that the group came up with, again illustrates the superficial understanding that the participants, as a group, had of Multiple Intelligences theory.
The support the students needed during the designing, evaluating, and construction phases of the project was twofold. Support was needed in the generation of ideas as to the content of the web pages. Some of the participants found it difficult to take the activities and events that had or were taking place in their classrooms and turn them into web page content. The following extract from the audiotape transcript from Session 5 illustrates this point:

Teacher: Okay, (reading brainstorm list), you need pictures of your artwork (indicates artwork page). Next is topic. Are you going to do anything on that one?

Kyle: Don’t know.

Teacher: What else have you been doing in your classroom?

Kyle: Not sure.

Support was also needed in the computer skills required to create the web pages from their blueprints. The majority of my time, in the role of teacher when we began creating our web pages, was spent on program support as illustrated in this extract from Session 6:

Chris: How do I get to background?

Teacher: ‘Edit’ and ‘Document Options’. Click on background, choose a colour and then click on ‘OK’ twice.

The final sub-question that I had posed at the beginning of this research project was, “How effective was the teaching methodology that was used for the project?” In taking on the dual role as teacher/researcher, this question goes to the very core of the decisions I made about how to proceed with the teaching sessions for the project. As the concepts (Multiple Intelligences theory) and the activities (designing and critiquing web pages and using web page software to create their own web pages) were new to the participants, the
sessions were very teacher-directed. Session 1 saw the introduction of Multiple Intelligences theory to the participants. This necessitated going through each of the modes of intelligence so that the participants had an opportunity to gain knowledge of the multiple intelligences. This concept was reviewed at during Sessions 2 and 5. I believed that the effectiveness of my teaching about Multiple Intelligences theory would come through in the assessment of the final product (class web page) according to the criteria established earlier about what makes a good web page from a multiple intelligences perspective. I expected to see, for example, the use of text to appeal to the verbal/linguistic intelligence and graphics/pictures to appeal to the visual/spatial intelligence. As can be seen in the examples of some of the web pages (see Appendix 3), that my expectations were correct. The use of text and graphics are the dominant features of the participants’ web pages as they are what the emphasis is on traditionally in classrooms. As discussed previously, the use of peripheral equipment would have enabled the participants to have features that addressed more of the modes of intelligence.

Questioning the participants individually about their web pages meant that they did not have to explain their web pages to the whole group and could ask questions without fear of embarrassment. Sharing of ideas, brainstorms and discussions were utilised when a number of participants needed assistance. This meant that those who had ideas were able to help others with suggestions for the content of their web pages. This was preferable to me giving the ideas to those students who were having difficulties. However, more opportunities to share their work during the design phase may have been beneficial with those who found it more difficult to put their ideas on paper. Solutions to problems and
suggestions for improvement may also have been the result of having the opportunity to share. While the participants shared their final product with the others in the group, their web pages were not held up for scrutiny. The assessment of their web pages was undertaken during an individual interview with me.

The relationship that I established from the outset of the study was as the teacher of a class. As I had been a classroom teacher at the school the previous year and in fact had and some of the children in my class as well as in the ICT coaching sessions, I believe they saw me in the role as a teacher and not a researcher despite the fact they were aware that I was conducting a research project (Neuman, 2000).

Two assumptions that I had made before starting this study were 1) the level of computer skills that the participants chosen possessed/had been exposed to and, 2) that the amount of time allocated for the teaching sessions would be adequate. I had assumed that the level of computer skills was higher than it actually was in most cases. For the next cycle, this assumption would need to be addressed. Although I was familiar with the programme of work for these classes, there were obvious variances in the degree to which the skills were taught and practised in each of the classes. This is not a reflection on the classroom teachers but rather a flaw in how I set out to have the participants chosen. I requested the teachers to choose someone who had shown higher than average skills when using the classroom computer during the classroom programme. I had to assume that this was the basis of how these participants were chosen. In order to overcome this difficulty in the variance of basic skills the participants have in the next
cycle, there would need to be some tasks designed to show the level of the skills the participants held in order to pinpoint deficiencies that needed to be addressed before the start of the teaching sessions. It would not mean that the students chosen could not participate but rather would ensure that all the participants had the basic skill base required for utilising the web page software and the associated programs to support it.

Eight sessions were allocated for teaching the concept of multiple intelligences, viewing and evaluating web pages of other schools, and having the participants design and create web pages for their respective classes. While the participants were able to produce a final product, in my opinion the coverage of the topics and activities was rushed and lacked depth. This came through in the group interview at the end of Session 8. It also came through from comments I made in my reflective journal for Session 5.

"I am concerned that we are having to rush through each session in order to be prepared for the next stage of the cycle".

I see this as a limitation of the study and my recommendation for the next cycle would be to extend the number of sessions and/or, as suggested by the participants, to increase the frequency of the sessions. Also, the inclusion of teaching about utilising peripheral input devices such as digital cameras, video footage, and sound needs to be incorporated. It is important that the participants feel a sense of ownership of their design and final product. Although they might need assistance with the technical aspects of using these peripheral devices, the decision to utilise them or not needs to be with the participant from a position of knowledge (Wells, 2001). I would envision the next cycle taking a ten-week school term, and possibly longer, to achieve the objective set out which was to design and create web pages from a multiple intelligences perspective.
Conclusion

As schools set up websites to showcase the work of their students to parents, etc., I believe that the students play a key role in the authoring of these web pages. Emphasis on content and the demonstrating, through a variety of ways, the learning that has taken place are paramount.

The considerations, posed by the research questions, that became evident to me during this study were that the students needed to have a better understanding of Multiple Intelligences theory, a classroom environment that fosters the multiple intelligences, a broader base of skills needed to utilise the computer programs available to create web pages, further opportunities to view and evaluate the web pages of other schools during the design phase, and opportunities to share, discuss and receive feedback from their peers on their web page design from a multiple intelligences perspective. These considerations need to be taken into account when planning the next cycle of teaching sessions on web page design and construction. Increasing the number and frequency of teaching sessions would address the majority of these considerations.

The intended focus of designing and constructing web pages was on content and viewing it from a multiple intelligences perspective. However, technical skills for creating the web pages gained precedence. Having a common baseline of skills that are required by the participants before the teaching sessions commence or incorporated into the teaching sessions would (hopefully) alleviate this issue. The gaining of technical skills, associated with emphasis on utilising ICT, needs to be balanced with the importance of the content.
The amount of time spent during the teaching sessions on multiple intelligences gave the participants a context. However, because of their limited experience of and exposure to the Multiple Intelligence theory, this aspect was not a major consideration in their web page design.

Overall, the participants had the opportunity to increase their computer skills by utilising a program not available on their classroom computers and to create web pages. Their exposure to Multiple Intelligences theory was brief and would need to be built upon in order for them to utilise it with success in their learning environment. If educators want to use web pages as a medium for students to showcase their work and allow them to demonstrate their learning, then the content and design of web pages needs to be carefully considered.
Bibliography


Appendix 1
Principal
(Name of School)
(Address of School)

Dear (Name of Principal)

As you are aware, I am presently undertaking postgraduate study, working towards a Master of Teaching and Learning degree at the Christchurch College of Education. The research project outlined below is part of the course work for TL802.

The project has been reviewed and approved by the Christchurch College of Education Academic Standards Committee.

The aim of this project is to find out what considerations need to be taken into account, from a multiple intelligences perspective, when setting up and implementing a class for designing, evaluating, and constructing web pages.

The participants for the project would need to come from the Year 4 to 6 area of the school. The classroom teachers of children in these Year levels would need to identify possible participants who they consider to show a high ability in using computers. The children would voluntarily consent to participate in the project. The parent(s) of the children would also need to consent to their child participating in the sessions. There would be a maximum of ten children involved in the project. The sessions would be for one hour per week for a total of eight weeks. The sessions would be held in the ICT room, utilizing the iBook computers.

No risks are foreseen for participating in this project. The iBook computers would be used on battery power to avoid the issue of power cords being present. I will undertake the responsibility of ensuring that the computer batteries are recharged after each of these sessions. The participants have the right to withdraw from the project at any time without explanation.

If you have questions or concerns about the research project, please feel free to contact me to discuss these issues further.

Thank you for taking the time to read and consider this information. Please complete the attached consent form if you agree to my research project being carried out at (Name of School).

Yours faithfully,

Sandra Williamson-Leadley
Consent Form for the Principal

I have read and understood the information provided. I consent to Sandra Williamson-Leadley conducting her research project on designing, evaluating and constructing web pages with children, selected by their classroom teachers, who have voluntarily agreed to participate and have the signed consent of their parent(s).

Name __________________________

Signed __________________________ Date ______________
Dear Colleague,

As you are aware, I am presently undertaking postgraduate study, working towards a Master of Teaching and Learning degree, at the Christchurch College of Education. The project outlined below is part of the course work for TL 802 and to increase my understanding in this area.

The project has been reviewed and approved by the Christchurch College of Education Academic Standards Committee.

The aim of this project is to find out what considerations need to be taken into account, from a multiple intelligences perspective, when setting up and implementing a class for designing, evaluating, and constructing web pages.

Your involvement in the initial part of the project is very important. The participants for the project need to come from the Year 4 to 6 area of the school. In order to be able to carry out this research project, I need you need to identify a possible participant from your class who you consider shows a high ability in using computers. The student and their parent(s) are to be given the information letters and consent forms (to be sent home in a sealed envelope with the student). The student needs to voluntarily consent to participate in the project. The parent(s) of the student would also need to consent to their child participating in the sessions. If one of the parties does not wish to participate, then another student needs to be identified and the process of consent repeated. The identities of the people you approach to participate in this project do not need to be made known to me until a student and their parent(s) voluntarily agree to participate in the project and have returned their signed consent forms. There would be a maximum of ten children involved in the project. The sessions would be for one hour per week for a total of eight weeks. The sessions would be held in the ICT room, utilizing the iBook computers.

If you have questions or concerns about the research project, please feel free to contact me to discuss these issues further.

Thank you for your part in the research project. Please leave the signed consent forms in my pigeonhole in the envelope provided.

Yours faithfully,

Sandra Williamson-Leadley
Hi!

I am Sandra Williamson-Leadley. I am presently undertaking postgraduate study, working towards a Master of Teaching and Learning degree, at the Christchurch College of Education. The research project outlined below is part of the coursework for TL802.

Your child has been invited to take part in my RESEARCH PROJECT.

The project will involve your child learning about how to design and construct a web page for a classroom at their school. They will have an opportunity to look at web pages from other schools and also learn how to evaluate a web page according to criteria about what makes a good web page and Multiple Intelligences Theory. These aspects will be covered as part of our sessions. The project will involve one hour per week, during school-time, for eight weeks. There will be a maximum of ten children taking part in the project. Your child has the right to pull out of the project at anytime.

No risks are foreseen for participating in this project.

The results of the project will become part of my report and will be seen by the lecturers marking my project. Your child will not be able to be identified, as I will use a fictional name on all the information I collect about them and in the report. The name of the school will not be used and will be identified only as 'the school'. Any information about your child and their work that I collect will be kept in a locked filing cabinet at my home and will be handed in with the report to my project supervisors at the conclusion of the project. No unauthorized person, including staff members at the school, will have access to the information.

The project is being carried out, by myself, under the supervision of Mr. John Rosanowski and Dr. Vince Ham, who can be contacted at the Christchurch College of Education on 348-2059. They will be pleased to discuss any concerns you may have about your participation in the project. If you wish to discuss any concerns you may have about the project, please contact me at school on (phone number of school).

The project has been reviewed and approved by the Christchurch College of Education Academic Standards Committee.
Consent Form for Parent(s)

I have read and understood the information provided. I consent to Sandra Williamson-Leadley working with my child on web page design, evaluation and construction as part of her research project. Further, I consent to the presentation of results to fulfil course work requirements at the Christchurch College of Education with the understanding that confidentiality will be preserved. I understand that my child may withdraw from the project at any time. All information collected about my child will also be withdrawn. On this basis I consent to my child participating in this research project.

Name ____________________________ (please print)

Signed ____________________________ Date ________________
Hi!

I am Sandra Williamson-Leadley. As well as being a teacher at your school, I am also a student at the Christchurch College of Education and this is part of a course I am doing.

You are invited to take part in my RESEARCH PROJECT for TL802.

The project will involve you learning about how to design and construct a web page for a classroom at our school. You will have an opportunity to look at web pages from other schools and also learn how to evaluate a web page according to criteria about what makes a good web page and Multiple Intelligences Theory. These aspects will be covered as part of our sessions. The project will involve one hour per week, during school-time, for eight weeks. There will be ten children taking part in the project. You have the right to pull out of the project at anytime.

What I find out during the project will become part of my report and will be seen by the lecturers marking my assignment. You will not be able to be identified, as I will use a fictional name on all the information I collect about you and in the report. The name of the school will not be used and will be identified as ‘the school’. Any information about you and your work that I collect will be kept in a locked filing cabinet at my home and will be handed in with the report to my project supervisors at the end of the project. Only your parent(s), my supervisors, you and me will be able to look at the information about you.

The project is being carried out, by myself, under the supervision of Mr. John Rosanowski and Dr. Vince Ham, who can be contacted at the Christchurch College of Education on 348-2059. They will be pleased to discuss any concerns you may have about your participation in the project. If you wish to ask me any questions about the project, please see me at school.

The project has been reviewed and approved by the Christchurch College of Education Academic Standards Committee.
Consent Form for Child

My parent(s) have explained the information to me and I understood the information provided. I consent to Sandra Williamson-Leadley working with me on web page design, evaluation, and construction. Further, I consent to the sharing of results for course work at the Christchurch College of Education with the understanding that no one, other than the people involved in the project, will know who I am. I know that I may pull out of the project at any time with no reason given. All information collected about me will also be withdrawn. On this basis I consent to participating in this TL802 Research Project.

Name ___________________________(please print)

Signed ___________________________ Date ____________________

IF YOU DON’T WANT TO DO THIS, DON’T WRITE YOUR NAME.
Appendix 2
What Are the Multiple Intelligences?

Although he reminds us there could be many more, the eight intelligences identified by Howard Gardner, author of Frames of Mind: The Theory of Multiple Intelligences (Basic Books, 1983), are the following:

- Verbal/Linguistic
- Logical/Mathematical
- Visual/Spatial
- Bodily/Kinesthetic
- Intrapersonal
- Naturalist
- Musical/Rhythmic
- Interpersonal

(Verbal/Linguistic and Logical/Mathematical intelligences are the most recognized, appreciated, and taught. They are the intelligences that assure success in school.)

**Verbal/Linguistic**

Verbal/linguistic intelligence is also called verbal intelligence. It is different from the other intelligences because everyone who speaks can be said to possess it at some level, although it is clear that some people are more linguistically talented than others. Verbal/linguistic intelligence expresses itself in words, both written and oral, and in auditory skills. People who have this kind of intelligence can learn by listening. They like to read, write, and speak, and they like to play with words. They are often seen as possessing high levels of the other intelligences simply because standard testing tools usually rely on verbal responses. No matter which type of intelligence is being assessed.

**Logical/Mathematical**

Logical/mathematical intelligence includes scientific ability. It is the kind of intelligence that is often called “critical thinking.” People with this kind of intelligence like to do things with data; they see patterns and relationships. They like to solve mathematical problems and play strategy games, such as checkers and chess. They tend to use graphic organizers both to present themselves and to present their information to others. This kind of intelligence is highly valued in our technological society.

**Visual/Spatial**

Visual/spatial intelligence is sometimes called visual intelligence. People with this kind of intelligence tend to think in pictures and learn best from visual presentations such as movies, pictures, videos, and demonstrations using models and props. They like to draw, paint, or sculpt their ideas and often represent moods and feelings through art. They are good at reading maps and diagrams and they enjoy solving mazes and putting together jigsaw puzzles. Visual/spatial intelligence is often experienced and expressed through daydreaming, imagining, and pretending.

**Musical/Rhythmic**

Musical/rhythmic intelligence is sometimes called rhythmic or musical intelligence. People with this kind of intelligence are sensitive to sounds, environmental as well as musical. They often sing, whistle, or hum while engaging in other activities. They love to listen to music; they may collect CDs and tapes, and they often play an instrument. They sing in key and can remember and vocally reproduce melodies. They may move rhythmically in time to music (or in time to an activity) or make up rhythms and songs to help them remember facts and other information. If musical/rhythmic intelligence is not recognized as a talent, it is often treated as a behavior problem.

**Bodily/Kinesthetic**

Bodily/kinesthetic intelligence is sometimes called kinesthetic intelligence. People with this kind of intelligence process information through the sensations they feel in their bodies. They like to move around, act things out, and touch the people they are talking to. They are good at both small and large muscle skills and enjoy physical activities and sports of all kinds. They prefer to communicate information by demonstration or modeling. They can express emotion and mood through dance.

**Interpersonal**

Interpersonal intelligence is evident in the individual who enjoys friends and social activities of all kinds and is reluctant to be alone. People with this kind of intelligence enjoy working in groups, learn while interacting and cooperating, and often serve as mediators in case of disputes, both in a school situation and at home. Cooperative learning methods could have been designed just for them, and probably the designers of cooperative learning activities as an instructional method have this kind of intelligence also.

**Intrapersonal**

Intrapersonal intelligence is shown through a deep awareness of inner feelings. This is the intelligence that allows people to understand themselves, their abilities, and their options. People with intrapersonal intelligence tend to be independent and self-directed and have strong opinions on controversial subjects. They have a great sense of self-confidence and enjoy working on their own projects and just being alone.

**Naturalist**

Naturalist intelligence is the eighth intelligence to meet Howard Gardner's criteria. According to Gardner, this intelligence focuses on the individual's ability “to recognize and discriminate among flora and fauna, and other things in the world like clouds and rocks.”
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>This is really true of me (3)</th>
<th>This is sort of true of me (2)</th>
<th>This is not true of me (1)</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>I like making and doing word puzzles.</td>
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<td>2.</td>
<td>I can usually learn new maths work easily.</td>
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<tr>
<td>3.</td>
<td>I usually don't take very long to learn new sports and exercises.</td>
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<td>4.</td>
<td>I like to try and fix things with small parts which aren't working well.</td>
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<td>5.</td>
<td>I enjoy doing maths problems and puzzles.</td>
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<td>6.</td>
<td>I can decide what I want, work out how to get it and then do what I need to do.</td>
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<td>7.</td>
<td>I enjoy drawing and artwork.</td>
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<td>8.</td>
<td>People have commented that I sing well.</td>
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<td>9.</td>
<td>I enjoy writing stories.</td>
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<tr>
<td>10.</td>
<td>I enjoy playing a musical instrument.</td>
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<td>11.</td>
<td>I often see clear pictures in my head when I close my eyes.</td>
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<tr>
<td>12.</td>
<td>I sing and hum a lot during the day.</td>
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<td>13.</td>
<td>I have a good sense of direction and I rarely get lost.</td>
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<td>14.</td>
<td>I can judge well what I am good at and what not so good at.</td>
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<td>15.</td>
<td>I prefer to do things with other people than be by myself.</td>
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<td>16.</td>
<td>I like to read books a lot.</td>
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<td>17.</td>
<td>I like making up and doing experiments to find out about things.</td>
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<tr>
<td>18.</td>
<td>I often have good ideas for what to play or do what other kids follow.</td>
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<td>19.</td>
<td>I like playing games like chess or draughts where you have to use clever thinking to win.</td>
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<td>20.</td>
<td>I am sensitive to other people's feelings.</td>
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<td>21.</td>
<td>After something has happened to me I like to think about my reactions to it.</td>
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<tr>
<td>22.</td>
<td>I think a lot about myself and why I am the way I am.</td>
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<td></td>
<td></td>
<td>This is really true of me (3)</td>
<td>This is sort of true of me (2)</td>
<td>This is not true of me (1)</td>
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<tr>
<td>23.</td>
<td>I always try to think about the effect my behaviour will have on other people's feelings.</td>
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<td>24.</td>
<td>I can recognise and remember songs and music easily.</td>
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<td>25.</td>
<td>I'm good at remembering jokes, rhymes and stories to tell.</td>
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<td>26.</td>
<td>I often find it easier to say what I want to communicate by using a drawing or a diagram.</td>
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<td>27.</td>
<td>I like playing ball games and computer games where I have to react fast.</td>
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<td>28.</td>
<td>I'm good at imagining how things will look before I make them.</td>
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<td>29.</td>
<td>When I meet new people I feel confident that I will be to get along well with them.</td>
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<td>30.</td>
<td>I am confident that I can make my body do what I want it to do.</td>
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<td>31.</td>
<td>I really enjoy dancing and moving to music.</td>
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<tr>
<td>32.</td>
<td>I can usually find the right words to communicate what I want to say.</td>
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<td>33.</td>
<td>I am very curious about how things work.</td>
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<td>34.</td>
<td>I like listening to music a lot.</td>
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<td>35.</td>
<td>I usually know what kind of a mood I am in and why.</td>
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<td>36.</td>
<td>I like to talk about my pets during class sharing.</td>
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<td>37.</td>
<td>I like field trips in nature or going to a place like Orana Park or Willowbank.</td>
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<td>38.</td>
<td>I enjoy bird watching, collecting insects, or looking after animals in the classroom.</td>
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<td>39.</td>
<td>I bring bugs, bird's nests, shells, and other natural things to share with the class.</td>
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<td>40.</td>
<td>I enjoy learning about living things and environment issues.</td>
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</tbody>
</table>

Adapted from McGrath and Noble (1995).
Scoring Instructions
For each question put 3 points for every ‘Really True of Me’ response, 2 points for every ‘Sort of True of me’ response and 1 point for every ‘Not True of Me’ response. Place your scores in the chart below to see your relative strengths across the seven intelligences.

<table>
<thead>
<tr>
<th>Items</th>
<th>Score</th>
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<tbody>
<tr>
<td>3</td>
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<td>4</td>
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<td>BODY TOTAL</td>
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<td>24</td>
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<td>34</td>
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<td>MUSIC TOTAL</td>
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<td>29</td>
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<td>PEOPLE TOTAL</td>
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<td>35</td>
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<td>SELF TOTAL</td>
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<tr>
<td>NATURE TOTAL</td>
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<tr>
<th>Items</th>
<th>Score</th>
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<td>9</td>
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<td>16</td>
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<td>WORD TOTAL</td>
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<tr>
<td>LOGIC AND MATHS TOTAL</td>
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<td>7</td>
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<td>11</td>
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<td>13</td>
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<td>26</td>
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<td>28</td>
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<tr>
<td>SPACE AND VISION TOTAL</td>
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</table>

Relative Strengths Chart
Write in the scores for each intelligence in order from highest score to lowest score in the opposite table.

<table>
<thead>
<tr>
<th>Order</th>
<th>Score</th>
<th>Intelligence</th>
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<tbody>
<tr>
<td>1st</td>
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<td>2nd</td>
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<td>8th</td>
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</table>

Adapted from McGrath and Noble (1995).
KITY KOOOL'S ADVENTURE

One day Steph, Kitty Kool (our cat) and I were playing in the park when we heard an evil laugh. "That is the weirdest thing I've ever heard," said Kitty Kool who could talk telepathically to us. "What on earth!" shouted Steph. And me, well, I just could not keep my mouth shut. Then out of the darkness came a green slimey evil ulgy marson.... "UHHHOOOO" we all screamed together. But what came after really scared me. "Mum!" we all said together. "Oh no, now we're in trouble!" said Kitty Kool. "That thing has got a goo gun!" Still my mouth not shut until, "Kitty!!!! NO!!!!!!" Just then Kitty ran up and scratched he goo ball of a martian in the face. Bang! "No!" I screamed again as the martian shot Kitty with goo. "Oh, this stuff stinks!" said Kitty Kool. "Whew!" I breathed a sigh of relief as Kitty was okay. But then I realised Steph had gone and so had the martian. Then I heard a muffled yell. It was a Mum. Then Kitty an over and freed her. Then she started talking. "Th th th the martian is after he crystal ring I gave you. It gives them special powers..."
Jump Rope For Heart

On the 20th of August we had a fun day with lots of activities. Most of them were skipping activities.

Jumping, jumping all in time
Must not land on the jump rope line
Now we must count to ten
Before we stop to rest again
1, 2, 3, 4, 5, 6, 7, 8, 9, 10!

Ancient Rome

- Togas
- Gaius Julius Caesar
- Mosaics
- Sandals
- Gods
- Bacchus (God of wine)
- Jupiter (King of gods)
- Mars (God of war)
- Olympics
- Remus
- Straight roads
- Romulus
Session 4  Friday 10 August

Teacher:  Okay everybody. Let’s get started. Welcome back again. We are on to the next part of what we are doing. Just before we start up our computers today, I just want to talk to you about what we are going to be doing. What I want to talk to you today is about making up our web pages. We are going to have another practice. Uh, remember we had a little error with them last day and I figured out what it was. I just forgot one part of it but now we need to remember how to make sure that we don’t put our links on top of each other. The other thing that we will talk about is how to set up our web pages. There are different ways of laying out our web pages so you are going to have to think about that. And, then what I want you to do is to start thinking up some ideas about what you are going to include on your pages. We are going to brainstorm some ideas today. Now we need to be finished by quarter to because they are handing out prizes for selling chocolate today. I believe that’s the plan so we’ll need to be finished by quarter to. First of all, open your iBooks and turn them on please. (All participants do so). Just while we are waiting for them to start up…Can you get it Chris? (Having trouble opening up his iBook). Kyle, can you give him a hand? Got it? Great.

Daniel:  They should have little buttons on the side.

Teacher:  That would make it easier. That might be something you could write to the design team and make your suggestion. Just while we are waiting for them to start up, I just want to ask you a couple of questions as part of a group interview. And I want you to be totally honest with me. If you think something isn’t right, I want you to tell me. If you don’t really like something, I want you to tell me that too. You are not going to hurt my feelings, okay? Just because I came up with an idea doesn’t mean it’s the best one for us. What we are wanting to do is make our sessions even better, alright? How do you find it being able to look on the TV screen to see what I am doing? Is it helpful? Not very helpful?

Susan}  Helpful.
Jane}  
Mark}  

Michael:  Very helpful.

Daniel:  It’s hard to read though.

Teacher:  Okay. Anybody else?

Mark:  You can see the …

Session 4 transcription of video
Teacher: You can see the pictures. Basically, it is not so much that I want you to read it Daniel, but to be able to see which buttons I am clicking on. Does that make it easier when I say I want you to click on such and such a button and you can look up there if you are not sure. (Various participants nod and voice approval). Okay, good. So we'll keep using the TV. Um, I know that some of you were a bit disappointed in the first two sessions because we didn't touch the computers at all. Had we had out Internet network up and running, you would have been going on and having a look at your own... the wen pages yourself. So I'm sorry about that but that was beyond my control. Alright? But I hope you have been having a look on some Web pages at home if you are able to. Has anybody been looking at school Web pages to see what the are like? (John puts his hand up and then puts it down.) No? Have you looked at other Web pages, they don't have to necessarily be school web pages. (Kyle, John, Andrew and Susan put their hands up).

Kyle: I've been looking at....(inaudible).

Teacher: Sorry.

Kyle: I've been looking at Dragonball Z.

Teacher: Okay. What I want you to think about when you are going on to have a look at these other web sites is I want you to think about how they've laid it out. I want you to see what colors they use, how they lay it out, what sorts of things they put on it because we are going to start talking about what sorts of things we are going to put on our Web pages for our classrooms. Okay, so we'll have a little practice with WWWArt again and then we'll go on and make some pages. Next day we are going to design our Web pages so we need to feel comfortable with using the programs to create our pages. So if you open up WWWArt, remember, that's the frog one.

Daniel: I didn't get a screen.

Teacher: Does it look like that? (Points to TV screen).

Daniel: No I didn't get a screen to draw on.

Kyle: (Puts ear to computer) Yeah!

Teacher: Just click on WWWArt again.

Session 4 transcription of video
Daniel: But it … (inaudible).

Teacher: Click on ‘File’, ‘Quit’ (Chris looks at Daniel’s screen).

Daniel: But it won’t click. (Teacher gets up and has a look at Jonathon’s computer).

Chris: Can we play around with it?

Teacher: Hold on a minute. We’ll just get Daniel up and running first okay? (Teacher restarts Daniel’s computer). Okay, just while we are waiting for Daniel’s computer to come back up, remember that you can use the pencil and all the different choices pencil types and colours. Make sure that it says fill when you are doing that.

Mark: Mrs. Leadley, my colours haven’t come up.

Teacher: (Goes over). Okay you just need to click on ‘Tools’ and ‘Colour’.

Daniel: What’s this? It’s loading up again.

Teacher: Yes, I restarted it.

Daniel: No, it’s got this other thing.

Chris: Can we get started on it?

Teacher: Yes please. Daniel’s computer is taking longer than I thought.

Daniel: It still hasn’t come up. (Teacher has a look and then moves Daniel to another computer).

Jane: My tools haven’t come up.

Teacher: (Goes over to Jane’s computer). Click on ‘Tools’ and then click on ‘Colour’. (Lots of chatter amongst participants, to themselves and each other while they work. Teacher returns to Daniel’s computer to see what can be done with it). I’ll give you another minute and then we’ll start on our pictures. (Lots of sharing between participants. Teacher continues to work on Daniel’s computer). Well, whatever we’ve done to it, it is really not happy. We’ll shut it down and I’ll have a look at it later.

Teacher: Go ‘File’, ‘New’ or keep drawing on the picture you’ve started. This picture you are going to save. Try out the squares and the colours.

Session 4 transcription of video
Kyle: Where is the circle?

John: I'll show you.

Teacher: John, come and show us on the screen so we can all see. (John shows participants where to find the circle tool on the screen). Thanks John.

Participants continue to talk to themselves and their neighbours while they work on their pictures.

Teacher: I'll give you one more minute. (Teacher roams the room and gives assistance when needed)

Chris: Can we colour in the background?

Teacher: Why not? I’m seeing some great pictures here. Just another 30 seconds.

Chris: How do you ‘Undo’?

Teacher: ‘Edit’, ‘Undo’. Okay, can we save our pictures. Go up to ‘File’ please and then to ‘Save As’. You need to find your folder. Daniel, you’ll have to create a new folder since you’ve changed computers. Do you remember how to do that?

Daniel: Yeah, I already did that.

Teacher: Great. Call your picture whatever it is and then press ‘Save’. Then go ‘File’, ‘Quit’.

Can I get you to go into Claris Home Page please? Click on the icon. Have you come up with a screen like this, with a blank piece of paper. (Agreement from participants). Daniel, have you found it?

Daniel: I wasn’t sure what it looked like but I found it.

Teacher: We aren’t quite used to that icon yet, are we? We are going to go through today and get our links right and I’ll remember to include the step so we don’t put our links over top of each other.

Mark: So we are going to make our web pages today?

Teacher: First of all, we are going to have a practice and then we are going to talk about designing them. What I would like you to do is you’ve got a blank page up there. Go to ‘File’ and can you go to ‘Save As’ please. Now it comes up with a message box like this and it says, ‘Enter Title’. Has everybody got that up on their page? Yes? (Agreement from participants). Okay, you can call this page 1. P-A-G-E 1. Now it will come up and ask
you where you want to save it to. Has it done that? (Agreement from participants). Okay, has it come up with your name?

Group: No.

Teacher: Then you need to go to ‘Desktop’ and you need to find your folder. Once you find your folder, if the box says Page 1.html then you need to press ‘Save’. Then ‘File’, ‘New Page’. It should say ‘Untitled’. Go to ‘Save As’. And this time you are going to call it page 2. It should come up this time with your name at the top of the folder. The name should say ‘Page 2.html’ and then press ‘Save’. Then go to ‘File’, ‘New Page’. We are going to do three pages. The ‘File’, ‘Save As’ and this time we are going to call it page 3. Okay and then save it. So you should have page 1, Page 2, and Page 3. (Teacher goes to each participant to check that they have the steps correct to there). Oh you people are onto it this week. Okay, this time we are going to create our links and this is where our problem was last day. See how on here (points to TV screen), we’ve got page 3, page 2 underneath it and then page 1 at the bottom. Just click on page 1 and that will bring it to the front. Everybody got page 1 at the front? (Agreement from participants). Go to ‘Window’ and click on ‘Window’.

Kyle: Where?

Teacher: Up where the words are across the top. Find it?

Kyle: Yeah.

Teacher: Great. Now see how it says, page 1, page 2, page 3 and page 1 has a tick beside it? That’s the one that’s at the front, the one we are working on. When we move around it is easier to go to the other pages using this menu. Alright, remember across the top we have the buttons. The first button is ‘Edit Page’, the second one is ‘Preview Page’ for when we want to have a look at what we’ve done and how our links work. And then there’s the one that looks like a piece of paper with a blue arrow to the side. If you just put your pointer over the top of it, off to the side it says, ‘Insert Link to File’.

Daniel: Mine doesn’t say that. Oh yes, now it does.

Teacher: What I would like you to do is click on that ‘Link to File’ button and it will come up with a dialog box like so (points to screen). I would like you now to click on page 2 and click open and when it comes up, it will say ‘page 2.html’. It’s blue because it is a link. Remember when we looked up the web pages at the schools, the links were always in blue. A link is when we click on it and we go someplace else.
This is what I want you to do next. See where the words are highlighted? (Agreement from participants). Remember this is the step I forgot last time. Go to the end of the highlighted words and click the mouse to deselect it. Now press return twice. Now your cursor should be flashing below. Now what I want you to do is click on that link button again. Click on it and this time I want you to click on Page 3. Now do you see that you have 2 links.

Daniel: Why is page 1 not there?

Teacher: Because you are on page 1 and you want to link to page 2 and page 3. Now click the mouse at the end of that to deselect it. So on page 1, you should have page 1 in gray at the top and then in blue you should have page2.html and page 3.html. Has everybody got that? (Agreement from participants). Go to the word ‘Window’ now. Click on page 2 and page 2 will come to the top. Everybody got page 2 up? (pause, agreement from participants). So if you go to that link button again and this time we need to link to page 1 and open that. Click at the end of your writing to deselect it. Press return twice and then click on the link button and click on page 3 and open. Click at the end of the writing to deselect it. No on page 2 you should have page 1.html and page 3.html. Has everybody got there? (Agreement from participants). Great. Then ‘Save’.

Go to ‘Window’ and click on page 3. So now we go to the link button and click on page 1 and ‘Open’. Click at the end of the words to deselect, press return twice and click on the link button and click on page 2 and open. Then click at the end of the word. ‘File’, ‘Save’. Has everybody got that? Super.

What I would like you to do now is go into ‘Preview’ mode. The second button and it says ‘Preview Page’. Now you’ll have what looks like a hand when you go to the blue writing.

Daniel: It’s pointing to it.

Teacher: Yes it is. That’s telling you it is a link. So now if you click on it, it will take you to that page. If you go back and click on the preview button and click on page 2, it will take you to page 2.

Kyle: Yeah!

Teacher: So now all of your pages are linked together. Wonderful.

Daniel: Mine only says 1 and 3. (Teacher goes to have a look at web pages. No problems found. Checks on rest of group. Participants are trying out there links and sharing comments).

Session 4 transcription of video
Teacher: Excellent. Now with that you can click on page 1 to bring it to the top or go to ‘Window’ and click on page 1. Everybody got page 1? (Agreement from participants).

What I want to do now is put some text on there. It is just like a word processor at this point, just like ClarisWorks. So what we want to do is write our name. Click on the A+ or A- button and also use Bold or Italics from that line. If you go to the colours, see this button here (points to TV screen). You’ll see you haven’t got many colours but if you click on other, you’ll see you have lots of colours. Crayon picture also gives you lots of colours to chose from, it’s just like a crayon box. Just cancel out of there for the moment. What I want you to do is go to the end of where it says ‘page 3.html’ and click the mouse and then press return twice. So now you have the cursor flashing by itself.

Mark: Yes.

Teacher: If you look at the top, you have three buttons here (points to screen) to align your text – left, right or centre. I want you to centre it please. The middle button. Has everybody got that? (Agreement from participants). What I want you to do now is we can go up to the word ‘Style’ at the top and you can see there that we have font, size and colour. Remember that at the bottom of the font menu, you have an arrow and so you have a lot more fonts available.

Daniel: What is font?

Teacher: It is the kind of writing.

Daniel: I like the writing that it is.

Teacher: Okay, that’s fine. For size, let’s go to 7, the largest.

Mark
John: Can we choose the colour?

Teacher: Yes.

Mark: Can we choose other?

Teacher: Just use what’s there for the moment. Now can you type your name please, just your first name. (Discussion within the group regarding fonts, colours used).

Chris: Mine isn’t what I chose.

Teacher: That’s okay. Just select your word and choose your font again.
Daniel: How do you make it like yours?
Teacher: I chose ‘Sand’ (a type of font). (Teacher roams room and has a look at each participant’s work. Stops to help Daniel). John, you’ve used Jokerman. I like using that font.
Kyle: Where’s Jokerman?
John: In the middle of the font menu.
Teacher: After you put your name in, press return twice again. Write a word that describes you. Go to ‘Style’ and choose your size, colour, and font before you start to type.
Mark: I’ve made my smallest.
Teacher: That will be pretty small.
Mark: You can’t even read it. (Participants share their words with each other and laugh and discuss other words).
Teacher: Okay, great. Now, we need to go ‘File’, ‘Save’.
Daniel: Do I save now?
Teacher: Yes, please. Has everybody saved? (Agreement from participants). Okay, can you go back to ‘Window’ please and go to page 2.
Mark: What do we need to write on page 2?
Teacher: We are not writing a word this time. Go to the word ‘Edit’ and go to ‘Document Options’. A dialog box will pop up. What I want you to do is click on the word ‘Background’.
Karen: Where does it say background?
Teacher: Look up here (points to screen). Just in the dialog box. Go to HSV picker. You should have a big coloured circle, a rainbow ball. If you move the pointer around in the circle, you will see the colour changes. Choose a colour.
Mark: How do you choose a colour?
Teacher: Move the pointer onto the colour that you want and the click the mouse button. The colour will come up in the ‘New’ box. Then click OK when it comes up in two different dialog boxes. Did it work?
Mark:  Yep, it's green.

Teacher:  Okay, has everybody got their background colour chosen? (Agreement from participants). Good. Make sure that you save your work and then you can quit out of the program. (Waits for participants to get back to the desktop). Right, then you can shut the computers down. Next day we are going to be planning and designing our web pages. You need to think about what activities and work you have been doing in your classes that we could include on our web pages. Thanks everybody and we will see you next Thursday instead of Friday.