THE GENDER DIMENSION OF THE USE OF ICT's IN UNIVERSITIES. THE CASE OF THE UNIVERSITY OF ZIMBABWE.

CHAPTER ONE

INTRODUCTION

This research focuses on the gender dimension of the use of Information Communication Technologies at the University of Zimbabwe. The research has been necessitated by the historical anomalies that exist in society in general with regard to all aspects of life and especially in information and telecommunication technology.

Developments in Information technology affect men and women differently. With the Internet fast becoming the 'electronic hall of democracy', access to the technology becomes a paramount issue for women in their efforts to enter the public arena.

CONCEPTUAL FRAMEWORK

Generally, women are confronted with a lot of obstacles, such as lack of awareness, difficulty to access ICT and its prohibitiveness, insufficient infrastructure, illiteracy and technophobia. This is as a result of institutionalized patriarchal discrimination. The African patriarchy is the oldest, most deeply entrenched system of ideological and social discrimination known to women. Women as a group have been subordinated to men. In our society, they are ranked below men. Jirira (1998) argues that, culture, like all other social issues in society is a contested terrain. The argument that is generally used is that in African culture, women "belong" to men and in the African context and in the world at large, cultural representation/misrepresentations have resulted in deliberate misogyny against the female sex.

The socialization process and the educational system have all colluded to portray women in society in biological deterministic terms. It is within the biological framework that women are portrayed primarily as mothers and housewives. The male is positioned as the head of this patriarchal family unit.

My theoretical analysis is based on theories of patriarchy where inequality between men and women is the essence of social organization in most societies in the world. Within the context of our Zimbabwean society, cultural values and beliefs are responsible for negative attitudes towards women. A woman is identified with or seems to be a symbol of something that every culture devalues and defines as a lower order of existence than life itself.

Gwaunza (1990) laments that it's no wonder that women have been subordinated to men, have never shared the world equally with men and have largely been denied certain basic benefits like education, which is a necessary tool for one's advancement. Because of the patrilineal system which exists in many societies, the general perception is that parents

are likely to benefit more from the education of their sons, than daughters. The formal education has closely been related to employment opportunities in the formal labour market. Because of the gender division of labour, it is considered more likely that male offspring will be able to use their education through their work whereas it is not considered useful for the household activities that girls are expected to undertake. The segmentation in the labour markets results in females being assigned routine work of data entry and word processing. The poor participation and performance of girls in school and the labour market segmentation reinforces bias against girls' education.

From childhood, the girl is not allowed to 'experiment' and 'explore' which is the prerogative of the boy child and is considered his natural instinct. The status of women is governed more or less by the patriarchal notion already discussed. The family hierarchy whereby men are masters and the women submit to them has never been called to question. Similarly, polygamy, succession rights and the use of ICT's could never be contested.

Women have been disadvantaged in the labour market and this is due to a number of factors namely family responsibilities and other constraints. There is a general attitudinal problem imposed by women's own families. In some societies it is still the family that sanctions whether women can work, the kind of work they can go to and the place of work. Besides the work done by women is excluded from national employment and income statistics. The gender concept within this framework enables us to reclaim women's participation and contribution in every dimension. Patricia McFadden argues that the gender concept deals with women and men and it does not relegate women into the ghetto. Neither does it give men the excuse to say this is women's business.

She further argues that the gender concept demystifies many artificial barriers that have been created within the intellectual sphere within culture and language. This concept requires men to look at themselves self-critically and it defines the relations between women and men and women as problematic.

Gender analysis shows that women are marginal users of ICT, 25% on average. (Dr Toumbara-Diawara 2002). At the professional level, for the girl child, it is not easy to pursue professional training. Worse still the choice of subjects at high school are very strict, sciences are recruited among the boys whilst the Arts are the girl's domain.

The computer has not found easy accessibility among women. Firstly, technology is generally introduced to male members in a household. It is the boys who get priority over the girls. It is the brother who normally 'teaches' the sister to use the computer. The Gender Working Group (1995) clearly stated that women in the cultured construction of gendered ness, women are largely absent form the realm of what counts as technology. What women do is usually defined as something other than technology. There is a general assumption that women are essentially users as opposed to producers of

information. As a result, technological development is often approached without the input of women, though they may be involved with its use or maybe affected by it.

This explains why women have limited usage of computers. There is a general impression that women cannot cope with the demands of ICT based work. Most women are in the deepest end of the digital divide—the division between the information 'haves' and 'have nots'

It is paramount that training be provided to the girl-child to prepare her for active life as well as employment in the expanding sectors of the economy to enable her to contribute to the development of the economy. One question can be posed ***if internet represents an opportunity for all, will it be so for women or will they remain on the verge of information highways?***

My introduction has provided a theoretical and conceptual framework for my research. It is within this framework that the research attempts to delve into Information Communication Technologies and their use, based on gender at the University of Zimbabwe. The research will look at females based at the University i.e.; students, staff (both academic and non-academic).

BACKGROUND TO THE STUDY

The University of Zimbabwe is an institution of higher learning with ten faculties and several department and Institutes. It has an enrolment of 12,321 students .The total enrolment of female students is 3599 as compared to 8283 male students. In 1992 Affirmative Action was introduced in an attempt to raise the number of female student in the university to reasonable proportions. The move was intended to redress the imbalance brought by the socialization process and the aim was to double the number of female students entering the institution by 1997. This meant that, the cut –off point for female students in each department would be two points below that required for males. In 1980 only 20% of the total entrants were female and this rose to 26% by 1994. (Mumba 1995).

The argument that was put across was that lowering of points would give women equal opportunities with men on the employment field. People tend to misconstrue equality with equal opportunity, however Professor Gordon Chavhunduka, the former Vice – Chancellor clearly emphasized that the point structure was merely a mechanism for selecting students so there is no relationship between performance and points.

The current UZ administration is strongly committed to the implementation of information technology in all areas of academic activities for 2005. It seeks to implement its five year strategic plan by introducing compulsory, information literacy skills training courses for all students entering the university. Sadly, noble though this effort may seem to the ordinary eye, there is a worrying development at the moment which appears to exclude female students and staff from using ICT for personal benefit. Gaidzanwa's research on student politics at this university confirms this assertion. In her research

(1993) she examined the social, political and cultural self-representations among students at the UZ. To her the politics of intolerance and disrespect have pervaded many aspects of University life including the accessing of ICT's by female students. This trend of persistently low and in some cases decreasing female participation in the field of Information Technology will be probed further in my research.

My analysis was extended beyond the disclosure of the already conceived and established fact that women (though instrumental in development) are highly under-represented in ICT. I looked at the phenomenon as it was revealed in the education sector, with specific reference to the UZ and explored ways in which it could be addressed.

STATEMENT OF THE PROBLEM

This study sought to identify the reasons for the gender differences in the participation of IT programs at the University and then compare it with findings from research done in developing countries, investigate strategies that have been adopted in developed countries and see how it could be incorporated at the UZ given our particular environment. UZ is the chosen place for research because of the significant progress in its IT development and use of ICT (relative to other institutions in the country) and also because of the different approaches is has adopted in its bid to develop ICT systems, (The Information Literacy Skills Training program being a case in point).

OBJECTIVES OF THE STUDY:

The study objectives were:

- To identify the reasons for low female participation in the use of ICT
- Gather and analyze data to identify trends in gender participation in ICT education and training
- Carry out a situational analysis in order to assess how ICT has increased gender inequality in education
- To identify coping strategies adopted by both male and female students and staff to gain access to and control over ICT resources
- To identify, promote and support opportunities for female participation in ICT careers by coming up with recommendations that would facilitate the drawing up a policy on ICT educational development.

HYPOTHESIS

My study hypothesis is that few female students and staff use ICT for academic and work purposes compared to male students and staff. This in turn has influenced their participation in the field of Information Communication Technology in the labour market
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ASSUMPTIONS OF THE STUDY

This research assumes that there is no collection of the views of students about the role of ICT in education which is an important component of University. Use of ICT seems not to be aligned with those of the university and the increased use of e-learning seems to differ between students and staff. This study assumes that there is a constant record of low female representation in science and technology, in academic educational systems.

CHAPTER TWO

A REVIEW OF THE LITERATURE

This chapter reviews the literature concerning the gender dimension of the use of ICT's in universities. This was traced and analyzed with a view to highlighting the major milestones in the use of ICT's by male and female students at the University of Zimbabwe. The literature under review focused on the conceptual framework of ICT and gender to enable one to understand concepts associated with these. It also provided a background history of ICT's at UZ. Literature on the use of ICT in the developed world was also reviewed, because research in the developed world has led to demonstrable changes in universities.

ICT AND GENDER: A CONCEPTUAL FRAMEWORK

Female participation in science and technology has been particularly low, specifically in ICT. This is a trend which has existed both in Africa and developed countries. As a result it has become a subject for concern for many and consequently a topic of numerous discussion and research.

It is generally argued that women, who constitute half of the world's population, do not actively participate in ICT. Various factors influencing disparities in access to ICT's include income levels, education, literacy and language. In addition women face additional circumstances commonly referred to as the 'gender digital divide'. Cottes (2003) explains that much persistent gender –structural inequalities constitute barriers to women's access, such as education, traditional cultural beliefs and practices and economic inequality. More often than not, it is the wider socio-economic and cultural context that accounts for persistent barriers to women's access to and use of ICT's.

In societies, in general boys and girls are treated differently by adults from the moment they are born. Adults, encourage passive and social behavior in girls and active and independent behavior in boys. Society, cultural values and beliefs are responsible to a certain extent for negative attitudes towards women a factor which maybe a stumbling block not only to their advancement but to national development as a whole. These social processes and structures which oppress women are reinforced by sexist and patriarchal assumptions in our culture and language. A woman is identified with something that culture devalues and defines as being of a lower order of existence than itself. No wonder women have never shared the world equally with men and have been largely been denied certain basic benefits like education, a necessary tool for one's advancement.

Berg(2002) in her research on gender and ICT in Norway claims that research carried out in the last 25 years in Norway has proved new technologies like computers and ICT have not meant sustained improvements in the situation of women. Rather the introduction of ICT has been seen as supporting the continuation of rather traditional gendered practices, since new technologies are shaped by and introduced into existing social patterns of differences between men and women

In the African context, patriarchal control is reproduced at all levels in society and through institutional arrangement. Theories of patriarchy place the family at the center of gender relations (Chapman: 1993). It is to this extent that male sons in society are trained and conditioned to take over this control and power function. Jirira (1998) argues that, women as mothers are also socially conditioned, through socialization to prepare their male children for this future role, a role unfortunately that will eventually contribute to the subordination of their female daughters.

The developments in information technology affect men and women differently. Generally women are confronted with a lot of obstacles, such as lack of awareness, difficulty to access ICT and its prohibitive ness insufficient infrastructure and illiteracy. From childhood, the girl is not allowed to 'experiment' and 'explore' which is the prerogative of the boy child and considered his natural instinct. The status of women is governed more or less by the patriarchal notion which has already been discussed. The family hierarchy whereby men are the masters while women has submit to them has never been called to question. Similarly, polygamy, succession rights and the use of ICT's could never be contested. Gender analysis shows that women are marginal users of ICT, 25% on average. (Dr Toumbara Diawara 2002).

At the professional level, for the girl child, it is not easy to pursue professional training. What women do is usually defined as something other than technology. There is a general assumption that women are essentially users as opposed to producers of information. As a result technological development is often approached without the input of women though they may be involved with its use and maybe affected by it.

BACKGROUND TO THE USE OF ICT's at UZ

The literature reviewed revealed that participation by female students in education was lower than those of male students. The statistics provided reveal that the enrolment of

female students increased in 1992 with the introduction of affirmative action. The aim of introducing affirmative action was intended to redress the imbalance brought about by the socialization process.
Gaidzanwa (1993) in her research on the politics of the body and the politics of control was able to reveal the social, political and cultural self-representations among students. Her research revealed that the politics of intolerance and disrespect have pervaded many aspects of university life. To her, male students have adopted wayward characteristics e.g. the intolerance of dissent, organized violence and particularly the subordination of women. Female students are expected to be docile and submissive to male students on campus. The participation of female students in ICT development is marred by the fact that instead of dealing with the complexities of differences in gender, class and culture, the SRC has chosen to deny these differences and has attempted to enforce an artificial uniformity on all students.

Jirira (1998) further reinforces this in her research on sexual harassment at the university. The underlying problem is the 'mobile and domineering patriarchal space' generally occupied by men in society that 'bestows' them the 'the right to define who women in society should be. Male students want to dominate and control female students in every sphere of life on campus. This would obviously affect their access to the ICT's available on campus which are usually limited in number with regard to proportions of ICT's viz-a viz the student population.

Just like the study on sexual harassment at the University of Zimbabwe, the study of ICT at the University cannot escape the legacy of ideological gender identity politics especially in relation to issues of power and control. It is these issues of control and power that have historically relegated women to second class status. The study on ICT reflects on how both male and female students on campus 'live' out their circumscribed gender identities.

According to research by Dr Dlodlo's of National University of Science and Technology fewer women than men in Africa, as elsewhere, specialize in the Sciences and Engineering. Moreover if women seem to be fearful of technology or reluctant to experiment with new technologies, then it is usually interpreted as a female problem rather than as a reflection of the inappropriate design of the technologies, or the aura of male dominance surrounding their use, or both. Thus if women have not been active participants in the development and use of new technologies, then it is assumed this has been as a result of (1) their own choices or (2) the fact that they have been slow to recognize the importance of a particular technology

To a large extent, this traditional pattern of male and female attitudes towards technologies is replicating itself in the development of the new ICT's. Until the ICT policy arena is itself engendered, it will be difficult to improve access for women and girls to the revolutionary tools of information and communication technology. Throughout the world there are problems in attracting young women to science and technology. Many hold views that girls and women cannot think scientifically. What can

be done to encourage a healthy gendered distribution in science and technology education?

ICT IN DEVELOPED AND DEVELOPING COUNTRIES

Authorities like Stein Muller and Bastos (1995) have heralded ICT's as the tools for the industrial age and as the foundations for a new industrial order. It is a belief that is shared by developed and most developing nations. This section of the literature review serves to outline the major reasons given by most third world countries for the use of ICT's in their universities.

The rise of ICT's and in particular computer and data communication technologies, over the past half century has encouraged a variety of strategic responses from nations that found themselves lagging the pace of advance. Gaerlan (2004) argues that embedded in ICT's are values that reflect the most brutal aspects of both patriarchy and capitalism. In India a group of feminists came up with a mandate to meet the information needs of Indian women movements and help rural women organizations to link up with larger debates and issues at national level. The challenges, she argues is for feminists not only to devise and propagate information technologies that women can shape and control. Women are faced with a situation where their documentation of traditional knowledge may have rendered them more vulnerable to exploitation by global commercial interests.

Dzidonu (2002), allergies that governments world wide recognize the crucial role ICT's play in facilitating and accelerating socio-economic development. According to him a number of countries in the developed and developing world are putting in place policies and strategic plans that will enable them to transform their economies into information and knowledge bases economies. Finland, for example regards the development and use of ICTs a key to national efforts to improve the quality of life, knowledge and international competitiveness. Malaysia's vision 2020, which envisages the country as a fully developed nation by the year 2020,and Singapore 's vision of transforming the country into an 'intelligent island' see ICT's as the main engine for promoting accelerated development and growth. Finally, Rwanda as is the case with Mozambique and South Africa has seriously taken on board the deployment and exploitation of ICT's to facilitate their socio-economic development.

Developing countries like Zimbabwe are equally placed to take advantage of the technologies to facilitate socio-economic development. The need for the countries to put in place policies to address the challenges of globalization and the information age in the context of devising ways and means to aid the process of developing the information economy cannot therefore be overemphasized.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The study was designed to investigate the gender dimension of the use of Information Communication Technologies at the University of Zimbabwe.
In this chapter an attempt was made to describe the research design used. An examination was carried out of the research methods and techniques which were use to gather data. The chapter explains the instruments used and the rationale for using them is given. It is important to comment at this stage that effective research design was the most difficult and eminently useful task to carry out this research. This is so because an effective research design links abstract and stylized concepts and questions with the empirical world's complexities and challenges.

The methods used were extensions of my substantive question and epistemological orientation. My research design did not carry one single research model. Numerous alternatives were considered and choices made.

The researcher also realized that there were some situations where figures, or numbers or statistics described a phenomenon best. In other situations words were the best tools, in some situations a combination of the two were used. Qualitative and quantitative data was evidently used. Quantitative methods were used because generally speaking they are seen to provide greater reliability and they usually provide standardized data in statistical form and as Haralambos (2000) claims ***questionnaires can be used to test precise hypothesis which the researcher has devised.*** Qualitative method was also used since it is more suited to providing an in depth insight into a smaller sample of people.

In this research the interview method was used to get insight into ICT developments at UZ. A structured interview was carried out with heads of departments and senior people at the University. These interviews allowed the researcher to probe the respondent's answers so that they could be clarified.

THE TARGET POPULATION

The research was targeted towards female and male students as well as staffs both junior/senior staff. For purposes this research males were included so they could provide a basis for comparison of use of ICT's at the University of Zimbabwe.
Heads of the Computer Center, Computer Science Dept, and the Library were part of the target population as they deal directly with students and staff with respect to ICT developments.

POPULATION SAMPLE

The researcher used stratified random sampling. This helped identify the important variables. Identified were the gender and educational level as the important variables. For staff the population was divided into academic and non-academic, junior and senior staff. The purpose was to ensure that the proportions of each sample in each category were the same as the proportions in the population as a whole. This is an effective method because it allows the researcher to control the variables that are seen as important (Haralambos 2000).

INSTRUMENTS OF DATA COLLECTION

Interviews, questionnaires and focus group discussions were the main instruments used in the study.

INTERVIEWS

These were held with the heads of the Computer Centre because it is the hub of computing activities at the University of Zimbabwe, the Library because it is the centre of academic activities. Also interviewed were the chairpersons and heads of ALRI, DRC, Faculty of Engineering, TREP, IT, Commerce and Social Studies. These people were interviewed because of their involvement in ICT activities and these, the researcher hoped would give useful insights on the factors behind the use of ICT by students and staff at UZ.

Interview questions were structured in such a way that they were open-ended. Their advantages over the questionnaires were that the researcher could manipulate the situation and have control over a checklist of questions that had been formulated before the interview and were to be answered rather than considered, rephrased, re-ordered discussed and analyzed. (Burgess, 1984). In the end the researcher managed to collect what she regarded as valid information on ICT use at UZ.

One of the drawbacks to this method was the unavailability of head of departments. Some of them were away marking exams, others were simply not in the office and appointments were rescheduled time and again.

What could not be overlooked was the danger of bias creeping into the interviews. The tendency to respond to a question with an inappropriate answer arose. This arose in situations where attitudinal statements like where the researcher would ask the respondent to strongly agree, agree somewhat, disagree or strongly disagree. Babbie1984 however explains that ‘survey responses in such cases must be regarded as approximate indicators of what we have in mind initially in framing the questions…?’

The Questionnaire

Self administered questionnaires were distributed to respondents. A total of 40 questionnaires were distributed, 20 for staff with a breakdown of 10 males and 10 females, and 20 for students with a similar breakdown. All respondents, were asked the

same basic questions in order to ensure that they all ahead the same frame of referencing in responding. This was ideal for comparative purposes and it helped the researcher to study ICT from the perspective of the staff as well as students. It also helped to establish the major obstacles they encountered in their efforts to the new technologies in their work and studies.

The questioners were more effective in dealing with sensitive issues particularly when offered complete anonymity. Their advantage is that the results can be relatively easily quantified. The quantitative data can also be analyzed more "satisfactorily" and objectively than quantitative data. From this data new theories can be produced. Closed-questions and open –ended questionnaire.

These questionnaires were distributed among members of staff and students and were physically collected. The questionnaires contained various types if questions e.g. checklist questions were able to present a list of possible answers. Also in the questionnaire were scaled items where respondents rated a situation on dimensions as frequency indicating "how many times" for example were used. This enabled the researcher to calculate measures of central tendency and variability.

All the responses categories on the questionnaire were vertically arranged as this arrangement "makes the questionnaire less crowded and eliminates the common error of checking the space on the wrong side of the answer" (Ary et al 1990)

Pre-testing the questionnaire

A draft questionnaire was printed for pre-testing to identify any ambiguities and inadequacies. This was given to fellow students and other research professionals. This was done to ensure that the instrument would obtain the desired data from the inputs of the colleagues and researched professionals. All ambiguities and inadequacies were sighted; corrections were to clarify items what was closely analyzed was:
- The sequence of questions whether it was logical
- The wording of questions whether it was clear
- The space for answer whether it was sufficient.

FOCUS GROUP DISSUCCUSSIONS

Focus group discussions are a tool for collecting qualitative data from group discussions. The researcher used this method for the purpose of collecting in- depth qualitative information about a group's perceptions, attitudes and experiences on the topic of research. The researcher had group discussions with four different groups. These were identified and interviewed both staff and students and the same was done for male respondents. These were done to in combination with the other research methods i.e. the individual interviews and surveys.

The researcher was the assistant of a research assistant presented a set of questions which had already been pre-tested. The respondents were asked to give an insight into their perceptions of ICT development at U.Z, the constraints they have faced and their own suggestions as to overcome these constraints.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

The research set out to investigate the gender dimension of the use of ICT at the University of Zimbabwe. This chapter deals with the results of the fieldwork undertaken in the study area using the methodology in Chapter 3. This chapter will conclude the study.

Interviews were carried out with the heads of departments in the following ten departments. A list of interview questions is attached as **appendix I.**

ALRI
MAIN LIBRARY
COMPUTER CENTER
PHSYCOLOGY
DRC
FACULTY OF COMMERCE
FACULTY OF SOCIAL STUDIES
FACULTY OF ENGINEERING
IT – DIVISION
COMPUTER SCIENCE

ALRI(AFRICAN LANGUAGES RESEARCH INSTITUTE)

The interview which was done with the head of the Institute, Mr Dhimairo revealed that the issue of gender does not apply in accessing computers in the department. Every member of staff has a computer allocated to them irregardless of gender. Female workers are employed as data entry operators responsible for translating the languages. The computer lab which is available is for teaching purposes. Every member of staff through the computer centre can be trained in ICT. The Institute has 11 students and each one of the them has access to the computer . The staff complement of 16 at ALRI has access to a computer. However concerns which were raised were to do with providing of more ICT packages in the computer lab, e.g. Power Point, **Access** and Exel. The issue of slow connectivity was identified as hampering the smooth running of ICT in the department. The institute does not have policy document on ICT but however it is ALRI policy that each member of staff must be computer literate.

Problems identified in accessing ICT.

- Slow connectivity
- Not enough computers
- Lack of latest software packages like power point, exel and access.
- Need for new machines

MAIN LIBRARY

Access to a large number of computers is through the Main Library. The library has an IT division which is responsible for the computer labs, their maintanance and supervision of students. Students from all the ten faculties are entitled to use the computers and these are on a first come first served basis.
The library has a separate computer training lab which it uses to train library staff various IT programmes. The lab is also used by Library staff for their Information Literacy Skills training programme with first year students.

The computers in the Main library are used mostly for OPAC (Online Public Access), Internet , Circulation of library materials and for Cataloguing of library books and Acquisitions. Services are available until 12 midnight every week for students.
The rounds that are taken by supervising staff reflect the use of computers more by male than female students.

The IT division has not female member of staff and the IT manager indicated that there are no female applicants for IT jobs because there is no discrimination in the recruitment of IT personnel. The University is an equal opportunity employer.

Problems encountered in accessing IT

- Slow connectivity
- Limited access – students can only access for 45 minutes and this is not enough considering the slow connectivity
- Need for more computers
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PYSCHOLOGY

The department has a computer lab and has a compulsory ICT course in statistics and computer sciences for Part II students. The department purchased its own 12 computers for the students. There is not much support it gets from the university. It has about 180 students who need to have access to ICT. The computers are used for research purposes mainly and there is no gender control of students. However it has been noted that access to the computers because of the limited number is dominated by male students who jostle for the computers. This same sentiment is shared by the interviewee in ALRI who claims that male students have a domineering attitude towards their female counterparts. There is some element of sexual harassment although it is indirect. The males tend to want to

dominate the females because of the feeling of rejection when they propose to the female students. This in fact supports Gaidzanwa (1993)'s research on the politics of the body and the politics of control which revealed that the politics of intolerance and disrespect have pervaded many aspects of university life. To Gaidzanwa, male students have adopted wayward characteristics e.g. the intolerance of dissent, organized violence and particularly the subordination of women.
The department does not have a clear cut policy on ICT but however it has a special relationship with the Main library which provides ICT training to the psychology students through the Information Literacy Skills Training program.

Problems identified in accessing ICT.

- Slow connectivity
- Not enough computers
- Lack of latest software packages like power point, excel and access.
- Need for new machines
- 180 students cannot access the limited machines available.
- Lack of support from the University – only empty promises
- Need for printers
- Techno-phobia among some students in accessing ICT's.
- Staff not equipped with computers by the University – use their own.
- Lack of a proper training policy

FACULTY OF COMMERCE

This faculty has the biggest computer lab among all faculties on campus. It has access to 50 computers mostly used by male and female students. The students use the machines for research purposes and word processing.
The faculty has an ICT training policy. Part I and Part II's are taught *Introduction to Computers.* The students attend training classes and access is on first come first served basis.
Five of the fifty machines have been reserved for members of staff who use them for computing students' marks, e-mails and research. Staff has their own server dedicated to them.

Problems identified in accessing ICT.

- Slow connectivity
- Short staffed in the lab to supervise the students
- Lack of adequate ventilation
- Lack of access for non-resident student during the day
- Conge station when assignments are due on a particular day

- Need for more computers
- Access to the machines is only one hour
- Need for more time in the lab (closes at 7 p.m.)

FACULTY OF SOCIAL STUDIES

The faculty of Social Studies has a policy for allocation purchase and maintenance of computers. There are 18 computers available to post graduate students and they are on a first come first served basis. The computers are used for research, dissertations and assignments as well as e-mails.
All Part I and II' receive their training from Computer Centre. Currently there are plans to set up a computer lab for undergraduates. About 15 machines are being expected for this exercise.

Problems identified in accessing ICT

- Lack of sufficient computers
- No access for undergraduates
- Slow connectivity

DRC

The department has 57 students who have access to 14 computers. Each student is allocated a 30 minute time period to access the computer. Training is provided in linguistics. **JAWS** program is used for the virtually impaired. The computer centre is responsible for maintenance of their machines.
What the researcher noted from the interview carried out was that the old female students are not keen to learn about ICT's. The are 15 female students and 42 male students. They use the computers to carry out research , word processing and assignments. There are two braillists and one reader employed to convert print using Braille using embossers. Not many problems were identified in this department. In general the department is happy to have its own computer lab.

IT- DIVISION MAIN ADMINSTRATION

The IT division in Main Administration exists to support day to day functions of IT i.e. routine tasks, accounting and student records. It has three main IT units namely;
IT- admin – business systems
IT-library - for library work
Computer Centre- for students
All staff use computers because of the nature of their work. . In the area of ICT development , there is an encouragement as UZ is the benchmark for other universities.

This area of ICT has been blessed by donor funding. The IT has ensured that students have access exposure and access to hardware to use.

Problems identified in accessing ICT

- Need for a clear replacement policy of old computers
- Need to move to newer software
- Remuneration of IT staff too low hence high staff turn over
- More labs for students needed
- Need to change the opening hours to 24hours because of limited access.

FACULTY OF ENGINEERING

CAL lab was established to cater for engineering students appreciation for computers. **CT130** is an ICT course taught to Engineering students . Computer Aided learning is designed to assist the students with computing skills.
The department has strong links with the computer centre . The lab has 20 operational computers which are manned by IT demonstrators who assist the students. Both male and female students make use of the lab although female students are lower because of the low enrolment in the program. The gender dimension issue cannot be addressed because the department only has about 5 female students. There are less female students to make a significant justification on their use. Most of the time the male students assist the female students.

Problems identified in accessing ICT

- There is no disposal policy of old computers
- Repair of the broken computers is a problem
- Congestion by students there are about 1000 students trying to access the computers in the CAL lab.
- Slow connectivity

TREP

Post graduate students who are enrolled into the Tropical Resource Ecology Programme are expected to be computer literate as most of their research work is ICT based. It is a requirement that they should have had Introduction to Computers at under-graduate level. Because the program includes bio-mathematics the students are expected to have background knowledge on word processing, internet, exel and manipulation of stastictical packages.
The department has a computer lab with 11 computers which caters for 9 post graduate students. 6 of the computers are working. Recruitment is based on qualifications and the

department has two female students only. Access to the computers is on a first come first served basis. The chairperson however, pointed out that the reason for low female enrolment is based on the fact that fewer females enrol in computer studies in high school and at undergraduate and the number keeps diminishing as they advance with their studies as female students embark on less taxing programs i.e. those without a lot of computing involved.

Problems Identified in Accessing ICT

- Slow connectivity
- Need for more computers
- Server not adequate restricts access
- Need for more printers

COMPUTER CENTRE

The computer centre provides ICT training to all members of staff and students at the University of Zimbabwe. There is an outdated ICT policy and currently there is a final draft of the internet/e-mail policy that has already been tabled to the UZ Computer Committee.
The recruitment and training of staff and students is not gender based. The university is an equal opportunity employer. The computer has the following :

- faculty labs – these are normally reserved for faculty computer courses
-
- library labs: training and ILS as well as Online Public Access
- Computer Centre lab which comprises of;
    - Staff lab : for members of staff without pc's in their offices
    - Undergraduate lab- for use of internet/e-mail services to undergraduates
    - Post graduate lab- for use by postgraduate students
    - Training lab- for training purposes both staff and students.

The researcher was able to establish that fewer females used the labs compared to the males. This is largely due to the fact that the enrolment figures for women are less than for males.

Problems identified in accessing ICT

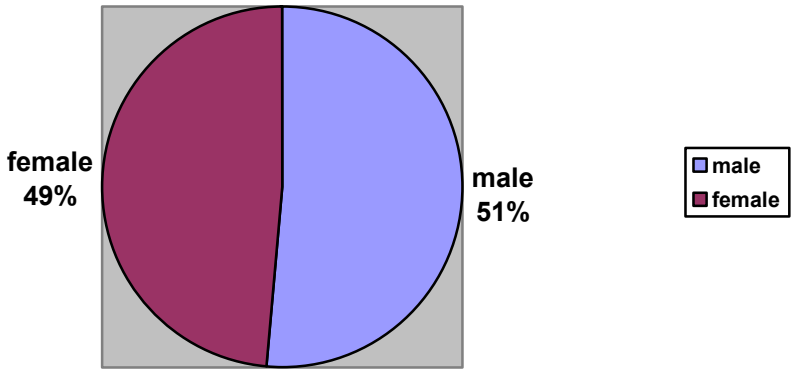
- Capacity not enough currently there is only 1.5 mbps connection and yet the centre requires 3 mbps.
- There is need to launch an e-learning initiative
- Workstations not enough
- Need to introduce an introductory IT course to freshman students.

COMPUTER SCIENCE DEPARTMENT

In this department , the researcher was able to establish that very few female students apply for computer studies . Statistics show that there are 12 female students out of 111 students in part II and 6 females out of 58 students in Part IV. The justification put forward by the head of department was that affirmative action no longer applied as there was poor performance by female students. The entry points into the program were 15 points. The chairperson, herself a female, further argued that females do not enrol in her programs because they do not want taxing professions and computer science is a taxing profession. Besides, the labor market prefers males to females. Female students do not want jobs that requires them to be at work 24hours on call and besides attachment is not easy for them to get. The dedication by female students has to do with the desire to get jobs otherwise they are not keen with computers.

ANALYSIS OF THE QUESTIONNAIRE

All questionnaires were administered between Nov and December 2004. Of the interviewees there was a breakdown of 20 females and 20 males and 49% of the females responded while 51% of the males responded as is illustrated in the diagram below.



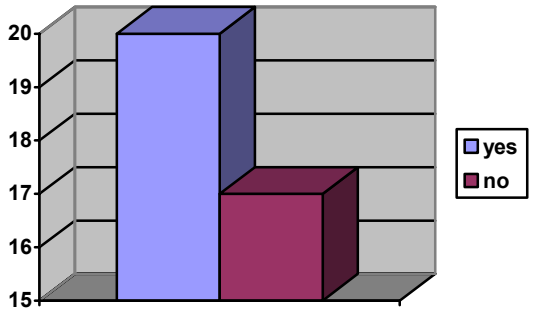
The above shows that an even number of males and females managed to respond to the questionnaires. The proportion covers all students and staff respondents who responded to the questionnaires in the diagram illustrated below.

Age

15% were aged 25, or younger, and 73% between 30 and 50.This may in part reflect the age profile of students and staff who work at the University of Zimbabwe.
Average ICT skills were age-dependent, with the most skilled students being concentrated in the age range 21-25, with a little less skill in the older students. These mature entrants may not have been working in situations which encouraged development

of a wide range of skills as much as the younger students or perhaps lack of confidence.

Do you own a computer?

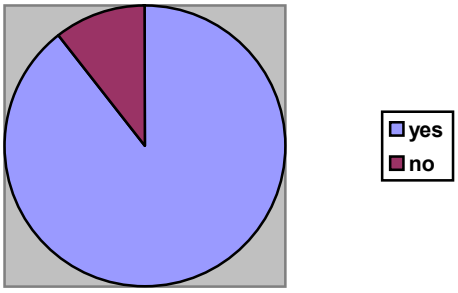


54.1% of the respondents have a computer as illustrated above.
16.7% have a computer at home
30.6% have a computer both at home and at work

Formal Trainig in ICT.

36.1% received formal training in ICT
8.3% received training through part time courses
30.6% received training as part of their studies
41.7% received training through self study

Use of the Internet



As illustrated by the diagram 89.5% of the respondents use the internet in their work related activities. This reflects the importance of ICT in any given work situation, whether its in industrial relations or in the academic arena. Most of the respondents agreed they use the internet for the following:

21.1% for research purposes
28.9% for e-mail communication
44.7% for e-mail and research
55.3% for e-mail research and word processing.

How helpful is ICT in your work/studies?

63.2% found ICT to be helpful to their work
24.2% found ICT to be helpful
5.3% found ICT to be less helpful to their work.
During their time at school many students teach themselves and/or are taught software applications that are seen to be directly relevant to academic studies and to their life in adult society. This applies to schools that offer computer classes at high school level. This explains why some of the University students are able to use Information Communication Technologies.

Of the ICT and Internet the following had educational and work related values

15% word processing was relevant to work and typing of assignments
25% engaged in google searches for their research work purposes
60% searched various search engines.
This explains the importance of ICT in academic research and supports the importance of having ICT formal training at all levels.

However, there were problems cited by the respondents in accessing ICT's at the University. Mostly identified were the following;

22.9% restricted access
31.4% problems with logging in
8.6% tended to forget their passwords
14.3% speed
2% saw the internet as boring
The above analysis is supported by the interviews the researcher carried out in the ten departments. Students had a problem of connectivity which they found to be very frustrating. The computers are extremely slow and with the restricted access students are not able to achieve much.

Time Spent on the Internet

15.8% used the internet once a week.
39.5% 2-3 times a week
2.6% monthly
The frequency of use reveals how the ICT's have taken the University campus by storm. The reliability of the data is supported by the continued congestion of the computer labs on a daily basis which of the ICT&internet which ones have educational and work related values bears testimony to this.

Confidence in Using ICT's

45.9% very confident
29.7% looking forward to the challenge
21.6% a little apprehensive
2.7% very apprehensive

The relationship between self-rated ICT skills with common software applications and degree of confidence with using ICT in studies is very strong. Students who judge themselves able, alone or with some help, to use 7-8 or more applications are confident about their ability to cope with university studies which involve ICT, whereas those who think that they can only use 4-5 applications are looking forward to the challenge. On the whole it reflects on the appreciation of ICT's by students irregardless of gender.

How important do you think ICT will be in your future career?

78.4% very important
18.9% important
2.7% not important

Both genders have the same view of the importanceof ICT An important finding was the absence of a significant gender difference in attitude to ICT in future career Slightly more males thought that it would be very important and slightly more females thought that ICT would be important, but given the gender variations across subject domains (more males in science for example),these differences appear unimportant. Thus despite the slightly lower self-rating of females in ICT skills, in frequency of use and in confidence, their overall view of the role of ICT in their careers is the same as that of males. This is further supported by the fact of all respondents 89.5% would like more computers made available 55.3% would like computers installed in halls of residence and the library 50% had high confidence in ICT skills 52% could access the data which meet their research needs 78.9% would like ICT training in programming, online research, surfing the internet and e-mail communication.

The above analysis clearly shows that there is a positive view of the career-value of ICT in a high proportion of students, and this is a positive finding that encourages us to feel that most students have realistic expectations about their careers.

From the interviews carried out with the Computer Science Department one can draw the conclusion that One of the major concerns regarding women, ICTs and education is that women are not equitably participating as professionals in the **ICT** sector. Women are not pursuing the field of computer science in adequate numbers, and when they enter the profession they are more likely to be employed There is concern that if women are not active participants in word processing and data entry positions, rather than in programming and decision-making in the field of ICTs, they will not be in a position to ensure gender-sensitive design and implementation. Also, the potential for establishing women as role models will be lost.

My research found that girls had inequitable access to the computer labs in some schools as a result of several conditions: high student-to-computer ratios and first-come, first-served policies did not favour the females and this was caused it is my belief by the local patriarchal beliefs allowed males to dominate the computer lab environment.

CHAPTER 5 CONCLUSION AND RECOMMENDATIONS

INTRODUCTION

This chapter aims to address the objectives of the research project .The conclusion and recommendations made depend on the research findings and discussions of chapter 4 which were based on the set study parameters in Chapter 3.

Conclusion

Generally the study hypothesis that there is low female participation in ICT's has proved not to be true. Both male and female students and male and female workers have equal access to the ICT's available on campus. There is no gender bias in the allocation of time to access the computers. The University of Zimbabwe is an equal opportunity employer and usually recruitment is based on merit and not gender. But however, it has been noted that very few females enroll in ICT programs for their future careers for reasons which have already been analyzed in this chapter. Students see ICT as a positive feature in teaching and learning. In both interviews and surveys students favored use of ICT as a supplement to traditional teaching methods but this does not mean that ICT should distance students from good quality staff input which is seen at present as best being delivered in person. From the findings, gender effects are small. The trend which we have seen in our data, and the present pattern encourage us to believe that overall attitudes towards ICT are converging to the point where no significant differences exists. That is, men have become more positive, but the attitudes of females have changed more rapidly. Gender differences have progressively decayed and some of the differences have been quick to disappear in those areas in which the skills have come most obviously to be academically relevant. Students all view ICT and its use as a beneficial ingredient in modern university education but mainly as a source of information and research material. There is no sign of female reluctance to engage with the technology. Both male and female students reported spending equal amount of time online for study purposes.

RECOMMENDATIONS

- It is my recommendation that through consultation and negotiation, the University of Zimbabwe together with staff representatives develop ICT policies and

practices that would support lecturers in their academic work, and students in their learning. Attitudes and motivation of lecturers and student are decisive for the result.

- Representatives need to open discussions about the day to day workload implications of working with students via ICT, and also about training support and staff development

- ICT should be made relevant, accessible and useful to all students and staff. It should be placed beyond the typical academic audience and away from the traditional media of books and papers.

- A fair use policy should be put in place that allows the females to have equal access to the computer labs as their male counter parts.

- The university should ensure that female graduates are attracted to the field of computing sciences through
  - gender mainstreaming which ensures that the UZ 's computer science programmes and policies include gender analysis from the inception and that all strategies to ensure gender equity are implemented in all facets of the UZ's operations so that they can join the labour marker not as data entry clerks but as computer programmers and decision makers
  - introduction of online-initiatives to support women's networking
  - the placement of women's networking on agendas
  - encouraging website content that is gender responsive
  - encouraging gender balance in learner teams and providing an award for gender responsiveness

. ICT training should be provided in single sex-settings and this should be coupled with with supportive policies and preferential access to equipment

- ICT should be embedded in the curriculum rather than teaching computers as a separate subject

  Customized training packages should be designed which are linked to employment prospects in the emerging economy so as to encourage female students to join the Computer Science field

- The University of Zimbabwe should re-institute affirmative action programmes which aim at creating awareness among lecturers of the dangers of limiting females participation in ICT at all levels.

- Concerted efforts should be made to produce materials relating to the subject of gender sensitization at the University.

- Issues of slow connectivity should be addressed more seriously and more computers should be made available to enable all students to access them as and when they want. These should be made accessible in all halls of residence.

- Lastly there is need to have a clear picture of how the University will introduce and use ICT so that issues like those of gender equity are taken into consideration.

- There is need to come to up with a national policy on ICT which will be regulated and will be implemented in all colleges of higher education as well as secondary schools. This would help the girl child to prepare herself in the field of ict at an early stage. There has to be clear emphasis within the leadership both local and national which is essential to legitimize measures..

- The University of Zimbabwe should place on the agenda the low recruitment of females into the Computing Science programs. Conditions should be made right and suitable so that females females feel comfortable.
- Priority should be given to gender-qoutas, their own ICT project leader, earmarked funds, separate female groups, special courses for females during their course of studies, educational career and a close cooperation with industry.

Future Research Areas

While this research was biased towards the gender dimension of the use of ICTs in universities, future research areas must cover issues of involvement by trade and industry who must be invited to co-operate and indicate that there is a need and place for females in ICT business. There is no point in educational institutions working towards recruiting more females for ICT training if industry itself does not organize the right conditions of work. Technology in itself is not important, on the contrary it is the possibilities that ICT provides as a tool of interaction that are important. ICT is about people, communication, development of knowledge and cooperation . That is what should be focused on.

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