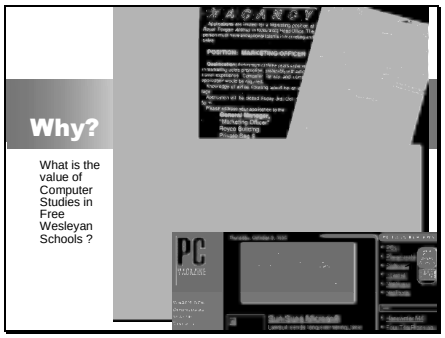
Computer Studies and the Free Wesleyan School System

Samiuela Loni Vea Taufa

10/10/97



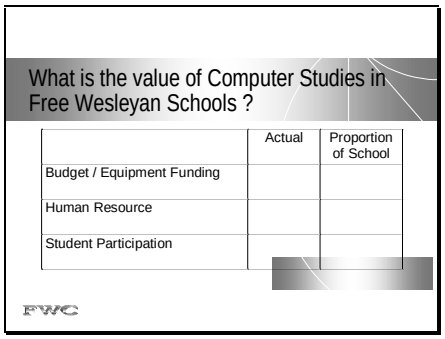
This is a good brainstorming opportunity to open people out of their shells so we can get more involvement in the complete program.

Ask the Principals to give some reasons for why they have considered computer studies important enough to fund.

List these reasons on the white board so it can be discussed later. The Job advertising. The materials on the slide are to prompt and probably mislead the direction of thinking.

Why do you think the solution to these stated needs is to:

- Buy more computers.
- Build lab facilities.



What is the value of Computer Studies in the Free Wesleyan Schools?

Before Showing Slide:
Question, How much does each school spend on each student in a calendar year? Dividing the annual school budget by the number of students in the school, what number do we get as the average school budget per student?

Saia: How many Tupout College students sat PSSC & TSC Computer Studies last year?
How many sat TSC in 1995?

In the intervening years between the first arrival and equipment at schools and their first full-time qualified teacher, what is the success rate. How many students left the colleges competent in using computers when there was no dedicated knowledgeable staff member?

Review each of the screen items, Budget/Equipment Funding, Human Resources, Student Participation. Ask the Principals, again, to help complete the numbers.

The immediate question "Is the Free Wesleyan School receiving an adequate return on the investment it is making on Computer Studies?"

Discuss the disproportionate spending, versus staff/resource allocation. The practise throughout the FWC School System's history has been focused on the investment in raising funds and buying equipment.

To illustrate the effectiveness of these investment decisions, we will discuss how these investments have been in Tonga.

- Tonga High School
  - 1994 Bought a new computer lab
  - 1995 No teacher, students left the course
  - 1996 with supposedly superior students,and facilities, Liahona went away with the awards for Form 5 success during the exams while Tonga High with Liahona's teacher took away the Form 6 award.

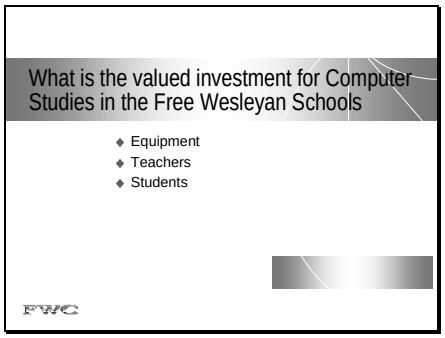
- Tonga College
  - 1995 had very few computers locked up near the staff room.
  - 1996 Bought a new lab, including computers. No teacher and no examination students
  - 1997 Teacher previously assigned to subject leaves and new teacher is asked to try.

- Mailefihi/Siu'ilikutapu
  - 1980's received computers from teachers used in science subjects.
  - 1990's computers are gathering dust.

- Tupou College
  - Early 1990's machines were received as donations.
  - 1995 a full-time teacher is allocated.
  - 1996 __
  - 1997 __

- Queen Salote College
  - ❖ Early 1990's three computers were bought for the school.
  - ❖ 1997 a full-time teacher is allocated.

- Tupou High School
  - ❖ 1994 NZ ex-students supply 6 used Macintoshes. A 'computer club' is set up to provide learning opportunities. The club never gets off the ground, no student courses are ever initiated.
  - ❖ 1997. The 1994 machines are totally disregarded and have not been used.
  - ❖



We place our greatest investment in what we believe to be of greatest value, greatest need.

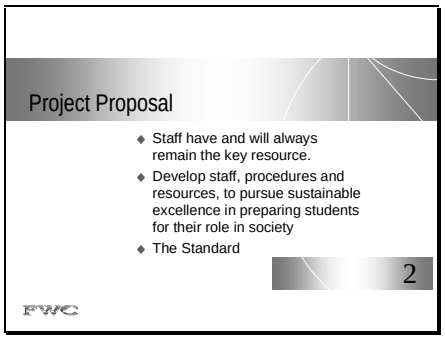
What Tonga High School, Tonga College, Mailefihi/Siu'ilikutapu, Tupou College, Queen Salote College, and Tupou High School have historically spent their money and invested resources into has been equipment.

Money and time wasted on buying equipment, building rooms. Only after all this energy has been spent were staff or students ever involved in the deliberations, thinking.

Walk the talk, if you keep saying that the purpose and value of your computer programs is for the students, make sure the decisions you make ensure value for students, not computers that will gather dust.

The experience Tonga schools have had with failures in their computer studies projects are not unique to Tonga. The exact same problem is occurring everyday overseas.

If you don't invest in the teacher to invest in your students, there is no subject course and you have just wasted valuable time and energy in acquiring materials and equipment that could have been better applied to another greater need for your school.



The Project Proposal

Staff have and will always remain the key resource.

The project for which I hope to be committed in the following two years is to help you develop the best, most effective staff members. My goal is to help the team you choose for the computer team learn how to learn and learn how to guide others into learning.

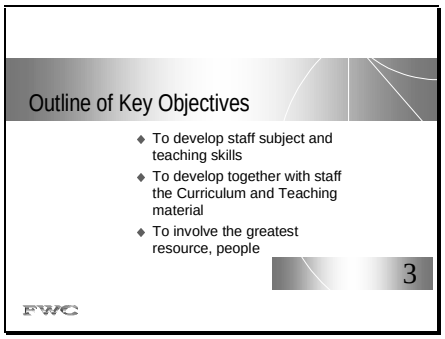
But this can only be done with your support, which is part of why this presentation has been requested. I don't need you to give me your best teachers, they may not work out, but the project will only work with your enthusiastic support.

Teachers without resources are a waste of time, waste of existing resources, which is why I have set such a high 'fee' for course materials on the Team Training program scheduled during the school break. I need your commitment to resources necessary to make going through all of this work worthwhile.

I am not asking for more than is needed, for example I have asked for $500 from each school, each year as book funds to purchase computer books as reference material. I personally spend on average more than $2,000 a year on books, I am asking the school for less than a quarter of that for the whole school.

There is no intention on my part to provide this program and work with your staff to be just like everyone else. The materials and results/returns on investment from the other schools are pathetic. If you want to be just like everyone else, then there is no need for me to be involved. If you want your program to be better than the best then we need to work together,

I bring to you the skills and subject knowledge for computer studies you have the experience and knowledge of your staff, students, and governing bodies.



Outline of the Major Objectives of the Project.

It is an interesting note in the 1996 Tonga Sixth Form Certificate Computer Studies Syllabus that Paula Bloomfield notes

"They represent the culmination of five years of revision of the entire Science programme. These materials are different from previous versions in two ways:

- *the adoption of student-centred approach to learning, and*
- *the use of objectives as a means of monitoring students' progress*

.

The latest research in Science Education indicates that students will understand more if they gain first hand experience of scientific concepts. Teachers can meet this requirement by involving their students in 'hands-on' activities. For this reason, the units in these materials contain many activities in which the students participate. The emphasis is on 'learning by doing.'

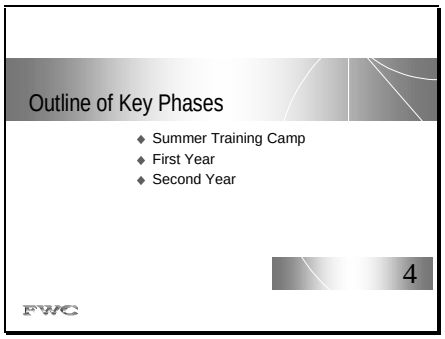
The reason for the course is because the above statement is the biggest piece of nontruth when compared to what happens today in Tonga when it comes to science subjects and more specifically computer studies.

Teachers have never been formally trained, educated to deal with students as peers, as co-learners where teachers are the "guide on the side, not the sage on the stage."

The Team Development program is to instil in teachers and students the need to work together in learning about the subject and how to apply it in daily work. To achieve this we as a group will need to work together to significantly improve the teachers personal skill levels and confidence in computer technology, as well as continually involve students of differing skills in their experience.

The complete syllabus will not be taught in the three month course, teachers will be taught that they can learn things which they are not formally taught. The course is to build a platform in technical competence, aptitude and attitude, from where together the team will co-develop, co-assess the scheme of work, syllabus for computing studies in the Free Wesleyan school system.

Our greatest and only resource in the church is the people of the church.



The Three Major Phases of the Project.

There are three significant phases to the process for providing our schools with the resources for sustainable computer studies programs that can be extended from the existing mandated syllabi to the determined needs of the school constituents.

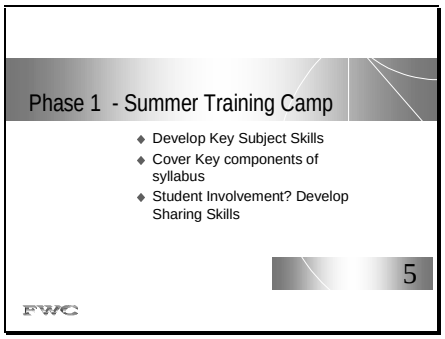
Phase 1 – the Team Training Camp will be the formal, first intensive program for teachers and students.

The whole program is dependent on the successful completion of this phase. This is the foundation upon which the rest of the program is built.

Phase 2 - The First year will involve a number of revisions, coaching, assistance programs for teachers and students to work together for improving the program to better the current standards.

Phase 3 - The Second year will involve developing a robust system for continuing the courses within the current standards and extending the courses to meet higher standards and to meet determined needs of constituents (students, school, community.)

I have formally requested that other schools be allowed to participate in the training program, and where possible also be involved in the full evaluation, assessment, coaching process throughout the two years.



November to February.

Phase One – Intensive Training Program

Teachers will be indoctrinated into the means for implementing a successful computer program. One critical indoctrination point is to be shown that students are their peers in many regards. Staff skills and knowledge are not to be hoarded but shared and used toe xtend the skills of others. Computing only works when everyone (staff and students) actively share their skills and knowledge.

Length: 3 months
Start: November 24th
End: February 24th
Timetable: During normal school hours while school is in session. 9:00 – 4:00 Monday to Thursday out of school session.

"The guide on the side instead of the sage on the stage."

If equipment on their own is of no value, neither are under-prepared teachers.

The Team Training course over the school break will not cover the full syllabi (note that teachers are being prepared to cover syllabi for Form 5 & 6 as well as being capable of implementing Form 3 & Form 4.)

The Team Training will develop skills and confidence in three key areas of computing:

- How computers work
- How Word Processing works
- How Spreadsheets work

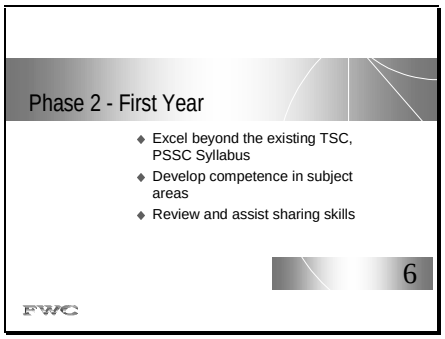
These three items define the foundation of any computer awareness program and are the common barriers for students progressing towards other levels in computing.

Apart from the formal course objective, the intentions of the course is to ignite within teachers the desire to learn more and provide for them the opportunity to learn to learn.

Possible example: Ask the Principals if they have any questions or comments on this part of the slide, and on their response reply "don't be an idiot'. When they have returned from the shock, ask them how they felt and whether this is an effective way of teaching?

With the confidence that they can learn, and there is support, the team will work together on dividing the syllabus and assessing our intended progress.

Throughout the full program, from the Team Training until the end of Phase 3, students will be intentionally heavily involved in the program to gain access to the resource they are and to re-enforce to staff that the 'hands-on' training means sharing the responsibility and the knowledge as opposed to hoarding and lecturing.



Phase 2 – Academic Year One

Key Schedule Items:

Thursday Afternoons will be used for Workshops where necessary and it is requested that computer studies is not scheduled for Thursday afternoons.

The first year will be an intense focus to meet and exceed the expectations from the Form 5 & Form 6 syllabi.

Teachers will teach and students learn the prescribed Form 5 and Form 6 syllabi, and they will be expected and scheduled to earn/learn more depth in the topics focused in the Team Training Summer program.

Staff and student competence in the subject matter and learning process will be augmented by each other and the resources in the budget schedule.

Teachers will not be left to their own resources but will be supported personally, and by the resources which you commit to provide. The Computer Team will view themselves as a single entity beyond their commitments to your schools, and to the greater need of all the schools and how your schools fit within these needs.

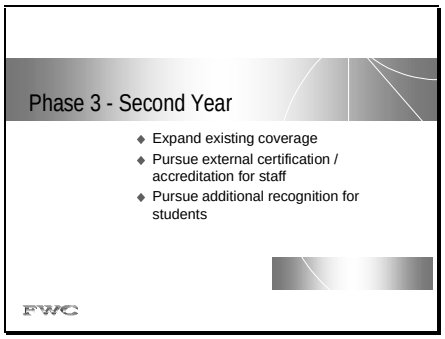
Teachers will be required during the process to visit and co-evaluate with other teachers the performance of other teachers at other schools. This provides a systematic means of information/knowledge sharing as well as direct observational opportunities of how other teachers react to differing student needs.

I will need your teachers when they are not scheduled for classes to be available for re-assignment to another school either as a temporary teacher (the school's teacher may be sick) or as someone who will monitor and co-assess with the teacher their work.

These visitation programmes will be augmented with workshops

The effectiveness of the computing team will be rated by the external Form 5 and Form 6 evaluation process, internal common tests, as well as the external examinations.

Internal examinations will be supplemented with evaluation processes designed and assessed by the course teachers and students.



Phase 3 – Academic Year Two

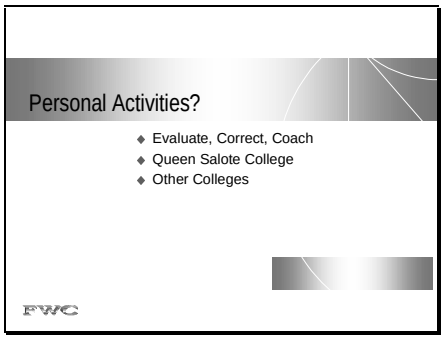
With an intense year behind them proving their ability to handle the more difficult Form 5 and Form 6 syllabi the Computer Team will be in a position to increase the number of courses and to extended courses to the lower forms.

Students are a critical component of the overall program. They will be used as an important resource for the expansion of the program, not as full-time teachers, but as peer tutors (mentors) to augment the staff and to enhance their own subject and communications skills.

A second critical pursuit during Phase 3 is to prepare staff and students for external certification/accreditation by internationally recognised programs. This will include University Accreditation programs which you principals may invite the team to work on, and will more importantly include the Microsoft Certified Professional program which is taught in Universities and recognised by institutions around the world.

With internationally recognised teachers/trainers it will then be appropriate for the colleges to provide a standard for assessing and providing certificates of achievement for staff and students, any participants in training programs.

The support, both moral and financial, of the principals will be critical in the extension program as money will be required to take teachers to certification/accreditation level. To reach this level will require payment for resources (texts and training material which can be shared) and for the examination proper. If you believe with me that this is the next logical, and necessary step to develop the school programs than I ask that you include this in your budget planning.



Where do I fit in through this project proposal?

To clarify, I and the FWC School System have no agreement of employment at this stage and we are still in the negotiation stage over the project, and I will not work more than two years on this project.

You may also have been told that I left the Ministry of Education without adequate notice. I can assure you that throughout the year I worked at Tonga High School it was always clear that I would only work there for one year. I can also assure you that the Peaua, Tonga High School, and the Ministry of Education received formal written resignation at least three months before my last day.

I have already formally written the Komiti Ako about this issue and require their response.

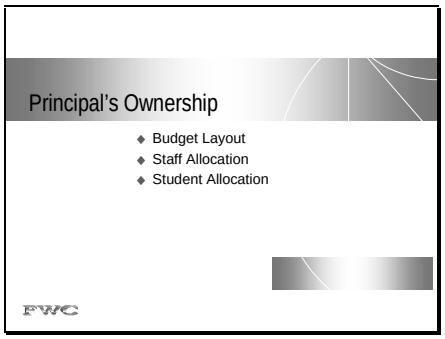
Over the next two years I want to work together with you and your staff with specific programs for the computing staff where I will provide the evaluation, coaching, mentoring and whatever is possible to improve their performance, increase their effectiveness and pursue a successful computer studies program for the school, students and staff members.

I personally requested a close working relationship with Queen Salote College because my mum wanted me to work here, likewise QSC old girls in Sydney, as well as the fact that QSC have student computers. QSC actually has a very nicely outfitted computer lab.

QSC was also selected because, although the program seems to presume Computer Studies is a program in isolation of all other programs within a school, it is not. It is very important that I am not isolated by the bureaucracy of the Education Office and must exist within the context of the teachers to assist them in adapting to the changing and sometimes conflicting needs of their course to the needs of the college.

I will spend as much time as the actions of the principals allow. The program is designed for computer teachers and students to work very closely with each other, where the success of all the schools is the only option. I and the rest of the computer team can only spend as much time at your schools as you give us the support to be at your school and to cajole, accuse your part of the team of decadence and work with them for a better course.

I hope to work closely with each school program from the creation of the 1998 program through to the final grades. I do not intend to spend every day at QSC, and I do not intend to give you a program today with a calendar of activities. My schedule will be very much determined by the needs of students, teachers, and schools. If your teachers have a pressing need, I am most likely going to be spending the time with them.

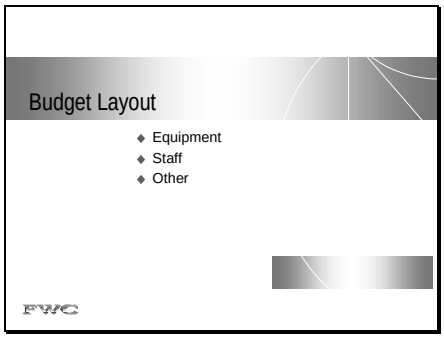


You have already seen that much of this program will be dependent on you, the Principals.

There are at least three major areas that we can discuss now, additional to what you have already heard.

- ❖ The Budget Layout
- ❖ The Staff Allocation
- ❖ The Student Allocation

If we cannot work together then we in this room know that the program will be harder and harder to make work.



We have already discussed the questions about valuing the school system's resource allocation

We have to look at the Computer Program budget as the total package. The total package in the Computer Program is the budget that will get you as close as possible to guaranteed success.

We cannot accept a budget that is only the equipment when we know that this is a budget for failure.

Budgeting must include not just the equipment, but also for Staff and provide a contingency for unforeseen needs. Let me propose for you a model for budgeting your computer program.

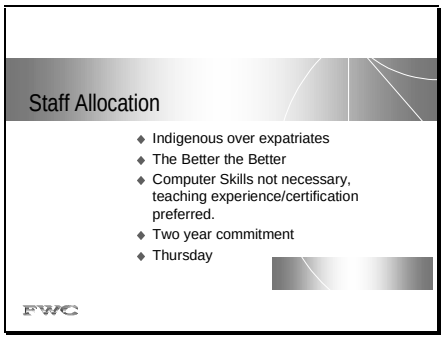
- ❖ 60% Computer Equipment
- ❖ 30% Staff Development
- ❖ 10% Contingency Funds

As an example:

You must include a 5% maintenance fund on all computer purchases as you have not purchased any equipment locally, and you have to accept that computer equipment in the hands of students will get more use than computers are generally designed to take.

Specifics for your budget planning that may not have been clearly communicated to you by the Education Office:-

- $100 per participant at the Team Training program
- $740 per annum on lab resources ($500 on books, $240 on magazine subscriptions)
- $100 per annum per computer (purchases 2 books for use in the course work)
- $4,000 per lab for a Network Server
- $90 per computer in a lab for a network
- $120 per annum on telephone line ($100 installation)



Who in your staff should you send?

To help you in your selection process, the staff member would ideally:

- Love or be amenable to working together with kids on solving problems.
- Loves to spend extra time solving problems
- Hates second best.

It is much preferred if you first commit staff who will remain in Tonga, although you may invite other staff members to attend as observers throughout the program. All participants in the program must be committed to at least two years and in the spirit of the course must not be under any coercion to remain with the college for more than those two years.

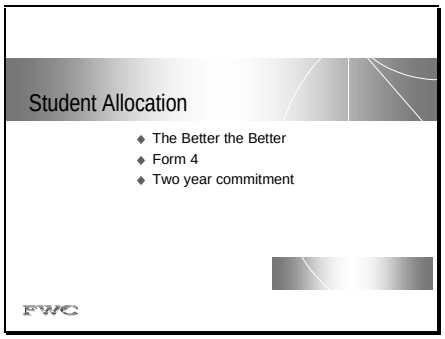
The staff you allocate must be the one's you will use as your computer teachers, do not send ancillary staff, this is not a course for them and neither is it a course for administration staff.

The better the staff members you provide for the training program, the better the results we get back the other end. I can work with low quality staff members but the short and intense nature of the course does not allow for much individual coaching that can lift mediocre performance to excellence.

Computer skills are not necessary although it would be very nice to have them along. If they do not have computing skills it is very important that they are good teachers, and preferably with teacher training.

Your teachers need to come with at least 30 w.p.m. typing speed. If they do not have this typing speed, then get them moving along.

I hope to use Thursday afternoon as a time for workshops during school hours. Please allow in your class allocation for Computer classes to not be run on Thursday afternoons. The workshops will be critical as re-enforcement of skills and knowledge required for the courses they run, and to preempt, cover information yet to be addressed in class.

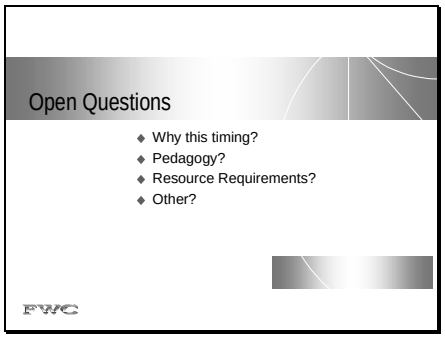


Which of your students should you send?

Again, to help with your selection, a suggested look would be:-

- Good English skills, as the course material is predominantly English due to this being the dominant language of the subject.
- Good analytical skills, such as shown in mathematics or other endeavors.
- Likes to try things and works creatively without supervision

Quiet students are not as useful as rowdy but conscientous students.



I have one more important topic that I need to cover with you, but before that I would like to cover some generic questions that you may have, and ask you to raise questions still unanswered.

It goes without saying that the qualities in teachers would be beneficial to have in students.

The better the students you provide, the better the lab assistants you get at the other end. Remember that they will be the primary resource your staff will have in providing support for your teaching and ancillary staff, as well as other students at your school.

These students will gain an unfair advantage over other students sitting the TSC examinations, but they will also be burdened with the duty of helping their classmates gain the best grades as possible.

Form 4 students have been selected as the optimal choice to ensure students who will be within your school for at least two years. They will be students who are committed to sitting the TSC Computer Studies examination and the PSSC Computer Studies program.

The intensive program will not be re-run in 1998/99 but will be reviewed in 1999 for a 1999/2000 program. Staff and schools will have to engender other students to take up the banner as student assistants or select to run shorter length courses.
* The current timing, scheduling of the course has been made because this is the time frame for which I am available. I originally communicated part of this material to the Education Office in July, and Feleti was sent a copy.

It is stupid to make purchasing decisions because of the availability of this course. This course is not sufficient reasoning for hurrying purchase decisions.

* Pedagogy. The chosen teaching method involves skills charts and requires teachers to treat students as equals, independent of their presumed superior knowledge of material. These courses are very energy consuming although they do provide an incredible amount of energy in the classroom.

* Resource Requirements? If you cannot commit to the resources outlined earlier we know that we cannot create an effective team, we cannot pursue a successful program although we can pursue completing a program.

* What questions do you have?

Ethics and Copyright is a relevant discussion point here as it is a formal component of the Form 6 syllabus and because it is an area where you as Leaders of your colleges have turned a blind eye to out of ignorance.

This single slide is a summary of a one and a half hour seminar I presented for Liahona High School's Computer Studies classes, for which the notes are available.

The Form 6 syllabus prescribes the following:

"Explore ethical issues relating to accessing data held in computer systems:
- Students should be able to:
Identify and discuss ethical issues;
Range: Individual Privacy, Corporate Confidentiality, Piracy, and Copyright.

Examples from Tonga would be an added advantage (if any)

In this classroom, in your classrooms, in your offices are rampant examples of where Copyright infringements, Piracy and unethical practises are being purveyed by the Free Wesleyan Church school system.

Copyright infringements, piracy, is where an individual or institution illegally copies material protected by the law as requiring the copyright owners permission before copying.

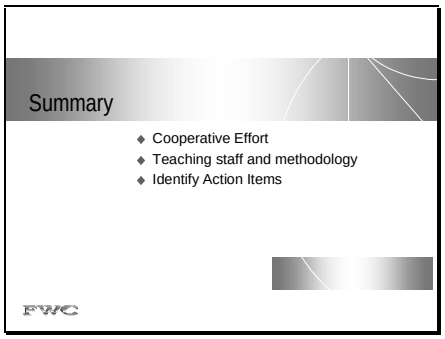
Computer Software is purchased with a license to install one copy of the software on one machine and no legal right is provided to you, the school, or any one here in Tonga to make as many copies as you wish.

The Law of Tonga protects the rights of copyright owners.

Independent of the law, the principals from which copyright laws were drafted or the *purpose* as it would be interpreted by Australian court lawyers.

"In order to promote the creation of literary, artistic and scientific works and to further the productive activities in the field of communicating to the public authors' works, this Act protects the moral and economic interests of authors relating to their works, by recognizing exclusive authors' rights and providing for just and reasonable conditions of lawful use of authors' works and regulated access to them."

Beyond the law it is unethical for the Free Wesleyan Church to prosper at another's expense.



To summarise the proposal,

It will only work if we work together as a cooperative effort to improve students and staff.

Teaching methods currently applied in classrooms are archaic and will not work which is why there is a great need for the intensive course program and for the continuing support program throughout the next two years.

I have outlined for you key issues that can only be dealt with by the leadership of the school system.