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REPUBLIC OF CAMEROUN

*Peace – Work – Fatherland*

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UNIVERSITY OF YAOUNDE I  
HIGHER TEACHER TRAINING COLLEGE  
DEPARTMENT OF SCIENCES OF EDUCATION

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# **THE ROLE OF INFORMATION SYSTEM MANAGEMENT IN SCHOOL EDUCATION AND ADMINISTRATION: CASE OF THE UNIVERSITY OF YAOUNDE II AND LYCEE TECHNIQUE DE NKOLBISSON**

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To my mother

**Odyllia KABA**

This is your success, it is not mine.

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## **LIST OF ABBREVIATIONS**

**EIS:** Executive Information System

**FPR:** Finger Print Readers,

**GTHSN:** Government Technical High School at Nkolbisson

**HIM:** Human Implant Microchips.

**ICT:** Information and Communication Technology

**IPSC:** Internet Protocol Security Cameras

**LIS:** Learning Information System

**MIS:** Management Information System

**PTA:** Parent Teachers Association

## **ABSTRACT**

This work is based on the use of ICT in schools and administration. This work is titled the role of information management system management in school: case study of the University of Yaoundé II and Lycee Technique de Nkolbisson. The problem of this work most of the students end up arriving the entrance to their schools late. On the gate, they are submitted to pass through security checks which consumes some of their learning time because of the unprofessional nature the security guards have undergone while in class, some of the attendance sheets are poorly done. With the possibilities of some students to answer present for their friends who are in fact absent and equally the possibilities of corrupt teachers to mark present for some students they have personal relationship with. All of these above mention problems has a direct negative effect on the performances of the students as it provides information which are misleading. On the similar way, some teachers put on a very lukewarm attitude to school. They come to school late, some of them start teaching 20 minutes to the end of their lessons, finally, administrative personnel. As seen above, administrators are those in charge of running the affairs of the school. Some administrative personnel are not duty conscious. They do not regularly come to work, some of them come very late to work, others leave their offices before due time.

The methodology; the methodology used in this research work is (quantitative research methodology) Distribution of questionnaires to over 400 students, teachers and administrators. It is the information that they provided in the questionnaire that help us to come out with this work. In this project, we were able to look at how an Executive Information system can help in resolving some of the challenges our schools today in Cameroon faces. We were able to look at the impact of FPR, IPSC and HIM on teachers, students and the administrators. We were equally able to distribute questionnaires to students who were will to fill the questionnaires. Out of a total number of respondents targeted, 51 of them were teachers from both University of Yaoundé II and Government Technical High School at Nkolbisson. While 199 respondents were made up of students from both institutions. It is important to state that the entire work was done in English and students of French origin who had difficulties in answering questions were assisted by some of my French speaking brother. This work ended up showing a significant relationship between FPR and performances in school. Finally, the work shows that there is a direct relationship between the use of IPSC and behavior change of teachers, students and the administrators

## **RESUME**

Ce travail est basé sur l'usage de l'ICT dans les écoles et dans l'administration. Dans ce projet, nous étions à mesure d'observer comment un Système d'Information peut aider dans résolution de certains défis que font face nos écoles aujourd'hui au Cameroun. Nous étions capables d'observer l'impact des FPR, IPSC et HIM sur les enseignants, les étudiants et les administrateurs. Nous étions également amené à distribuer des questionnaires aux étudiants volontaires pour les remplir. De tout le nombre total des répondants visé, 51 d'eux étaient tous des professeurs de l'Université de Yaoundé II et du Lycée Technique de Nkolbisson. Alors que 199 des répondants étaient composés d'étudiants de les deux institutions. C'est important de dire que le travail entier a été fait en anglais et les étudiants d'origine francophone qui avait des difficultés de répondre aux questions ont été aidés par quelques-uns de mes confrères parlant français. Ce travail a fini par montrer un rapport considérable entre le FPR et les performances à l'école. Enfin, le travail montre qu'il y a un rapport direct entre l'usage de l'IPSC et le changement du comportement des professeurs, étudiants et les administrateurs

## **GENERAL INTRODUCTION**

There has been tremendous increase in the use of information technology in our schools today. Young people in Cameroon today are characterized by dramatic cultural and social differences. ICT has come to stay in Cameroon in spite of the diversity in the living environments. The debate about what ICT represent for the new generation has moved between two poles namely enthusiasts and skeptics. Enthusiastic are those who believe that ICT will revolutionarise every aspect in Cameroon while skeptics are those who perceive ICT as a source of cultural invasion. It is important to note that Cameroon has more than 250 tribes distributed unevenly throughout the national territory. It is important to mention herein that the government of Cameroon has taken an enthusiastic position. Evidence to this assertion can be seen in the use of ICT tools in almost all government offices. The government of Cameroon has spent large amount of money building infrastructure to accommodate computer and has upgraded the quality of internet usage throughout the national territory yet in spite all these achievements, so much still needs to be done to boast the rate at which information and communication technology should be used in schools in Cameroon. The current pace at which ICT are being implemented in our schools is very slow partly because resources are being competed in other key areas like health and security which are vital educational services and the state depend on. Educators that is, government paid teachers, contract teachers and Parent Teachers Association teachers have the obligation to recommend the use of ICT within schools institution not just because it is the new area of developing new competences but also because it has lots of other advantages that come with it .This advantages will be sited in the course of this project. It is fair to conclude that experts agree that maintenance capabilities and technical personnel make up a large part of the school technology budget but most often it is not given the proper attention during the planning phase of bringing in technology. It has been realize communication today is less direct that is less human to human inter face with an increase in more indirect electronic forms of communication be it through social media, phones or TV. The shift in the ways we communicate from direct human to direct digital can equally be extended to our educational system with a single objective of improving the ways new performances can be acquired.

# **CHAPTER ONE**

## **HISTORICAL BACKGROUND**

### **INTRODUCTION**

This chapter deals with the background information to the study, statement of the problem, objectives of the work, scope of the study, research questions, research hypotheses, originality of the study and conclusion.

#### **1.0. BACKGROUND TO THE STUDY.**

Schools in Cameroon today are plaque with a number of serious challenges. These challenges can be grouped into three different categories. Category one (1), are students who make up the population of school. This category is the most important of all the categories that will be listed herein for the simple reason that it is because of the student population that all other categories of the school are develop. Without students, they will be no need for teachers and the administration. Category two (2) are teachers who teach in the schools; Teachers as defined by the teacher's dictionary are 'all those employed in helping others to facilitate learning.' Teachers here include government paid teachers, contract teachers, and Parents Teachers Association (PTA) teachers. By government teachers, we mean teachers who are matriculated under the government payroll. The government is in charge of ensuring that they undergo a professional training as well as deploy them to the fields in their different teaching school. When we talk of contractual teachers, we are referring to teachers who have engaged in a contract term with the school administration and they are being paid by the school administration. The administration ensures that the job is accurately carried out. When we talk of PTA teachers, we are referring to all of those personnel who teach in a school and are being paid by the PTA Fund. It is important to emphasize that the services of these men and women helps

to make the quality of output at the end of the year conducive for the general society at large. The third (3) categories are the administrative personnel of the school. Administrators are those who are in charge of running the day to day affairs of the school. These personnel are in charge of running all affairs relating to the functioning of the school. The problems of schools in Cameroon today are shared between these three different categories as mentioned above. Looking at category number one which has to do with students, students of most schools in Cameroon do not live very close to their schools. They trek for very long distances from their houses to the road, while on the road, they face problems such as; difficulties in getting a taxi, dense early morning traffic while en route to school. Most of the students end up arriving the entrance of their schools late. On the gate, they are submitted to pass through security checks which consumes some of their learning time because of the unprofessional nature the security guards have undergone. While in class, some of the attendance sheets are poorly done. Rightly possible that some students will fill present for their friends who are in fact absent and equally the possibilities of corrupt teachers to mark present for some students they have personal relationship with. All of these above mention problems has a direct negative effect on the performances of the students as it provides information which are misleading

On the other hand, schools in Cameroon are plaque with enormous problems on the part of the teachers. Some teachers put on a very lukewarm attitude to school. They come to school late, some of them start teaching 20 minutes to the end of their lessons, others leave the classroom 20minutes into their lessons and what is most disheartening is the fact that majority of them sign the teacher's record book. A clear statement that they have effectively taught the lesson. These problems listed above partly contributes in the poor performances of students.

Finally, administrative personnel. As seen above, administrators are those in charge of running the affairs of the school. Some administrative personnel are not duty conscious. They do not regularly come to work, some of them come very late to work, others leave their offices before due time. The implication of the above mentioned challenges are that, it has a trickle down effect that falls on teachers and finally to students. As the daily activities of teachers and students depend on the instructions given by the administrator to the teachers.

## **1.1. STATEMENT OF THE PROBLEM.**

There is inefficiency in the way records of students, teachers and the administrators of school institutions are being collected. This inefficiency is largely due to the traditional ways of collecting information which is by the use of paper and pen (manual) and the disadvantages that come with it. On the part of students; some of the attendance sheets are poorly done. With the possibilities of some of their friends to fill present for those who are in fact absent and equally the possibilities of corrupt teachers to mark present for some students they have personal relationship. There are equally chances of the attendance sheet to get missing or destroyed beyond recovery. All of these above mention problems has a direct negative effect on the performances of the students.

On teachers; some teachers put on a very lukewarm attitude in school. They come to school late, some of them start teaching 20minutes to the end of their lessons, others live the class 20minutes into their lessons and above all most of them sign the teacher's record book that they have effectively taught the lesson. This problem listed above to an extend contributes in the poor performances of students.

On the administration; some administrative personnel are not duty conscious. They do not regularly come to work, some of them come very late to work, and others leave their offices before due time. The implication of the above mentioned challenges are that, they weigh down on the human resources and has a trickledown effect that falls on teachers and finally to students.

## **1.2 OBJECTIVES OF THIS STUDY.**

This research work has as objectives to:

- a) To examine how ICT tools can be used to improve the performances of students, teachers and administrative personnel of the school.
- b) To ascertain a link between technology and counseling.



c) To instilled onto students, teachers and school administrators a responsible behavior for an emerging Cameroon.

### **1.3 THE SCOPE OF THE STUDY.**

This study is restricted to human personnel of the schools located in Yaoundé (centre) 7 of the Mfoundi Division and the level one (1) students in the law department of the university of Yaoundé two (2) Soa Méfou-et-Afamba sub-division

This research work is therefore limited to the following variables; Finger Print readers, IP Security Cameras and Human Implant Microchips.

### **1.4. RESEARCH QUESTIONS.**

a) Is there a link between the use of finger print reader and the increase in the performances of students, teachers and the administration?

b) To what extend does IP security cameras improve performances of students, teachers and administrators in a school milieu?

c) Does human implant microchip helps in increasing the performances of school personnel?

### **1.5. RESEARCH HYPOTHESES.**

a) The use of finger print reader and the increase in the performances.

b) The use of IP Security camera and the quality of services, performances of teachers in a school milieu.

c) The use of EIS efficient in making administrative decisions.

### **1.6 ORIGINALITY OF THE STUDY.**

This research project will serve as a useful tool within a school educational system because it pays particular attention to the human related problems within a school establishment. It will send a strong signal to students who are not academically conscious to be aware of some of the actions they undertake while on campus especially their actions of escaping from classes

and will equally help in stamping out the corruption practices students and teachers are involve in within a school establishment. It is equally important to mention that this work can serve as a reminder for hard working students as the information produced by the system can be used as a source of incentive for hardworking students.

To teachers this work will serve as a stimuli to stimulate their duty consciousness and will make them to be aware of the effects that comes as a result of absenting from teaching that is, this work will serve as a wakeup call for those teachers who are at lazy either by ways of coming late into their teaching times (20 minutes to the end of the teaching lessons) or leaving the classroom before due time, the dangers that awaits them when they leave classes before the due time can come in form of sanction.

Finally, to the administrative personnel of the school. It is important to highlight herein that they are in charge of the day-to-day running activities of the school. They are the life line of the school. The significant of this project to the administrators will be to remind them of the need for duty consciousness in the services they render. Furthermore, it will serve as a source of evidence for administrators who are irregular at work; evidences of their irregularities can be printed out and send to competent authorities for disciplinary actions to be taken. Finally, for administrators who are regular at work, this project will serve as an evidence to ascertain their punctuality and this evidence can be used as a justification for their promotion in their post of duties.

ICT has become part and parcel of any meaningful life particularly education, and that information sources have increased drastically. It is very vital for researchers to understand how competent people especially students are, in identifying, accessing, evaluating and using effectively and efficiently the information gotten through ICT. This is because though ICT is very vital in their studies, at times when it is used in the wrong manner it becomes detrimental to studies. Thus researchers are called upon not to only glorify ICT in studies but to equally present its negative aspects in order to help users to be careful when using this new technology. This research can thus have pedagogic and sociological importance and lead to the construction of new knowledge.

Pedagogically this study will help student, teachers and administrators to identify the various ways that internet use and internet tools can influence their studies positively especially as relates to information management. It will also act as an eye opener for them to know that the purpose of ICT in education is to enable students to increase their learning competences. Administrators will understand how information should be processed in order to solve complex problems in the society as stipulated by UNESCO. As student, teachers and administrators are supposed to impact knowledge to their current and future students. This work will enable them to evaluate themselves to see how ready and prepared they are towards this task.

This study will permit educators, (teachers, and guidance counselors), understand the need to orientate students especially at the basic level on the use of ICT in studies. They will understand the need to create technological awareness in the life of every student such that they will be apt for the future corporate responsibility that awaits them in the job market. This will lead to increase information competence in the students and consequently competent work force and citizens who are capable of solving complex societal problems. Also administrators will suggest support mechanisms that can be used to assist students to understand that they need to acquire information skills which will enable them to use ICT to innovate, create and solve problems. They will also be able to identify students in difficulties and help to draw up programs which will help to know the proper way of using ICT for their school related activities.

## **CONCLUSION**

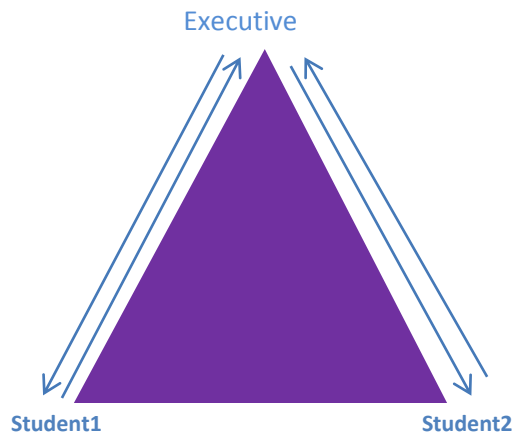
Conclusively, chapter one has enable us to trace the background of how this project all began taking into consideration the challenges most of which are due to human error, corruption. With a great effect on the performances of students. In this chapter, we equally pointed out to some of the challenges facing the schools today by these different categories of persons among them are students, teachers and the administrative personnel. The objective of this project was outlined in combination to the interest and the originality of the study and we conclude.

# CHAPTER TWO

## LITERATURE REVIEW AND THEORITICAL FRAMEWORK

### 2.0. INTRODUCTION

ICT tools have changed the way information gathering today is being done. There is a preponderance of information and there techniques can be employed in gathering this information. More and more internet connections are being installed in schools, universities and administration. Consequently this has increased and will continue to increase the amount of information available to everyone and the students, teachers and administrators stand a better chance to maximize these advantages. This chapter will present the theoretical foundation of the concept on the use of ICT in schools, and the administration as well as a review of literature related to the variables of this project. The theories we will consider in our theoretical framework in the review of related literature will include; (1) the theory of Learning Information Systems (LIS), The Theory of Managing Information System (MIS) and the Theory of Executive Information System (EIS). These theories seek to explain how the flow of information in an organization can be efficiently managed. That is, information movement from the top level management of an institution or an organization to the bottom level workers of the organization or the institution(S). It could equally be from the bottom level workers of an institution to the top level management of an institution or an organization as seen on the diagram bellow.



*Fig 1.0.shows the flow of information within a school establishment.*

The fig.2.0 above is a broad base triangle that shows how communication within a school establishment works. There are basically two ways in which communication flows as mentioned above. There is the top to bottom and the bottom to top movement as shown in the directions of the arrows. In the top to bottom movement, the executive is in charge of all decisions of the establishment and information. In this case, he/she makes decisions and those at the lower level are obliged to implement them. This system has a lot of shortcomings as some decisions taken by the administration at times do not take into consideration the realities of the experiences of workers. On the other hand, there is the bottom to top information movement in this case, information flows from the workers of the establishment to the top level executive of the establishment. This system is very important in that it carries the general will and interest of those at the lower level. It is Democratic by nature and we are recommending this model for all schools in Cameroon.

The variables we will be using in relation to the related literature review are;

- a) **Finger Print Readers (FPR)**
- b) **Internet Protocol (IP) security cameras (IPSC)**
- c) **Human Microchips Implant (HIM)**

## **2.1 THE DEFINITION OF TERMS**

Here, we will be defining related terms as used in ICT.

### **2.1.1 Information and Communication Technology ICT**

The acronym ICT stands for information and Communication Technology it is an umbrella term that includes any communication device or application, encompassing :radio, TV, cellular phones, computer and network hardware and software, satellite systems, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICT are often spoken of in a particular context, such as ICTs in education, ICT in health care, ICT in libraries or e-libraries etc. For purposes of this study, ICT will be defined as

all those different technological tools that is, FPR, IPSC and HIM that are possible to be used in EIS in schools and in school administration.

### **2.1.2. Theories related to the use of information system.**

#### **a) Learning Information System (LIS)**

**What is LIS?** According to Leavitt's Diamond 2003, it is in part social (about people and human organizations) and in part technical (technology is applied to specific tasks). This broad concept is important to grasp at the outset because it implies that, given any problem or situation that we study, we should ask both how the technology influences the people or the organization, and how people may influence the technology choices and the way it is used. We cannot, as it were, privilege one element and ignore the others.

In the past, information on teaching was always provided by the teacher. The teacher will pre-prepare his notes back at home and bring it to school. Dictating it to students were expected at the end of the semester or term to provide the same information handed down to them by the teacher without alteration. This system was largely inefficient because students were expected to memorize voluminous material and return them without adding or subtracting what they may not agree on and there was no room for creativity or research finding, today, the system in place is child centered. This system requires that the child should be at the Centre of learning. The role of the teacher in this new system is to show the student the sources of knowledge and he/she looks for the knowledge. LIS is a software application or a Web-based technology used to plan, implement and assess a specific learning process. Teachers are constantly being urged to use the curriculum so that all learners can succeed on task at their own optimum level of challenge. Learning Information systems (LIS) enables learners to take curriculum-based assessments at the computer wherever the learner and or the teacher feel they are ready. The use of LIS enables one to assess students adaptively. With investigation done only in relevant and priority cases of students. In some cases, the use of LIS responds to each learner so that only items which are neither too hard nor too easy and which discriminate well are presented. This greatly shortens the time taken to self-assess and protects the learner from any sense of struggle or failure. The learning information system is specifically intended to have strong formative effects on subsequent learning. The LIs then provides accurate feedback of the detail performance of the

student to the teacher and the administrator's .When the performance is competent and achieves the benchmark standard, this is made immediately evident to the learner .where the performance show a need for further practice or teacher intervention. The LIS highlights this.

Learning information systems do not incorporate computerized teaching; they leave the content, form and style of teaching to the teacher's professional judgment .It is important to reiterate that LIS are not to be confused with Integrated Learning System (IIS). One contrast between the two is that, LIS deliver both computerized teaching and computerized assessment of only that teaching .They turn to be very expensive and have been found effective in Europe and not in most Sub-Sahara African countries.

### ➤ *The importance of learning information system*

With the phenomenal growth of information and an increase in student diversity, new learning theories: MIS and EIS. The concepts of teaching and learning in the ever increasing technological world of today has emerged. Today, teachers are being presented with an opportunity to transform the learning in their classroom from the traditional way of teaching which was predominantly teacher centered to the child-centered model. The use of LIS helps to nourish this new model:

- **There is a gain in time.**

The collection of data features of a LIS can reduce the length of time and increase the level of concentration of the students and teachers, allowing them to spend more time helping transmitting knowledge through the learning process. A learning system always have some features which regularly reports to the teachers and the administrator which learner is having difficulties and most importantly in which area does the learner encounter the difficulties. In which field of concept does the learner does not understand and in some case why do they not understand it? The use of LIS enables both teachers and administrators to quickly address these issues paying particular attention to individual students with specific difficulties, making the training more effective.

In cases where class participation is an important part of training, the use of LIS can easily track how often an individual learner participated in the class room. This allows the teacher to quickly address each student's difficulty, making the training more effective and pointing out to areas of emphases within the course of each student's participation. This is particularly true when participation is emphasized by ways of a chat room or other e-form of jointed communication.

- **There is a reduction in cost**

The use of LIS is least costly. This is particularly true when one takes into account the fact information sharing is most often done using an electronic means of communication. This singularly does not include additional cost of transportation, purchasing of books, printing of some information etc. In the same strand of reasoning, the administrative cost involved in scheduling classes as in the case in most schools or organizing workshops in the case of professional training can also be greatly reduced by using the LIS approach. The accessibility of internet enables both the student and teacher to effectively participate, be it by means of chartroom, mail groups, joint phone calls participation or in some exceptional cases the use of teleconference communication which gives direct access to people throughout the different areas of the national frontiers and beyond to chip in ideas and personal opinions of the theme in question.

➤ ***The disadvantages of learning information system***

Learning management system (LIS) as defined above; are tools used for documenting tracking and reporting on the training programs within and without a school in a bid to increase students proficiency and their performances in the course of learning. The use of this concept is not always advantageous. There are equally inconveniences involved in it. Among them are:

- **Limited access to the internet.**

The use of the concept of LIS requires that internet should be available to allow for only communication between participants. This is mostly true in cases where there is the need for



group mails, chatrooms. With the limited access to the internet as it is in Cameroon today, very few people are able to effectively connect to internet lines. This makes the concept unable to work as good as it was designed for ;taking into consideration the limited accessibility to the internet that we face today in Cameroon.

- **High cost of LIS tools.**

The use of LIS requires that tools such as computer, laptops, camera, video recorders, projectors and phones be used. These gargets are not cheap taking into consideration the economic realities of our country Cameroon with minimum salary rate of 30,300 FRS. This amount is unable to buy food for an individual, pay for his rent, transport him to work and back and in some case provide for his medication not mentioning here in the fact that he can have a wife and child/children. The cost of buying LIS tools makes it difficult for teachers especially teachers in the private sector to use this concept. But it could enter in school as a didactic material or administrative tool as it is very important the question of security.

- **Overdependence on machine.**

Learning Information systems is a technique used in getting information from individuals or groups of individuals; these individuals or groups can provide information without necessarily meeting one another. They carry out chats and mails on their personal opinions and life experiences and share them to people connected by this social group without ever seeing them and rely on the information they receive there in for their professional careers. This poses a real problem on two fronts. Firstly; on the fact that the information shared therein may not necessarily be true. Secondly, the fact that participants may depend on a false information for their daily activities. This is particularly bad in the areas of health, education and security.

**Conclusively**, it is important to reiterate that the use of LIS is very good in providing updated information on how to better improve the performance of children in school, however, the techniques involves and the cost of getting LIS tools is not usually cheap and very few teachers especially teacher in private institution can effort for them. The government is therefore called to be of help to teachers, to subsidize for the purchase of these tools such that the learning

capacities and competitiveness of all Cameroonians meet up with the challenges of the world today.

*b- The theory of management information system (MIS).*

**REVIEW OF RELATED LITERATURE:** Here, we are going to look at the theoretical foundation of the theory.

**What is MIS?** New technologies (radio, TV, phones and the internet etc.) provide unprecedented access to: information, content, data and other forms of informational providers. Knowledge in the world of today is more readily available than ever before in the history of communication; this information is not only for students, but parents and educators at all levels are provided for with abundant information. It is important to mention here-in that education has not successfully and comprehensively capitalize on the unique opportunities provided for by technology and utilize these new tools to transform teaching, learning and Administration.

➤ *According to 2014 EDUCAUSE and LANG and Judith A. Pirani*

MIS is a concept which seeks to explain the ideas associated with man, machine, and methods for collecting information from the internal and external sources of a school establishment and processing this information for the purpose or purposes of facilitating the process of decision-making within an institution or an establishment (school). The use of MIS is not new; many institutions have been using it before the coming of computers according to Arthur Tatnall. In the past, MIS techniques were used to supply managers and other administrative personnel with information that would permit them to plan and control business operations, \Decision making and Analyze data. The provision of information was based purely on manual forms such as writing of letters, using verbal face to face communication etc. This method was time consuming and constituted waste in time and energy to both the administrators and those in charge of providing this different information for a small piece of work to be done. Modern origin of MIS can be traced in the U.S 1960 (Arthur Tatnall) when the U.S created the

first business application which was used in finance, payroll etc. Information today can be seen from almost everywhere and point. There is the preponderance of information getting tools the introduction of computer in MIS has had profound results at three (3) main levels. (a) Addition to speed, (b) accuracy and (c) An increase in the volume of data that allows for the consideration of more alternatives in the process of making decisions with an institution.

- **An increase in speed.**

There are several components within a computer that help makes it faster and more powerful. These components are made up of hardware and some software. Hardware includes:  
The processor and the RAM.



*Fig 2.1 A high-tech supper speed computer.*

The overall speed or clock speed of the computer and how fast it is capable of processing data is managed by the computer processor (CPU) the computer will be much faster and more powerful when it is capable of executing more instructions every second. E.g. the first computers that came out in the late 60s and early 70s had an overall processor of Intel 4004, which was only 740 kHz processor and capable of processing approximately 92000 instructions per second. Today's processors are Multi-core GHz processors capable of processing over 100 billion instructions per second. Although today's computers can execute billion of instructions every second, the processor is usually waiting for those instructions from the slower types of memory

in the computer. A computer RAM is defined as, **Random Access Memory (RAM)** is a hardware device that allows information to be stored and retrieved on a computer. Because RAM and hard drive are slower than CPU, computer processors and motherboards use Cache to transfer data between processor, memory and components in the computer. Cache is a fastest type of memory and computer with more l2cache, l3 cache is capable of storing more instructions and those instructions to the processor more efficiently.

- **RAM.**

A computer with more memory (RAM) will be capable of storing more programs that are currently running in memory. If your computer runs out of memory, the computer must swap unused data stored on memory to your hard disk drive until it is needed again. By adding this extra step and because the hard drives is the slowest type of memory a computer can become much slower if it does not have enough memory. There are several components within a computer that help make it faster and more powerful. Below is a list of main hardware components that help contribute to the performance of a computer. Keep in mind that even the software running on the computer may impact the speed of the computer.

- **An increase in accuracy.**

This refers to the state of being accurate, free from mistakes. There is an exemption arising from carefulness, exactness and correctness. Information that are said to be accurate exactly conform with what is true or to a particular rule or models. There are equally viruses and the difficult problem of maintenance nowadays.

- **An increase in the flow of data.**

A computer data is information processed or stored by a computer. This information maybe in the form of text documents, images, audio clips, software programs etc. Computer data may be processed by the computer's CPU and is stored in files and folders on the computer's hard disk. At its most rudimentary level, computer data is a bunch of ones and zeros known as binary data because all computer date is in binary format, it can be created, processed, saved and

stored digitally. This allows for data to be transferred from one computer to another using a network connection or various media devices. It is important to mention here in that the stored and processed information does not deteriorate over time or lose quality after being used multiple times.

➤ *The Importance of Management of information systems:*

In recent times, information technology is generally regarded as an essential tool in enhancing competitiveness in the educational system in Cameroon. It has particularly been eluded that Information and communication technology has had significant increase in student learning performances and the intelligent quotient of students. These effects will only be fully realized if and when Information and communication technology are widely spread throughout the national territory and used. The use of MIS within a school setting plays a fundamental role in:

- **An increase in the efficiency of school management.**

Management of information systems as seen above are all of those processes put in place to acquire information from within and without an establishment in order to make decision with a great impact in an institution. A principal who uses these information acquiring techniques stands a better chance of making good decision in school .Which will increase the efficiency and accuracy of the educational personnel. Be it at the administrative, teaching and students personnel.

- **Fast tracking of the performances of both teachers and students.**

The use of MIS requires that information is transmitted from the teachers to the administrators and from the administrators down to the students. Administrators who use this technique of information getting enable teachers to sign in before the beginning of their lesson and after their lessons by ways of digital finger printing. In the same strand, teachers are given time to make row calls for students who are present during their lesson and the list is submitted to the administrator at the end of the class. By so doing, information is shared from the teacher

who conducts regular roll call to the administration who is aware of the attendance and participation of the students in class by way of analyzing the presence and absences of students. This will enable the administrators especially the counselor to track the performances of students and teachers and can easily be evaluate them.

➤ *The disadvantages of this system:*

- **It requires that multiple sources of information be used.**

The concept of Management of information system (MIS) requires that more than one source of information getting is used. Many different sources of information getting tools needs to be put in place some of them conventional while others are unconventional. This system of information getting is usually very cumbersome especially to a country with very young knowledge on technology like Cameroon.

- **The cost of getting information management tools is exorbitant.**

Information getting tools such as computer, camera, recorder and phones are not usually cheap and supposes the purchasing power of ordinary Cameroonian. Even when these gargets are bought, the cost of internet, credit and maintenance is not often cheap. This makes the quality of the information questionable thus reducing it efficiency.

- **The cost of training personnel.**

The use of MIS requires that trained personnel on the operating task of MIS are put in place. The cost of hiring additional personnel, training and giving autonomy to carry out his/her work is usually too costly to most institution.

*c- What is the concept of executive information system (EIS)?*

An executive information system (EIS) provides key information gathering from both internal and external sources. External sources of Information are all of those information from

ministries. External sources will include all of those information that are gotten from the macro level prescribes teaching as a profession. While internal sources of information are institutional which deal with how each individual school transformations politics the politics prescribed by the macro level into a workable strategy to those involved in taking decisions at the level of the administration. EIS accomplishes the multiple purposes of supporting decision making, communicating information and providing awareness as well as solutions to problems this process of information getting can be tailored to individual preference, institutional preferences as well as in the use of general administration ;often EIS are integrated with spreadsheet, word processing and other decision making soft wares. The whole concept of executive information system is an infrastructure that supplies information to an administrator or administration in an up-to-the-minute base. Information gathered within an institution is usually not easy given that an administration is consist of many different department and so are the sources in which they get their information from. With the use of EIS, all of these different information can easily be harmonize into a single system called EIS. This system integrates the different sources of information into one source known as the main data base and it is capable of analyzing this different information in real time for a prompt action to be taken by the administration.

An EIS is not a specific technology. Rather, it is a system of software that uses other technologies such as personnel, relational databases and network communications to display key information to execute decision within an administration. The use of EIS will most often require interface and presentation feature. It will also require access to other decision-supporting tools, such as spreadsheets, word processing etc. Multiple forms of information can be looked upon by the administrator amongst which are: students who are effectively registered in a school, The time of each student, teachers and administrative personnel's arrival, the duration of time spent in class, school or in the administration by teachers, teachers and administrative personnel's respectively, the number of breaks each of these personnel make with the course of teaching or administration, the time each student, teacher and administrative personnel actually leave the class or administration, attendance sheet or record for each of the above mentioned personnel, The school timetable, Financial information of the teachers and the administration etc.

➤ *The benefits from an executive information system*

The use of EIS as implemented in schools such as lycée Technique de Nkolbisson and the university of Yaoundé II. has shown tremendous fallout in the processes of information getting and decision making. The EIS uses information from external (ministerial) and internal (institutional) sources. External sources will include all of those information that are gotten from the macro (which has to do with teaching as a job) and the mezo sources which has to do with the transformation of politics into strategy). Internal sources of information are all information gathering recorded within the school as a closed system. The school here can be looked upon as a micro institution with pedagogic orientation engineering, amongst them is; students effectively registered in school, class attendance, number of breaks a student, teacher or administrator makes etc. To alleviate all the problems related with internal and external sources of information of the human personnel of a school, an EIS is important for a daily, weekly or monthly update on the activities of these school personnel. These monthly activities of the school personnel can be correlated with the results of the student, teacher and administrative personnel's performances before a decision can be meted upon them. The results of their daily, monthly or weekly activities can be represented using graphs, charts and tables to show the trends of progress or failure in their daily, monthly or weekly activities vis-a-vis the program the school prescribes.

➤ *The advantages of using EIS in a school are:*

- **An integration of information systems within the school**

One of the most fundamental use of EIS is, its ability to gather information from different unconnected information system within a school setting. That is, the ability to gather information from the discipline department, dean of studies department, heads of class and individual teachers of the students. These different departments and their corresponding data bases must be integrated for EIS to efficiently work. All of these information are brought to the administrators for detail analysis and for a final decision to be made.



- **Specialized display of information**

In the past, traditionally printed information does not always represent itself clearly or precisely. An EIS uses visual means such as charts, graphs and other form of icons to represent its information. This unique form of specialized display of information on the bases of percentages is most likely to help senior administrators in schools within a very short space of time (daily, weekly or monthly) to make accurate decision on a school personnel be they students, teacher or administrator or even decision that can shape the future of the school.

- **Educational progress and development**

One of the biggest advantages in the use of EIS is the fact that, it takes cognizance of the detailed digital information of all personnel in school. This provides a unique advantage in that, personnel of punctual personalities can easily be identified and rewarded based on meritocracy with information provided by the EIS data base. This on its part improves on excellence, encourages hard work, and boost efficiency by the students, teachers and the administrative personnel. On the other hand, the use of EIS within a school institution provides an excellent ground through which; students, teachers, and administrators who do not respect the rules and regulations prescribed by the ministry and enforced by the school can easily be identified and sanctioned. All of the above mentioned, goes a long way to improve on the educational progress and development of the students, the teachers, and the administration.

- **Improved organizational communication within the school setting**

An executive information system is usually set up with the notion of inter departmental communication in mind, within the process of administration. That is, the school administrators takes into consideration the different structural organization within a school establishment which are; the administration, teachers, libraries, computers, boarding facilities, dispensatory etc. These different groups of organizational structure enables the administration to establish a life line of communication, based on the challenges and successes of each structure. The benefit of this is that, a fresh impetus of communication which is innovative and reform minded can be established with the use of EIS.

**RQ1: Can the use of Executive information system (EIS) increase the performances of personnel in school?**

Averagely in Cameroon, most students trek long distances to school and in the mornings (6:30am) some of them have huge problem getting a taxi. In a majority of cases they are obliged to pay more than the normal to school. Even when this happens, the traffic situation is dense they are likely to arrive their school just on time. While in front of their school they spend huge amount of time standing on security lines to identify themselves first as students and second to ensure that they are not carrying things that could post themselves as well as others in danger. This procedure is usually very cumbersome and inefficient not only because the security personnel at the gate are not well trained and in the majority of cases cannot easily identify a good proportion of students by the look of their faces but equally because in a big school like lycée technique de Nkolbisson it is numerically impossible for two guards to make out thousands of students. It is equally relatively time consuming and reduces the duration of time a student is supposed to be in class and studying. While in class, the attendance sheet of students are manually done and in some cases, students who do not attend classes or who out of illness, family obligation, or late coming have the possibilities of being marked present by their friends or some corrupt teachers.

Within the establishment, the attendance sheets of teachers that is, the time they arrive the school, the time they got into the class room, the number of breaks they make within the course of their lessons, the time they actually left the class etc., are manually done. All of the above mentioned are problematic as they have a direct effect on the performances of the students kept under their custody. Teachers, who respect all of the above mentioned, help in improving the performances of the students they are in charge of and it is worth recommending their efforts for. While on the other hand, some scrupulous teachers either absent from their duties, or start their duties in an inappropriate time or leave their duty post before their time elapses. These statistics based on the traditional educational school system, has proven to be largely inefficient, as there is a lack of an efficient source(s) to corroborate all of the above mentioned weaknesses.

Finally, the administrative personnel under the traditional system of education in Cameroon, are those who are in charge of the running of the school activities that is; the

pedagogic materials of the school, the school buildings and the human resource management of the school. These administrative personnel in most cases use outdated tools like; typing machines, paper, pens to collect information. There are two basic problems involved in using such tools. Firstly is the fact that, it is time consuming and secondly is the fact that, it is largely inefficient due to its manual nature. The time of arrival of the administrative personnel are recorded on a manual form, the duration they spend in their offices working are usually not recorded, the number of breaks they take out of their offices are not recorded, the time they close from their offices are not recorded and in some cases may be inappropriate and are not recorded.

It is due to all of the above mentioned challenges on the part of the students, teachers and the administrators that we are proposing the use of EIS and the numerous advantages that come with the system in all schools within our national territory. Therefore, we will be discussing the use of EIS as a system that functions with finger print readers, IP security cameras and Human microchips in relation to students, teachers and administrators as seen below.

As seen at the level of the definition, EIS is a system that functions from external and internal sources. External sources are sources that are imposed by the ministry of secondary education to all schools with no exception, while internal sources are the different ways in ways in which each school implements the decision from the minister. Using an EIS, record, statistics and images can help in boosting the performances of students within a school milieu. These records, statistics and images can be gotten with the use of a finger print reader, IP security cameras and swipe cards that work for the good of the students. Using an example of a finger print reader within a school milieu we are proposing that each student during the process registration should submit to the EIS data base a copy of his or her finger print. This submission will have the following implications:

- **FINGER PRINT READERS**



*Fig. 3. Example of finger print reader*

- **Easy identification at the entrance to the school**

Science has proven that no two persons have the same finger print. This is true even to identical twins. The unique importance of this distinctive features fingerprints is a very useful identification tool within a school establishment. The good here is ensuring that each and every student is registered on an EIS data base. This registration process helps to distinguish between student of a school establishment and visitors. While students are being identified through their finger print by a finger print reader stationed at the entrance of a school establishments visitors on the other hand are denied direct access to the finger print reader. The unique importance of this finger print reader to students is that it facilitates identification of students within the school and boosts their security as strangers do not have direct access. An EIS can easily pick up the personal identification properties of each student process them within real-time taking cognizance of the time the student actually entered the school, the number of hours he or she spent on campus, the number of breaks he or she makes and finally the duration of time spent for their breaks simply by slotting their finger into the fingerprint reader.

- **Efficient attendance sheet gathering**

In a traditional Cameroon setting attendance sheets are being used manually. These possess two problems. Firstly, students who are absent from school or absent from a particular

class can be marked present by friends or corrupt teachers. And finally the time used for marking names are usually lengthy and in some cases errors can easily be made. To solve these problems, we are proposing the use of finger print readers in front of every school gate, class rooms, dispensaries etc. such that students only have access by the slot of their fingers into the fingerprint reader installed at the different locations of the school. This particular system of finger print reader has numerous advantages to improve on the efficiency of the attendance sheet information gathering. Firstly, attendance sheet under the EIS is automated. This means that it has a propensity of acquiring information all by itself, processing these information and identifying the time and place in which the student is found on campus within a given period of time and by so doing students who are absent from school would not be capable of identifying themselves using the automated system, corrupt teachers and their accomplices will not be given access as well because they would not be capable of providing a fake information into the data base due to its automated nature. This goes a long way to identify students who need special disciplinary measures or students who need counseling. All of the above mentioned help to improve the performances of students in school. the second advantage of and EIS in information gathering of the attendance sheet of student is that it is fast in the manner in which it receives, process and identify students within a school establishment. And lastly the system is much more efficient than the traditional manual form of information gathering because it is faster and has a higher propensity to store information.

**- It prepares students for responsible leadership of tomorrow:**

With the use of EIS each and every student is required to be identified by means of fingerprint reader in the different areas of activities the school has prescribed. This opportunity enables students to be at the right place, at the right time doing the right thing with the right attire. This procedure on its own help to prepare students towards responsible leadership by means of doing just what is expected of them. Also the world has undergone a revolutionary change in the ways information is being collected, processed and decisions taken. This EIS goes a long way to enhance all of these changes within a school milieu. This helps students to catch up with the exigencies the corporate society demands and this can be very useful to students upon certification.

- **IP SECURITY CAMERAS:**



*Fig. 4. Example of an IP security camera*

Technology has evolved in recent times and has provided an opportunity for virtual images to be processed in real time. This virtual imagery can help to foster the performances of students in school by ways of corroborating their identification, location on campus and the total number of hours spent on campus. All of these are possible with the use of EIS.

- **Visual imagery identification:**

With the use of an EIS there is a possibility of tracing every foot step of a student while on campus by means of digital imagery. This digital imagery has a propensity to record students while on campus, the different activities they carried out within the school campus, the number of hours or minutes spent within a given location and the exact activity a student carried out. All of the above mentioned are very useful in rewarding students of good behavior as their virtual images can be traced to the different activities they carried out. While stubborn students can easily be identified by means of a virtual imagery and sanction meted upon them. All of these helps the school to lay emphasis to students who need more emphasis and give less emphasis where less emphasis is needed. The biggest advantage with of EIS is that these images can be replayed repeatedly such that efficiency and accuracy are not undermined. This will improve the educational milieu as well as the educational performances of the students.

- **Easy identification of students location on campus:**

The use of EIS requires that a data base is established for each student within a given educational institution. This data base comprises of the facial image of each student, the class the student is in, the courses he or she does and the location of the classroom the student is supposed to be in. the use of Internet Protocol (IP) security camera has an advantage of facial recognition that is it can identify the face of a student who is located on campus, at the wrong place, at the wrong time and doing the wrong activity. This unique advantage of IP security cameras enables the school to step up on discipline by calling to order recalcitrant students. It has a huge propensity of reporting the exact location the IP security pick up the location of the student, the activity he or she was doing and the accomplices of the act. All of the above mentioned challenges goes a long way to improve on the performances of the recalcitrant students by means of sanctioning.

- **It can corroborate evidence where needed:**

Under the traditional educational system, virtual evidences of student's activities are totally absent. Some scrupulous teachers falsify the student's information by providing an inaccurate or a blatant lie about a student. The use of IP security cameras helps to stand as an independent referee between the teachers the student and the administration whereby the exact account of an action can be traced using a virtual means. This protects both the interest of students who are at times likely to be unfairly judged while helping to support or discredit the account provided against a student or group of students by a teacher or an administrator.

- **Human Implant Microchips:**



*Fig. 5. Example of A HIM*

With the use of EIS there is a possibility to integrate the use of human micro-chips implant. A human microchip implant is an identifying integrated circuit device or RFID transponder encased in silicate glass and implanted in the body of a human being. A sub-dermal implant typically contains a unique ID number that can be linked to information contained in an external database, such as personal identification, individual transcript of students, medical history, medications, allergies, and contact information.

- **Secured access to school**

The use of a microchip technology enables a silicate glass to be implanted into the body of students. This implantation contains a unique identification number which can easily identify a student, his location, his allergies, his medical records and his educational performance. All of these are made possible with the use of EIS by simply scanning the Microchip. Students who arrive at the gate can easily walk through it with the availability with the information that has been stored in the data base and available on the microchips this information is processed in real time and accessed is permitted. The single most importance of this microchip is that the students who queue up to be scanned by the manual detective are being facilitated by the use of a microchip

- **Easy access to Students detailed information:**

Human microchips have a possibility of ID code identification. This identification code accommodates detailed information about the student in which, in cases of an emergency the chips can be scanned and the information helps in resolving the problem. A good example where chips are highly recommendable are situations of serious medical attention which the chip may provide detailed medication on which students may be taking, his/her allergies as well as personal contacts of the parents in case of an emergency by a school administration or the authorities concerned .



- **The use of internet:**

Human microchips have the ability to integrate the usage of internet within the microchip. This provides an opportunity for a teacher or a school administrator to simply type the identification code on the internet. Information concerning the exact location of the student, the time of his or her arrival, the number of breaks and the duration taken during the break period to be provided. All of the above mentioned help to provide a healthy, conducive and efficient learning environment.

**RQ 2: How can EIS improve the quality of services and the performances of teachers in school?**

A quality service is simply an assessment of how a delivered service conforms to the client's expectation. Most business operators usually often assess the service quality provided to their customers in order to improve their services, to quickly identify problems and to better assess client satisfaction. While a teachers performance are the different technique each teacher uses as a strategy to accomplish a given task. These tasks are usually measured against preset known standards of accuracy, completeness, cost and speed. In a contract, performance is deemed to be fulfillment of an obligation, in the manner that releases the performer from all liabilities under the contract. In this same strand of reasoning, students are contract worker with the government with an obligation to deliver their terms of engagement upon agreement. EIS can help to improve the quality of services and the performances of teachers by:

➤ **Finger print readers.**

A finger print scanner is a type of technology that identifies and authenticates the fingerprints of an individual in order to grant or deny access to a computer system or a facility .It is a kind of biometric security technology that utilizes the combination of hardware and software techniques to identify the fingerprint scans of an individual. Its rules are:

- **Easy verification of teacher's presence**

In a school establishment, the workers of the school constitute those employed by the government, contractual workers and Parent Teachers Association (PTA) contract workers. All of the above mentioned personnel are in charge of shaping the future of the student put under their care by the community. Finger print readers enable teachers to improve on the quality of their services they render to the community to which the school is located. Finger print reader records the time of the arrival of each teacher, the total number of hours he spends in school, the time he effectively entered the class, the number of breaks he made within the course of his lessons, the time he actually left the classroom etc. All of these above mention checks are control by finger print reader enables the verification of his work and ensures that he has effectively performed the task he has contracted with the state to render to the community. With the implementation of finger print reader to every school within the national territory, there is a high probability that the performances and the quality of education offered by teachers within the national territory will improve because there will be greater checks and balance.

- **Efficient attendance sheet gathering**

The role of a teacher is more than just to teach while in the classroom, he equally has as an obligation to ensure that students effectively copy their notes, students are effectively present in class etc. In the past, teachers use manual papers to carry out presence and absences of students during his or her lessons. This system had so many limitations; firstly, it was time consuming. The limited number of minutes a teacher has to use in teaching is generally insufficient. In addition to this; he needs to squeeze out time and mark the names of students who effectively attended his class. This procedure is time consuming and reduces the teaching time of the teacher. Secondly; it is largely inefficient. The tradition system of collecting attendance sheet has the limitation allowing students and corrupt teachers to mark those who are absence from classes or school present on the attendance sheet. This poses a real problem because a student can commit a crime in the neighborhood and at the same time he is present in the school attendance sheet. With finger print readers the teaching jobs of teachers is made easier. First because before every student enters the classroom, they pass through a finger print scan, the advantage of this is that, the time which the teacher would have use in controlling the

attendance sheet is not more necessary as it has already been done by the finger print scanner and the teacher can thus use this time for effective teaching. Secondly, some students answer presence for their friends who are actually absent in school. With the use of a finger print reader, this will no longer be possible, because students who do not attend classes cannot give their fingers to their friends to register them present in school while they are absent.

- **It builds a serious working climate for teachers**

Education is a very important issue to families, the communities and the state of Cameroon. The priority the head of state has given to education is evidence of the primordial role education plays in our everyday life. Teachers needs to understand the seriousness that is involve in education and to do so, there is need for teachers to construct a conducive climate for education. A conducive climate is one which permits cooperation between teachers, openness to one another etc. In fact, it breaks down barriers of walls and opens up bridges of opportunities among teachers. Finger print reader can help in fostering a serious working climate for teachers by recording time and the identity of the teacher who collects books from the library, from the administration etc. All of these can help to trace back the books in time of need.

- **IP security Cameras:**

An IP security camera is a networked digital video camera that transmits data over a Fast Ethernet Link. IP cameras are also known as network cameras. It has the following advantages within a school setting:

- **Easy identification of teacher's location**

As defined above, IP security cameras are digital video cameras with a huge ability to identify teachers and give them an IP code. It can equally record in real time the activities of teachers while within a school milieu. These characteristics listed above are very important in making the school a better place. Firstly because the activities of teachers can be corroborated as evidence to the great services he or she renders to the state. This is an independent tool whose images can be replicated, processed and disseminated in real time. The ability of an IP security

camera to give codes to the faces of each teacher is a useful tool for easy location. This means that, once the teacher is within the coverage of the IP security camera, he can be identified the place where he is located, the kind of activities he is carrying out, the time the activity is being done etc. All of the above mentioned functions of the IP security cameras are very useful information to the administration for punitive (sanction) or promotional actions.

- **The possibility of Imagery**

Today, most schools in Cameroon do not have the privilege of using the technology IP security cameras offers. The disadvantage of this is that the information the teacher provide at times about his or her colleague may either be inaccurate, over exaggerated or at times completely bias. This is particularly bad and unfair to a teacher who has harmed. It is wickedness in the eyes of justice and goes against the norm of giving “Caesar to Caesar”. In this case, it could be said that, “what belong to Caesar has been given to Paul”. With the use of IP security cameras, difficulties that arises as to the conflicting account given by teachers over a particular issue has a possibility of being watched in a video with images as to the exact nature, posture, gesture and an accurate account of what actually transpired can be viewed in image.

- **It can corroborate evidence where evidence is needed**

The need for teachers to come to school during the time of their duty is imperative. Every teacher who is programmed for teaching of a given day and at a given time must show up on that day and at that time given to him by the school. This constitutes what is known as duty consciousness of the teacher. Duty consciousness can be defined as the ability to increase one’s awareness and understanding of one’s own needs, behavior, attitudes etc., especially within teaching as a profession. Today in Cameroon, that is a “decay” in the way teachers perceive their jobs. There is complete lack of interest, zeal, initiative and ethics. With the implementation of IP security cameras, this can help to foster duty consciousness by conditioning the minds of teachers to know that the time of their arrival on campus, the time they get into class, the number of break they made in the course of their lessons and the time they actually finish teaching their lessons are all being recorded with an IP security cameras. These images from IP security cameras serves as concrete evidence for teachers who effectively did their work as it can be

verifiable whereas teachers who stayed away from their duties will have no such evidence to back up their work and as a result, they should be punished due to the evidence available in IP security cameras.

➤ **Human Implant Microchips:**

A microchip is a unit of package computer circuitry usually called an integrated circuit that is manufactured from a material such as silicon at a very small scale. Human microchips are made up of microprocessor chips and computer memory (RAM). Within the school environment, microchips can be very useful in light of:

- **The Use of personal ID codes**

Technology in the world has evolve drastically such that human implant microchips which are as small as a bean seed, is capable of carrying vast capacity of information that pertains to personal information of teachers. Each microchip has an ID code which can easily be traced when combined with GPS technology. Each person has a possibility to be given a personal ID number. This number is unique and can easily identify the location and other very pertinent private information of teachers. This means that with this technology implemented within the school milieu, there are huge advantages in getting detail personal information within colleagues without moving one inch or making a long phone call. All of these are made possible simply by entering the personal ID code of a teacher through the use of an internet.

- **The availability of more personal private information**

Human microchips implant provide the possibility of accommodating different sources of an individual's private information. Among them are: the names of the teacher, the course he is teaching, the department in which he belongs, his/her financial transactions, the medical history, the medications he/she may be receiving, his/her allergies, and other contact information. All of this information are made available with the advancement in technology and can positively contribute to a teacher's welfare. A good example is a teacher who collapses in class within the course of his lectures and is rush to Yaoundé Regional Hospital.

With the availability of a human microchips plant, it is possible to look at his medical history, the drugs in which he might have been taking, the drugs in which he is allergy to etc. This information can provide a medical practitioner with a solid base through which appropriate treatment can be given to the teacher.

- **Secured access**

Microchip technology is recent, it is efficient and it is secured. By security here, we mean the chances of getting detail personal information by an intruder is limited. Firstly, part of the reason is because the technology is relatively very recent and it is not known to many people. Secondly, it is due to the fact that it requires a personal ID code number which cannot be gotten through a guess work i.e. by the game of chance. This makes microchip technology one of the most important technology schools throughout our national territory should bank on. Secured access equally means access restricted only for teachers can be guaranteed passage to the entrance with the use of human implant microchips only.

**RQ3, Is the use of an EIS efficient in making administrative decisions?**

Administration is determined action taken in pursuit of a conscious purpose. It is the systematic ordering of affairs and the calculated use of resources aimed at making those happen which one wants to happen. According to Marx. Decision making is the ability of a body to take prompt actions that affects the lives of people daily. In a secondary school setting, administrative personnel are made up of the principal, the vice principal, the discipline masters, the Guidance counsellor etc. These personnel are in charge of ensuring the smooth functioning of the school. They ensure that pedagogic materials are put in place that the time table of the school is drawn up, they ensure that the right curriculum should be used, they enforce discipline and respect in school etc. The use of EIS tools in school administration has the following advantages:

➤ **Finger print scanner**

A finger print scanner is a type of technology that identifies and authenticates the fingerprints of an individual in order to grant or deny access to a computer system or a facility .It

is a kind of biometric security technology that utilizes the combination of hardware and software techniques to identify the fingerprint scans of an individual. Its rules are:

- **Administrators can't misplace their fingerprint**

Finger print as seen above is a unique technology that distinguishes the different finger print each individual has. Science has proven in the past that no two individual shares the same finger print, not even identical twins. This unique finger print technology can serve as a very useful tool in a school administration. In the first place, it can serve as a key that opens the door of an administrator's office. This unique advantage is very important as no administrator can ever forget his finger print (key to his office) at home. Secondly, finger print reader within an administrative system has a data base. This data takes cognizance of the time the administrator came into the office, the number of hours he has spent in his office, the number of breaks he has taken and finally the time he/she leaves the office. All of these advantages EIS brings and the opportunity that comes with are not present in the current traditional system of administration. It is evident that with the use of finger print readers, the quality, the quantity and the efficiency of services rendered by the school administration will increase in quality and in quantity.

- **Efficient attendance gathering**

Finger print readers are machines that are built automatically to receive information, process the information and either validate or reject access to the processed information. Within the functioning of a finger print reader, it can be programmed to receive and record records of the fingerprint of an administrator, the time he arrives at the workplace, the duration of time he spends in the office, the total number of times he showed up on duty per week, month and even year. All of the above mentioned statistics can be analyzed for an administrator to be promoted or sanctioned. Promotion of an administrator will take place whereby the administrator has respected all the norms of the administration. That is, coming to work on time, in the right attire, improving in the administrative working climate etc. Sanction on the other hand will come in when an administrator goes against the rules and regulations of the administration. For example: coming to work late and the finger machine keeps noting repeatedly.

- **Duty consciousness to Administrators**

Psychology teaches us that (...a slight introduction of a stimulus can produce benefit which is so great.) this is equally very true when it comes to the use of finger print readers in a school administration. The mere introduction of a stimulant called finger print reader, will change the mind set of administrators. They are more likely to take duty consciousness very seriously given that their performance on duty is determined by the reports that come from the data base of the finger print reader. Duty consciousness can be defined as a sense of one's personal or collective identity, especially the complex of attitudes, beliefs, and sensitivities held by or considered characteristic of an individual or a group or and administration. From the Above, It is clear that finger print readers can positively contribute in fostering duty consciousness within an administration.

- **IP security camera.**

An IP security camera is a networked digital video camera that transmits data over a Fast Ethernet Link. IP cameras are also known as network cameras. It has the following advantages within a school setting:

- **Quick to analyze**

IP security cameras are digital video cameras with a huge ability to identify administrative personnel, give them an IP code and register the code on a spread sheet upon arrival of the administrator. It can equally record in real time the activities of the administrators while they are within a school milieu. The importance IP security camera plays in an administration are. Firstly it can be used as evidence to corroborate evidences of a punctual administrator or an unpunctual administrator. A punctual administrator is one who respects administrative rules and regulations while an unpunctual administrator is one who is disobedience to administrative orders. With the use of IP security camera,



- **Quick identification of an administrator's position within the institution**

In schools, especially secondary school the administrative personnel are made up, of the principal, the vice principal, the discipline masters, the Guidance counsellor etc. All of the above mentioned personnel are in charge of managing the internal and external activities of the school. IP cameras enable can enable the administrator to improve on the quality of their services they render to the school by simply easing up the duration of time taken to locate an administrator who may not be on seat IP security camera records the time of the arrival of each administrator, the total number of hours he spends in school, the time he effectively entered the office, the number of breaks he made within his working time, the time he actually left the office etc. All of these can be done with the use of a digital camera that picks up every footstep an administrator makes within the school milieu. With the implementation of IP security cameras to every administration within the national territory, there is a high probability that the performances and the quality of education offered by administrators within the national territory will improve because there will be greater checks and balance.

- **Future evidence**

In the traditional administrative system, virtual evidences of administrators' activities are totally absent. Some scrupulous use this as an opportunity to falsify their duty records by providing an inaccurate or a blatant lie their schedule. The use of IP security cameras helps to stand as an independent referee between the administrator and the administration in a bit to ensure that what the administrator signed up for as a job, he is in fact doing just what is expected of him. This protects the interest the administrator who at times may be judged unfairly and the administration who want discredit result of her employee.

➤ **Human Implant Microchips**

As seen above, is a unit of package computer circuitry usually called an integrated circuit that is manufactured from a material such as silicon at a very small scale. Human microchips are made up of microprocessor chips and computer memory (RAM). Within the school environment, microchips can be very useful in light of the following.

- **Unique identification for administrators**

Human microchips are made up of microprocessor chips and computer memory (RAM). These are all high tech quality devices. These devices have huge recognition ability i.e. with an implantation of a human microchip into the body of an administrative personnel, there are a greater chances of the administrator to be automatically identified by the human microchips system. Personal information of the administrator can be recorded by the human microchips system. These information will include the time the administrators came into the office, the number of places they have been through within the course of their work, the number of time they have stepped out of the school administration, the duration of time they have stayed out of the school administration, the time the administrator(s) returned into the establishment, the time he finally leaves the office etc. All of these above mentioned details information gathering by the microchip implant are very useful when it comes to, the way the administration gathers information about the administrators and it helps to boost checks and balances I the services rendered by the administrators to the school. It equally adds up to the government information stock it keeps about each government employee.

- **The use of digital codes**

Human microchips implants have seen a tremendous increase in capacity and efficiency over recent years. There have reduced in size and shape and are capable of carrying vast capacity of information that pertains to personal information of school administrator. Each microchip has an ID code which can easily be traced when combined with GPS technology. Each person has a possibility to be given a personal ID number. This number is unique and can easily identify the location and other very pertinent private information of an administrator. This means that with the implementation of this technology within the school milieu, there will be great benefit the administrators will get. Among them are; getting detail personal information within colleagues, it will be impossible to forget the microchip implant at home, the location of administrators in dangers(kidnapped) will quickly be discovered etc. All of these are made possible simply by entering the personal ID code of the administrator through the use of an internet.

- **Easy to locate the administrators especially when combine with GPS technology**

With the use of internet in the world of today, there are huge possibilities of adapting EIS tools to the internet especially when it comes to Global Positioning System (GPS). Human microchip implant can be combined with the use of a GPS, when this happens, there is real possibility of simply entering the identification code of the human implant chips of any of the administrators and their exact position anywhere within the national territory can be located. This does not only serve as an administrative measure of checks and balances, but it can equally be a useful tool for our military personnel who are in the war front i.e. every military personnel put on a microchip implant such that in cases where elements of the radical Islamic group popularly known as Boko Haram kidnap any of our men and women in uniform, GPS can point to the exact location in which he or she may be held and a well calculated strategized reinforce military personnel can be sent to the exact location to bring back the kidnapped person.

### **Conclusion**

In this chapter, we have seen the different ICT tools. That is, FPR, IPSC and HIM. We looked at definition of terms; Theories related to the use of information systems among them were LIS, MIS and EIS. We looked at HR1, HR2 and HR3 and finally we concluded. In the next chapter we will be looking at the research methodology of the project.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY OF PROJECT**

#### **INTRODUCTION**

This chapter deals with the methodology that has been adopted to carry out research. The following methods were use:

- Research design
- Population of study
- Site of study
- Target population
- Sample size and sample techniques
- Instruments of data collection
- Validity of the instruments
- Reliability of instruments
- Pilot study
- Administration of instruments
- Operational definition of variables of study
- Data analyses technique

#### **3.1. RESEARCH DESIGN:**

A Research design is a plan, which specifies how data relating to a given problem should be collected and analysed (Nworgu, 1991). It is the methodology or plan of activities to be implemented by the researcher towards the successful completion of his or her work.

In this research, a survey was done with emphasis on the questionnaire. According to Kerlinger (1968), a survey research studies smaller population through the selection and study of samples chosen from the population. This study was designed to explore FPD, IPSC and HIM and its influence performances of students, teachers and administrators .The survey design was

used because we had to collect information from a relatively large group of respondents. Therefore, the data collected and analyzed is from a smaller group of students, teachers and administrators representatives of the entire group. This data is consequently generalized on the entire population under this study. This was more economical than using the entire population. This study is carried out on a sample from 250 students from the University of Yaoundé two at soa and Government technical high School at Nkolbisson. It involved random distribution of questionnaires to students from the Law department Yaoundé II and form 5 students of Government Technical High School at Nkolbisson and the findings was generalized on the entire population. This means that it was designed to measure the relationship that exist between The use of FPR, IPSC and HIM and the performances of students, teachers and administrative personnel of the school on a smaller population and then the results were generalized to the entire population of these two institutions (University of Yaoundé II and Government Technical High School at Nkolbisson).

### **3.2 Site of the study**

This study was carried out in Yaoundé in the Center Region of Cameroon, precisely in the Mfoundi and Méfou-et-Afamba divisions. The University of Yaoundé II has two departments which include the department of Law and political science and the department of economics. On the other hand Government Technical High School overs technical education which begins from form 5. This area was also chosen due to the fact that the researcher masters the school well and knows that the students, teachers and administrators use ICT in their studies especially to get information. Secondly, the area was chosen because the topic handles issue that concerns student teachers administrators of schools. Also we wanted to minimize time and cost as well as avoid a situation where we could become constraint by time.

### **3.3. POPULATION OF STUDY**

Nworgu (1991) defines population as the limits within which the research findings are applicable. A social research like this collects data on the behaviors of humans for better predictions. The population under study could be seen as the entire group whose characteristics or behaviors are to be studied.

This strictly is carried out in the Law department of the University of Yaoundé II and form 5 students of Government Technical High School at Nkolbisson. The population for this study comprises of the students and teachers of the above mentioned establishments. The total number of students were enrolled 199 making up 80% of the entire sample population and the total number of teachers who enrolled stood at 51 making up 20% of the sample population. The reasons why I chose these locations are: These areas are equally vast forces of attraction to foreigners due to the availabilities of social services like; schools, hospitals, accessibility of road network etc. Finally the personnel of these regions are bilingual and so are the educational programs carried out in these schools thus this make these two areas a perfect site for the project.

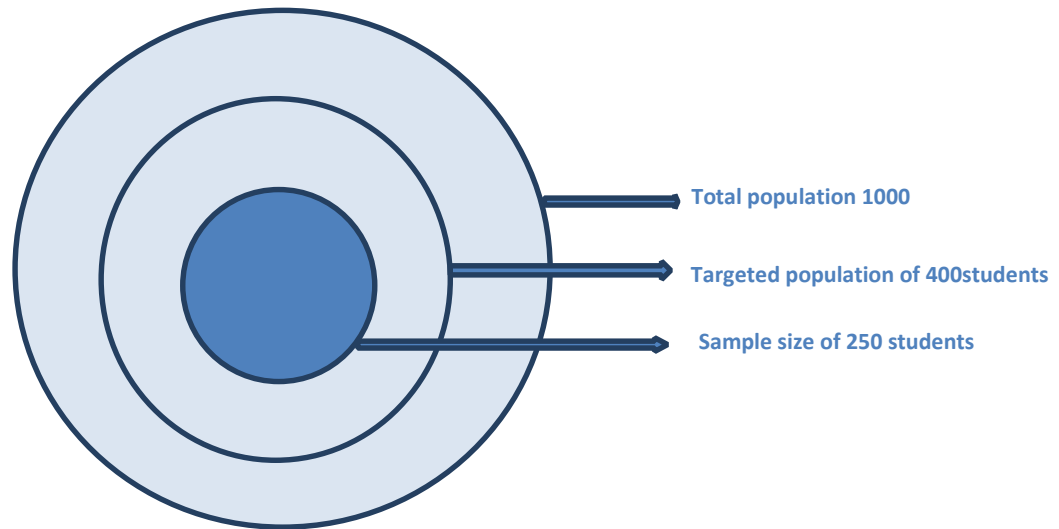
### **3.4 THE SAMPLE SIZE AND THE SAMPLING TECHNIQUE**

“A sample is a proportion of elements selected from the population which helps the researcher to make a generalization about the whole population which is a representative fraction of the population. In addition, sample serves the principal purpose of making possible the study of problems which otherwise could not be undertaken due to cost, time, personal or scope” (Osuala 1987: 107). This means that a sample helps the researcher to use a small part of the mother population in the study after which the results are generalized. This is because using the entire population for a research is expensive and time consuming. The information gotten from the data collected from the university of Yaoundé II at soa and Government Technical High School at Nkolbisson shows that the total number of students who considering the table of Krejcie and Morgan (1970), for determining the sample size for research activities, we assumed a sample size of 250 students and teachers to be representative of this population (Amin, 2005).

This study uses a random sampling technique to select its subjects. This approach helped the researcher to meet ready volunteers who accepted to collaborate in this study. This was because the researcher could only obtain data from voluntary participants who were available and accepted to complete the questionnaire at the time it was administered.

Sampling technique is the technique from which we determine the probability for drawing or getting each member of the population of the sample. The sampling method used for

this research was the simple random sampling. Also, due to the financial constraints and limited time, the researcher chose this sample to adequately represent the student population as much as possible since choosing just one class or one department could not really reflect the entire students of the population of the sample.



***Fig. 6. Sample of a population distribution***

Fig 3.4 is representation of the population of the population in a form of a circle. In this representation, the total population stood at 1000, a targeted population 400 students. These students actually were given a questionnaire but due to some errors the questionnaires were wrongly felt living us with a sample population size of 250 students and teachers.

### **3.5 INSTRUMENT FOR DATA COLLECTION**

The research instrument used to collect data for this study was questionnaire developed by this researcher in collaboration with his supervisor. There were titled questionnaire for students only. The research objectives, questions, hypotheses and literature review served as guidelines for the construction of the questionnaire. The questionnaires were solely in English. However, the class delegate of both institutions helped me in translating some questions into French for those who had difficulties understanding the questions in English

The questionnaires were essentially intended to test the research hypotheses.

The question items required the students to choose the correct answer to the question, by placing a tick on the appropriate answer. The questionnaire was made up of 25 questions. These questionnaires contain questions on general information such as; field of study, level of education, age, sex, the use of FRP, IPSC and HIM. Questions asked were meant to test the research hypotheses.

### **3.6 VALIDITY OF THE QUESTIONNAIRE**

Validity refers to accuracy of the instrument in measuring what the researcher intends to measure. In this research to attain validity, the instruments were validated in three phases, that is; face validity, content validity and reliability of instruments

#### **Face validity**

The questionnaire items were read by the researcher and other class delegates. Some students made some criticisms and suggestions. It was later given to the supervisor who read through them and confirmed that they were relevant to the objectives of the study, thereby ensuring the face validity of the instrument.

#### **Content Validity**

The items of the questionnaires were evaluated following each hypothesis posed in the research work, to determine their relevance in terms of measurement that they were supposed to measure. In this case the supervisor check if the objective of the subject where well measured by asking 5 students from Soa to respond to questions from the questionnaire. This guaranteed the content validity of the research instruments.

### **3.7 RELIABILITY OF THE INSTRUMENT**

This refers to the degree of consistency that the instrument actually measures what it was designed to measure. In this research to measure the accuracy and consistency of what the



researcher was designed to measure, the questions were designed following the research hypotheses. That is, only questions relevant to the research hypotheses were asked. Also reliability was determined by administering the questionnaire to 5 students from the University of Yaoundé II to help answer questions from the questionnaire.

### **3.8. PILOT STUDY.**

The retest was carried using 20 students each from the Mfoundi and Soa locations. These students share the same characteristics as the overall targeted population. The test and retest reliability coefficient was gotten at 0.8 and 0.85 respectively using the KP-20 coefficient.

### **3.9 ADMINISTRATION OF INSTRUMENT**

The researcher went out to administer the questionnaire in the University of Yaoundé II and Government Technical High School at Nkolbisson and we were assisted by the class delegates in both institutions in distributing the questionnaires. Also students who were found idling in the school premises were persuaded to fill the questionnaires. We however avoided giving the questionnaires to those who seemed busy, for they were going to rush over it and will not answer honestly. The questionnaire distributed were explained to the students who did not understand for them to understand, however the majority of students were satisfied in order to fill the questionnaire. This entire exercise took approximately 8 hours given that we had to move around to get some students who were willing to respond. After every session of distribution of questionnaires, we collected the questionnaires immediately and verified. Any questionnaire that was not well filled was disqualified and Out of 400 questionnaires distributed, 380 were returned but only 250 were well filled giving us a total percentage of 62.5%.

### **3.10. OPERATIONAL DEFINITION OF VARIABLES OF STUDY.**

This section shows the general and specific hypothesis, their respective dependent and independent variables, the modalities of the variables, the indicators of the modalities and the measuring scale and finally the statistics test for verifying the hypothesis.

Elmes et al (1995) state that, “variables are what makes experiments run” they go ahead to say that, effective selection and manipulation of variables makes the difference between a good experiment and a poor one. There are two types of variables used in this work;

### **Independent variables**

These are variables that can be manipulated in order to access their possible effects on the dependent variables. In this study, the independent variables include; Finger print Reader, Internet protocol Security Cameras and Human Implant Microchips. The independent variables were presumed to have an effect on the other variables that is the dependent variables.

### **Dependent variables**

The dependent variables depend on what the independent variable does to it, how it affects it. It is that variable that depends on another variable. It is the characteristics that are being predicted when statements of hypothesis are made. This variable might change depending on the researcher’s manipulation of the variables. In this work, the dependent variable for this study is the means of collecting attendance sheet.

The data analyses were coded as items in the questionnaires represent the variables that the questions were design to measure. For the purposes of this scientific research work, the close questions were used with students, teachers and administrative personnel limited in their responses to the questions asked. They had to choose either A, B, C and D.

**A= I partially agree   B= i do disagree   C= i completely disagree   D= I neither agree nor disagree.**

Other questions on the questionnaires had to do with a YES or NO answer. For questions that respondents were optimistic about, a YES was given while for questions that respondents were negative about, a simple NO was marked. Finally some questions were left open for proposals

### 3.11. DATA ANALYSES TECHNIQUES.

The method of analysis in this study is based on each hypothesis of the study. Each hypothesis was restated and measurement for each schedule was identified. The descriptive method was used. The statistical method was based on comparing the two percentages observed.

#### COMPARAISON DE DEUX POURCENTAGES OBSERVÉS

- **U ou epsilon :**

$$u = \frac{|P_a - P_b|}{\sqrt{\frac{P * (1-P)}{N_a} + \frac{P * (1-P)}{N_b}}}$$

- $u_{\alpha}$  est lu dans la table de l'epsilon.
- $u_{5\%} = 1,96$
- Décision
- Si  $u > u_{\alpha}$  on rejette  $H_0$ . Il existe une différence statistiquement significative. On cherche le degré de signification  $p$
- Si  $u < u_{\alpha}$  on ne peut pas rejeter  $H_0$ . Attention au risque Beta.
- Remarque : le  $u$  est la racine carrée du khi 2 que l'on aurait pu calculer.

#### CONCLUSION

From this chapter, we are able to present: research design, the Population of study, Site of study, target population, Sample size and sample techniques, Instruments for data collection, Validity of the instruments, Reliability of instruments, Pilot study, Administration of instruments, Operational definition of variables of study and finally the Data analyses technique.

The next chapter will help us to focus on the presentation done while on the field.

# CHAPTER FOUR:

## PRESENTATION AND ANALYSES OF DATA

### 4.0. INTRODUCTION

This chapter is to analyze a collected data from the field of SOA and Yaoundé 7. In analyzing this work, 154 students responded to our questionnaires. The students comprised of those of level one (1) in the faculty of law and political science in the University of Yaoundé two (II) at Soa. The total number of students that responded to these questionnaires in the university of Yaoundé two (II) stood at 154, while the total number of students who responded in Government Technical High School at Nkobisson stood at 45 and hypothesis will be analyzed using the Chi-square test( $\chi^2$ ).

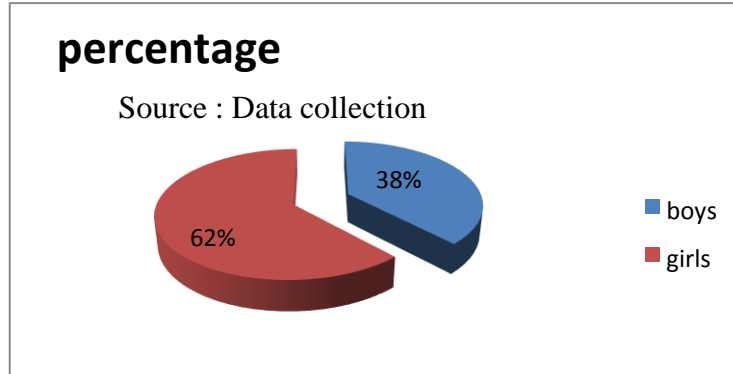
### 4.1. PRESENTATION AND ANALYSES OF DATA ON GENERAL INFORMATION

In this chapter, we will present data collected in their respective with key emphasis to percentages relating to age, sex and the response given to each student according to the response of the questionnaire each student answered. To give a broad perspective on the understanding of the answers each individual filled, the response to each question base on finger print scanner, IP security cameras and human microchips will be analyzed as seen below.

The table below shows the general statistic on the number of boys and girls who took part in the exercise.

*Table 1: The Statistical Distribution in terms of sex*

Sex	Percentage
Boys	38%
Girls	62%
<b>Total</b>	<b>100%</b>



Source: Data collection

Table 1 above shows the distribution in terms of sex. The sex are divided into two, based on the information received, 95 boys answered present and 155 girls were present. This gave a total percentage for boys 35% and the total percentage of girls 62% making a total percentage of 100% out of a total population of 250 people. From the percentage chart, we can see the representation of girls is bigger than the representation of boys almost twice the population of boys. The simple conclusion we can deduce from table 1 is that more girls participated in the collection of data than boys

***Table 2: The Distribution of data in terms of age range of the sample***

<b>Age</b>	<b>parentages</b>
(14 - 16)	14%
(16 - 18)	26%
(18 - 20 )	42%
(20 - 22)	10%
(22 - 24)	8%
<b>Total</b>	<b>100%</b>

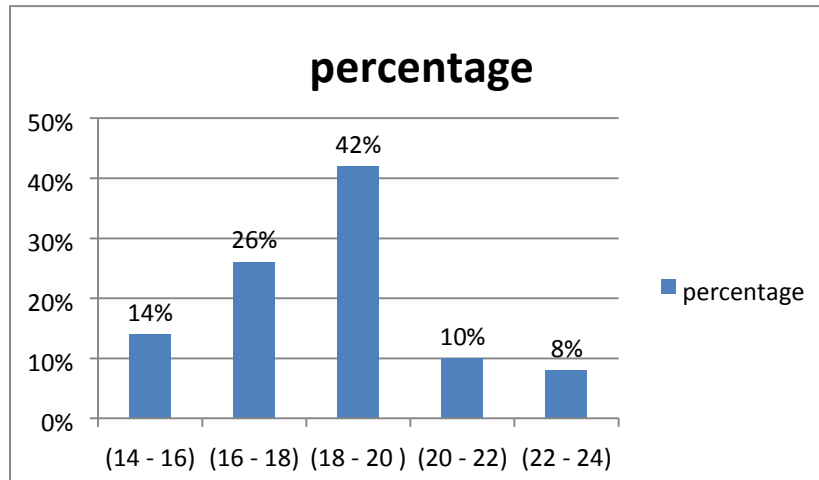


Table 2 shows a distribution in terms of age range of the population. The ages were grouped into ranges and the total numbers of range were 5, with an age difference of 2 years per each range. Range (14-16) had a frequency of 35 making a population of 14%. Range (16-18), had a frequency of 65, making its percentage 26%. Range (18-20) had a frequency of 105, making it a percentage of 42%. Range (20-22) had a frequency of 25, giving it 10%. Finally, range (22-24) had a frequency of 20, giving it 10%. On the part of the chart of table 2 we can see that the age range start from (14-16) and increase steadily through (16-18) it reaches its peak within the age range of (18-20) with a total percentage of 42% and from there on, it starts falling gradually from the age range of (20-22) with a percentage representation of 10% and finally the age range of (22-24) has the lowest age representation of 8% with as can be seen above.

***Table 3: Distribution of sample to the extent in which finger print readers can be use in schools and classrooms***

<b>Modalities</b>	<b>Percentages</b>
I totally agree	20,0%
I don't know	34,8%
I agree	38,0%
I fairly agree	7,2%
<b>Total</b>	<b>100%</b>

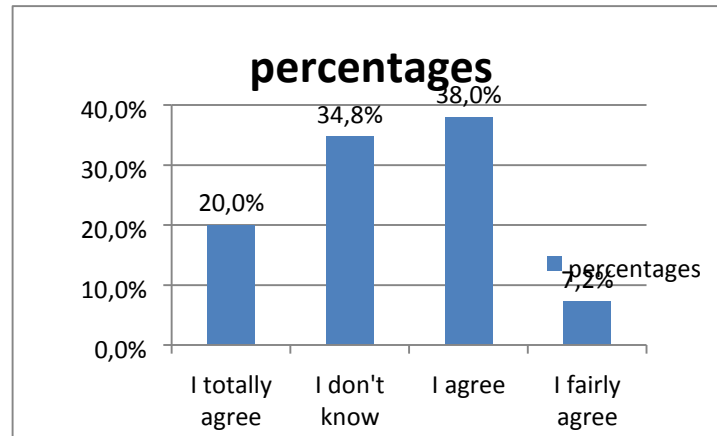
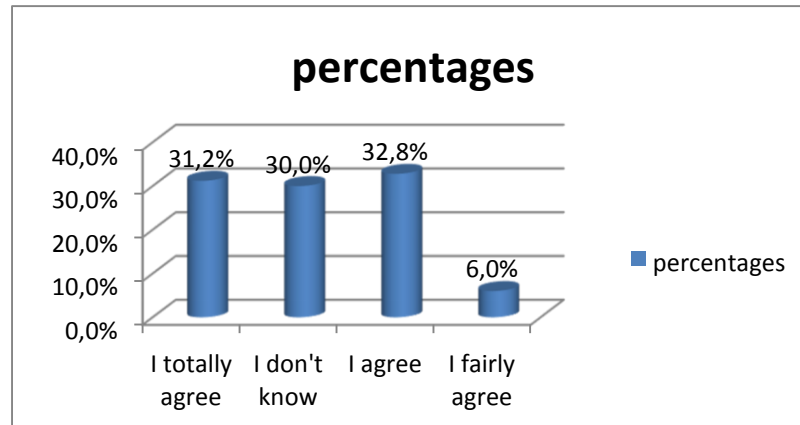


Table 3 above shows a distribution to which the extend in which FPR should be used in schools. The table consists of modalities, Frequencies and Percentages. In this table, 50 students responded to “ I totally agree”, making a percentage of 20%. 87 students stated that “I don’t know” giving it a percentage of 34.8%.In the same way, 95 students responded to “I agree” to the question making it 38% while 18 students responded to “I fairly agree” making it 7.2%.All of these percentages gives 100% in a population of 250 respondents. From the chat representation, it can be seen that 50 students responded to “I totally agree” giving a percentage of 20%.This number increased when we look at the total number of students who said “I don’t know” which were 87 of them giving a total population of 34.8 on the chat. The total number of respondents who said “I agree” were 95 making a total population of 38.0% and lastly the total number of respondent who said “I fairly agree” 18 giving a population percentage of 7.2% as seen above.

***Table 4: The Distribution to the extend to the use of Finger Print reader will help to improve the performances in school***

<b>Modalities</b>	<b>Percentages</b>
I totally agree	31,2%
I don't know	30,0%
I agree	32,8%
I fairly agree	6,0%
<b>Total</b>	<b>100%</b>



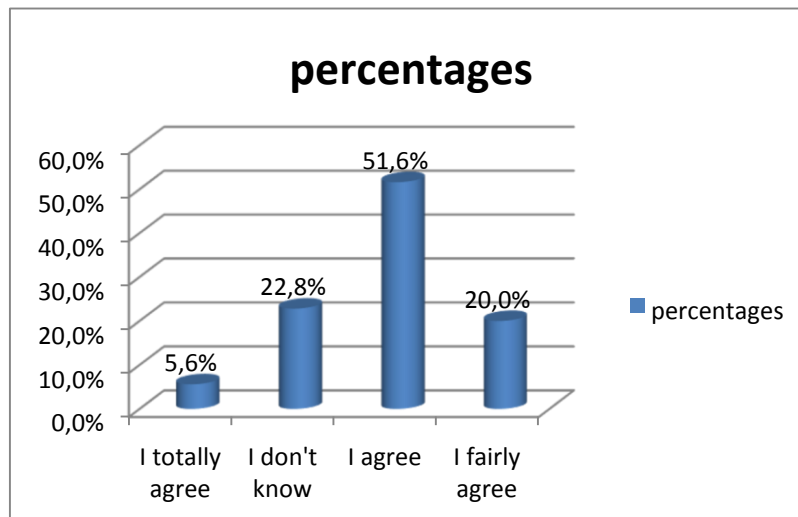
Source : Data collection

Table 4 this table shows the extent to which FPR will help to an improve performances in school. In this table, out of 250 respondents, 78 responded to “I totally agree” making a percentage of 31.2%. In the same table, 75 students responded to “I don’t know” making it a total of 30%. 82 students responded to “I agree” making it 32.8% and finally, 15 students responded to “I fairly agree” giving it a total of 6%.In can be seen from the above data that the total population was 250 students and teachers and the percentage was 100%.. From the chat representation, it can be seen that 78 students responded to “I totally agree” giving a percentage of 31.2%.This number barely reduced when we look at the total number of students who said “I don’t know” which were 75 of them giving a total population of 30% on the chat. The total number of respondents who said “I agree” were 82 making a total population percentage of 32.8.0% and lastly the total number of respondent who said “I fairly agree” 15 giving a population percentage of 6% as seen above.



**Table 5: The Distribution to the extend to the use of Finger Print reader will increase the efficiency and punctuality of teachers**

<b>Modalities</b>	<b>Percentages</b>
I totally agree	5,6%
I don't know	22,8%
I agree	51,6%
I fairly agree	20%
<b>Total</b>	<b>100%</b>



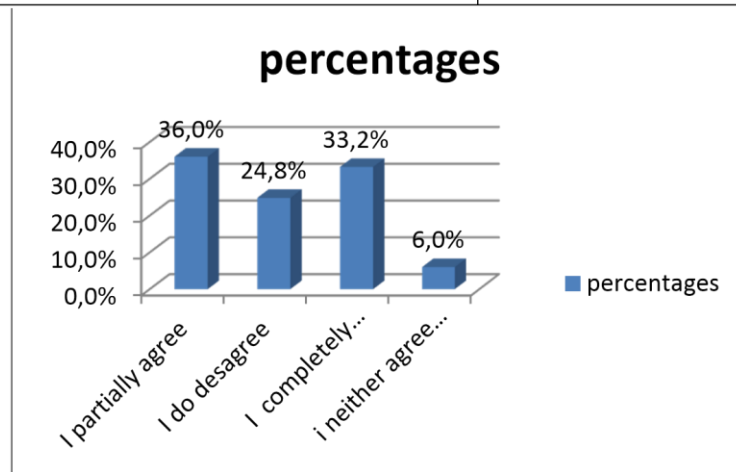
Source : Data collection

Table 5 in the above table, the distribution was to what extent to which finger print readers will increase the efficiency and punctuality of teachers and administrators. The table was arranging into 3 columns made up of modalities, frequencies and percentages. As seen on the table above, 14 respondents answered “I totally agree” Making it a percentage of 5.6%, again, 57 respondent answered “I don’t agree” giving it 22.8% of the population. Also, 129 respondents answered “I agree” making it 51.6% of the population. Finally, 50 respondents answered “I fairly agree” thus making it 20% of the population. Adding all of the percentages together, we have a total percentage of 100% in a total population of 250 teachers and administrators. . From

the chat representation, it can be seen that 14 students responded to “I totally agree” giving a percentage of 5.6%. This number increased when we look at the total number of students who said “I don’t know” which were 57 of them giving a total population of 22.8% on the chat. The total number of respondents who said “I agree” were 129 making a total population of 51.6% and lastly the total number of respondent who said “I fairly agree” 50 giving a population percentage of 20% as seen above.

**Table 6: The Distribution to the extent to the use of Finger Print reader will lead to new problems**

Modalities	Percentages
I partially agree	36%
I do disagree	24,8%
I completely agree	33,2%
I neither agree no disagree	6%
<b>Total</b>	<b>100%</b>



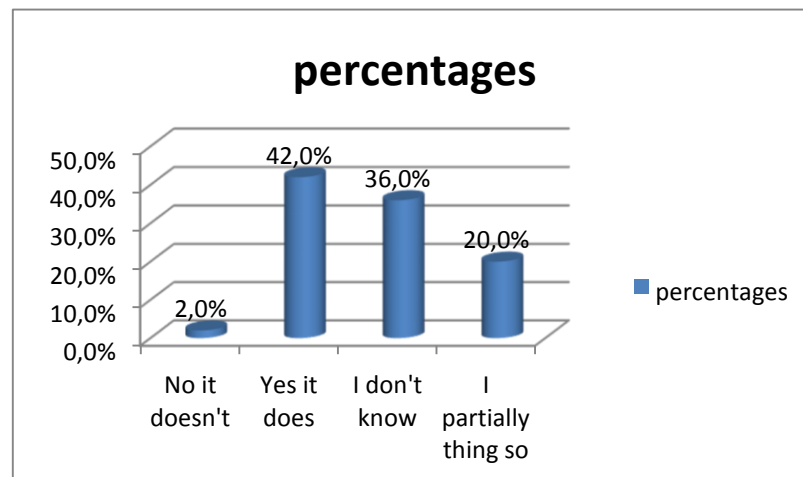
Source : Data collection

Table 6 shows a distribution to the extent to which FPR will lead to a new problem. . The table was arranging into 3 columns made up of modalities, frequencies and percentages. From the above table, 90 respondents responded to “I partially agree” giving it 36%. Again, 62 respondents answered “I do disagree” making a percentage of 24.8%. Furthermore, 83 respondents answered to “I completely agree” making it a percent of 33.2% and finally, 15

respondents answered to “I neither agree nor disagree” giving it a percentage of 6%. In can be seen from the above data that the total population was 250 students and teachers and the percentage was 100%. From the chat representation, it can be seen that 90 students responded to “I partially agree” giving a percentage of 36%.This number fell when we look at the total number of students who said “I do disagree” which were62 of them giving a total population of 24.8% on the chat. The total number of respondents who said “I completely agree” were 83 making a total population of 33.2% and lastly the total number of respondent who said “I neither agree nor disagree” 15 giving a population percentage of 6% as seen above.

***Table 7: The Distribution on if the use of security cameras in schools will have a physical effect on the behaviors of teachers and students***

<b>Modalities</b>	<b>Percentages</b>
No it doesn't	2%
Yes it does	42%
I don't know	36%
I partially thing so	20%
<b>Total</b>	<b>100%</b>

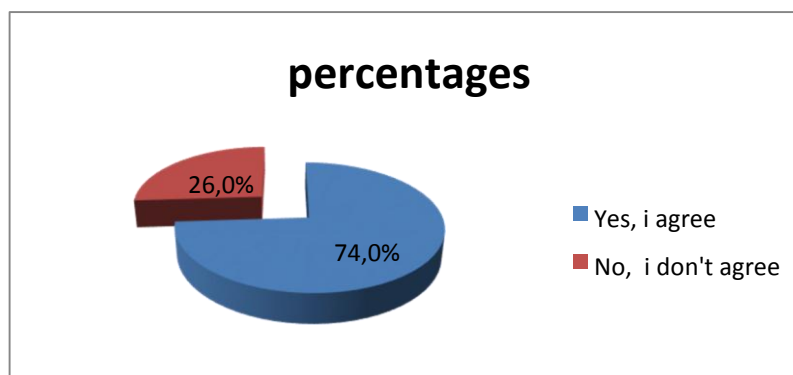


Source : Data collection

Table 7 shows the distribution to an extent to which IPSC will have a physical effect on the behavior of teachers and students. From the table, 05 respondents answered to “No it doesn’t making it a percentage of 2% of the total population. 105 respondents responded to “Yes it does” leading to a percentage of 42% of the population. Again, 90 respondent answered t” I don’t know” making a percentage of 36% of the sample population. Lastly, 50 respondent responded to “I partially think so” making it a percentage of 20%. Adding all of the percentages together, we have a total percentage of 100% in a total population of 250 teachers and administrators. . From the chat representation, it can be seen that 05 respondents responded to “No it doesn’t” giving a percentage of 2%.This number increased when we look at the total number of students who said “yes it does” which were 105of them giving a total population of 42% on the chat. The total number of respondents who said “I don’t know” were 90 making a total population of 36.0% and lastly the total number of respondent who said “I partially think so” 50 giving a population percentage of 20% as seen above.

***Table 8: The Distribution on if there is a significant difference between a shift in the use of attendance sheet, from manual to digital Finger Print reader***

<b>Modalities</b>	<b>Percentages</b>
Yes, i agree	74%
No, i don't agree	26%
<b>Total</b>	<b>100%</b>

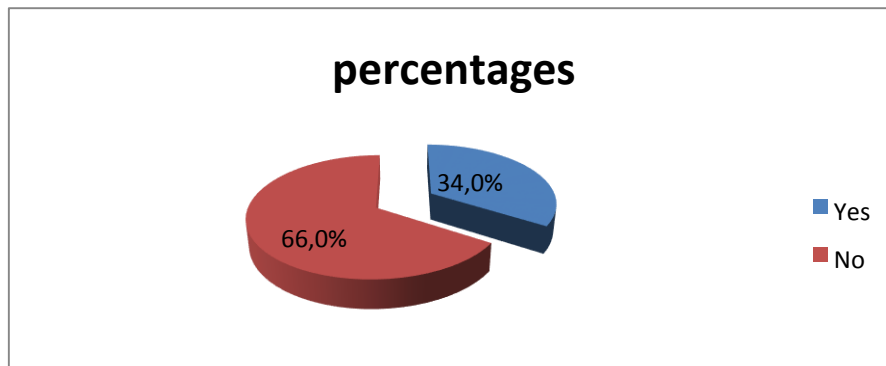


Source: Data collection

Table 8 above shows the distribution on if there is a significant difference between a shift in the use of attendance sheet from manual to digital FPS. The table consists of modalities, Frequencies and Percentages. From the table, 185 respondents responded to “Yes I agree” making it a percentage of 74% while 65 respondents answered “I do not agree” making it a percentage of 26%. In can be seen from the above data that the total population was 250 students and teachers and the percentage was 100%.. From the chat representation, it can be seen that 185 students responded to “yes I agree” giving a percentage of 74%.while 65 said “I don’t know” giving a percentage of 26%.

**Table 9: The Distribution on if the learning institutions where u are studying have an IP security camera**

<b>Modalities</b>	<b>Percentages</b>
Yes	34%
No	66%
<b>Total</b>	<b>100%</b>



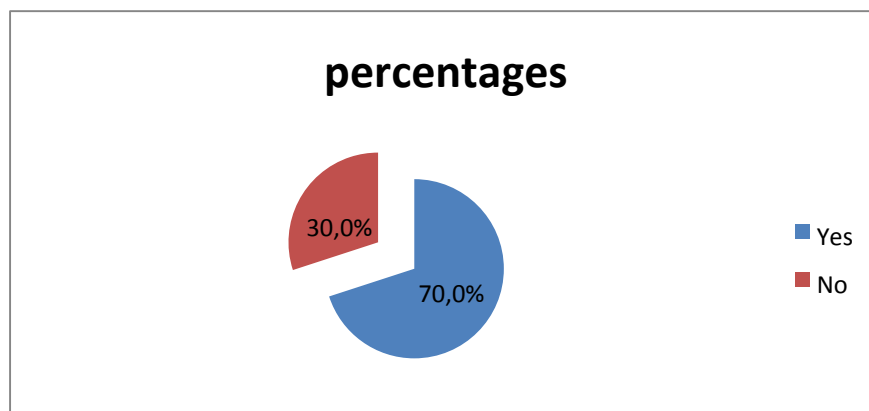
Source : Data collection

Table 9 above shows the distribution on if the learning institution where the respondent is studying have an IPSC. From the responses given, 85 respondents answered “yes” to the question giving it a total percentage of 34% while 165 respondents responded to “NO” giving a percentage of 66% of the total population of 250 respondents. From the chat representation, it

can be seen that 85 students responded to “yes” giving a percentage of 34%.while 165 said “No” giving a percentage of 66% on the chat.

**Table 10: The Distribution on the place of technology usage in school.**

<b>Modalities</b>	<b>Percentages</b>
Yes	70,0%
No	30,0%
<b>Total</b>	<b>100,0%</b>

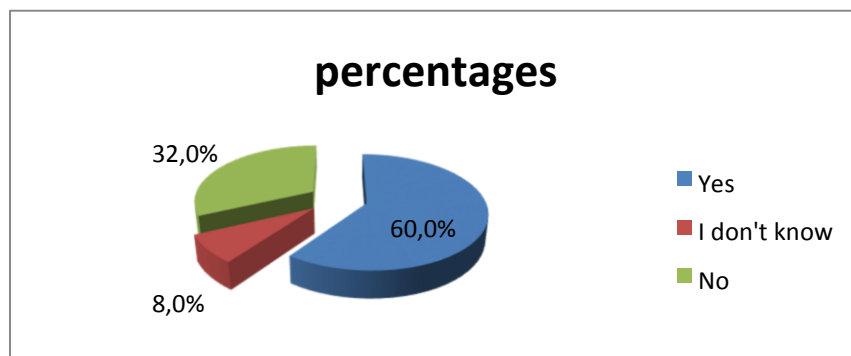


Source: Data collection

Table 10 shows the distribution on a place in the use of technology in schools. From the total number of respondents, 175 answered “yes” with a total percentage of 70% while 75 respondents answered “No” in a population of 250 making it 30% of the total population. From the chat representation, it can be seen that 175 students responded to “yes” giving a percentage of 70%.while 75 said “No” giving a percentage of 30% as seen on the chat.

**Table 11: The Distribution on the opinion if new ICT tools in school will lead to distraction to learners and administrators**

<b>Modalities</b>	<b>Percentages</b>
Yes	60,0%
I don't know	8,0%
No	32,0%
<b>Total</b>	<b>100,0%</b>

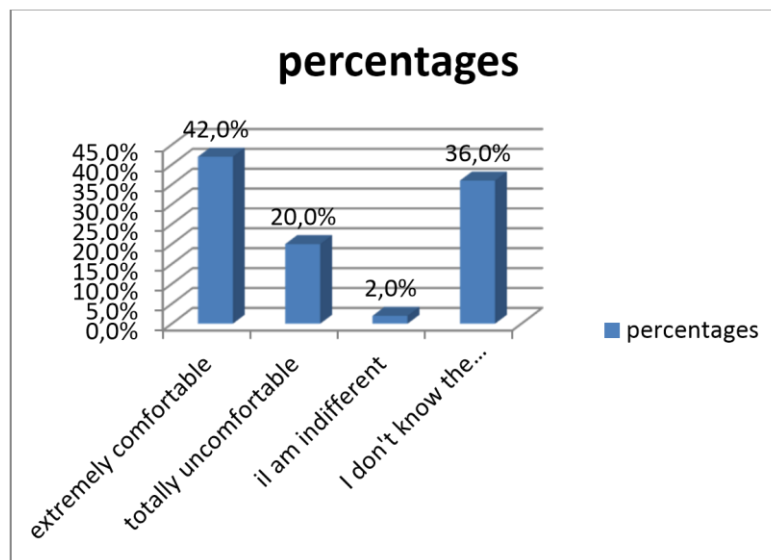


Source: Data collection

Table 11. As seen above takes data on the opinion of if new ICT tools will lead to a distraction to the learner and administrators. From this table, 150 respondents responded to a “yes” in a population of 250 giving a population of 60%. Also, 20 respondents in a total population of 250 responded to “I don’t know” giving it a total percentage of 8% and lastly, 80 respondents replied “No” giving it a percentage of 32% of the total population of 250 respondents. From the chat representation, it can be seen that 150 students responded to “yes” giving a percentage of 60%. Again, 20 said “I don’t know” giving a percentage of 8% and finally 80 respondents said “No” making a percentage of 32% as seen on the chat.

**Table 12: The Distribution on camera surveillance by authorities while on campus.**

<b>Modalities</b>	<b>Percentages</b>
Extremely comfortable	42,0%
Totally uncomfortable	20,0%
I am indifferent	2,0%
I don't know the answer	36,0%
<b>Total</b>	<b>100,0%</b>



Source : Data collection

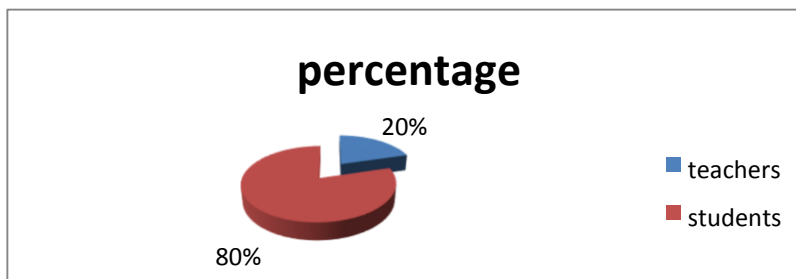
Table 12. This table shows the distribution of camera surveillance by school authorities while on campus. . The table was arranging into 3 columns made up of modalities, frequencies and percentages. From the table, 105 respondents said ‘extremely comfortable’ giving a total percentage of 42%. Again, 50 respondents responded to “totally uncomfortable” making up 20% of a population of 250. Furthermore, 05 respondent replied “I am indifferent” giving a percentage of 2% and finally, 90 respondents said “I don’t know the answer “making it a



percentage of 36%. In can be seen from the above data that the total population was 250 students and teachers and the percentage was 100%.. From the chat representation, it can be seen that 105 respondents responded to “extremely comfortable” giving a percentage of 42%.This number reduced when we look at the total number of respondents who said “Totally comfortable” which were 50 of them giving a total population of 20% on the chat. The total number of respondents who said “I am indifferent ” were 05 making a total population of 2% and lastly the total number of respondent who said “I don’t know the answer” 90 giving a population percentage of 36% as seen above.

**Table 13: The total number of teachers and Students who respond the questionnaire**

<b>Personnels</b>	<b>Percentage</b>
Teachers	20%
Students	80%
<b>Total</b>	<b>100%</b>



Source: Data collection

Table 13 above shows the total number of teachers and students who provided the above mentioned data. From the table, 51 teachers responded to the information giving a total percentage of teachers respondents of 20.4% while 199 students responded to the questions giving it a total percentage 79.6% of the population of 250. . From the chat representation, it can be seen that 51 teachers responded to the questions giving a percentage of 20%. While 199 students responded to the questions giving a percentage of 80% as seen on the chat.

➤ Comparing the percentages of table 4

Modalities	Percentages
I totally agree	31,2%
I don't know	30,0%
I agree	38,8%
I fairly agree	6,0%
<b>Total</b>	<b>100,0%</b>

=

Modalities	Effective	Percentage
<b>Yes</b>	160	64%
<b>No</b>	90	36%
<b>Total</b>	<b>250</b>	<b>100%</b>

$$H_0 = 50\%$$

$$H_1 \neq 50\%$$

$$n = 250$$

$$P = 0.62$$

$$T = \frac{|P - H_0|}{\frac{\sqrt{P \times (1 - P)}}{N}}$$

$$T = \frac{0,64 - 0,50}{\frac{\sqrt{0,64 (1 - 0,64)}}{250}}$$

$$T = \frac{0,14}{\sqrt{\frac{0,64 \times 0,36}{250}}}$$

$$T = \frac{0,14}{\sqrt{\frac{0,2304}{250}}} \quad T =$$

$$\frac{0,14}{\sqrt{0,0009216}}$$

$$T = 4,611$$

➤ Comparing the percentages of table 7

Modalities	Percentages
No it doesn't	2,0%
Yes it does	42,0%
I don't know	36,0%
I partially thing so	20,0%
<b>Total</b>	100,0%

=

Modalities	Effective	Percentage
<b>Yes</b>	155	62%
<b>No</b>	95	38%
<b>Total</b>	250	100%

$$H_0 = 50\%$$

$$H_1 \neq 50\%$$

$$n = 250$$

$$P = 0.62$$

$$T = \frac{|P - H_0|}{\sqrt{\frac{P \times (1 - P)}{N}}}$$

$$T = \frac{0,62 - 0,50}{\sqrt{\frac{0,62(1 - 0,62)}{250}}}$$

$$T = \frac{0,12}{\sqrt{\frac{0,62 \times 0,38}{250}}}$$

$$T = \frac{0,12}{\sqrt{\frac{0,2356}{250}}}$$

$$T =$$

$$\frac{0,12}{\sqrt{0,0009424}}$$

$$T = 3,9$$

# **CHAPTER FIVE:**

## **SUMMARY OF FINDINGS, DISCUSSIONS AND RECOMMENDATIONS**

### **SUMMARY OF FINDINGS**

The purpose of this chapter is to discuss and interpret findings of this research in relation to some of the views shared by some renowned authors who have written extensively on the use of ICT tools in schools and in the administration. This chapter will equally look at some of the limitations of the use of EIS in schools as well as some proposals in regards to the project we have envisaged.

#### **5.1. DISCUSSION OF FINDINGS**

In analyzing the questionnaire, we realized that the major problems that the school faces at the level of students, teachers and the administrators can be resolved to a very large extent by the use of ICT tools such as FPR, IPSC and HIM. These variables have the following relationship as shown by our research result.

- There exist a significant relationship between the use of FPR and student performances in school, this can be seen in the table 4 of the data collection. A reduced sample of the data to yes or no gave the following result: Total number of students who answered yes amounted to 160 giving a total percentage of 64% while the total number of students who answered no to the collected data amounted to 90 giving a total percentage of 36 percent based on the comparison of the two outputs observed, it can be seen clearly that there exists a significant relationship between the use of FPR and the performances of students in school. (That is, the way attendance sheet is conducted, the time the students come to class, the number of classes they attend) and the manner in which they perform at the end of their examination.

- There is a significant relationship between the use of IPSC and responsible behavior of teachers and students within the school milieu. This is evident from the information collected from the data. As can be seen on the data collection, the total number of students who responded yes to this question amounted to 155 giving a total percentage of 62 while the total number of students who responded no to this question amounted to 95 giving a total percentage of 38%. Based on the data collected, it is evident to say that there is a significant relationship between the use of IPSC and responsible behavior of teachers and students in a school milieu.

- Finally, it can be induced from the two above that there is a significant link between the use of HIM in school administration and an increase in the performances of teachers, students and the administrators. Even though evidence to corroborate this fact is yet to be concluded.

## **5.2. THE USE OF FINGER PRINT READER AND THE PERFORMANCES OF STUDENTS IN SCHOOL**

The problems students face in schools on daily bases are numerous, ranging from inefficiency in the attendance sheet recording, corrupt practices by some teachers and lack of duty consciousness by some teachers. By poor attendance sheet gathering, we mean, there are high tendencies of students to provide incorrect or bias record due to the inefficiency in collecting data through the manual system by this, we mean some teachers maybe in class but are marked absent due to human error or bad faith and on the other hand, some students might not be in school but due to corrupt practices and peer influence can be marked present.

When we talk of corrupt practices by some teachers, we are referring to all of those actions that goes against the teaching norms and ethics. Among them are; an exchange for marks with money, sexually transmitted marks (STM), rape, violence.

By a lack of duty consciousness, we mean that a teacher is unaware at the time he is supposed to be in school, he comes to class late at times 15 minutes to the end of the class and he leaves the class early, he dresses poorly, he lacks initiative etc. We realized that all of the above mention problems have a direct impact on the performances of the students and to adequately

improve on the problems, we discovered that FPR, IPSC and HIM play a key role in providing digital footprint evidences which can serve as a solid base for sanction where sanctions are due. It can help for self-discipline for those who need a motivation.

### **5.3. THERE IS A DIRECT RELATIONSHIP BETWEEN RESPONSIBLE BEHAVIORS AND THE USE OF IPSC TOOLS**

Responsible behavior within the school milieu entails that, be it the student, a teacher or the administrative, personnel should be at the right place, at the right time, doing the right thing in the right attire. ICT tools on the other hand are all of those tools technology has created and helps man to improve on the quality and the quantity of his services. In this project, ICT tools included FPR, IPSC and HIM. All of these tools were working in combination with EIS for efficiency and accuracy. The outcome of this combination could be term “excellent” as many people raised the issue of privacy and how some of their unprofessional behavioral could easily be identified with the use of such system. Some of them raised the issue that more punctuality and responsible behaviors are most likely to be seen within the school establishment, not just for administrative personnel, but equally for teachers and students as well. All of these in all fairness can be seen as a right step to a right direction. A direction which will enable her to realise her vision of 2035 within due time.

### **5.4. A DIRECT LINK BETWEEN ICT TOOLS AND AN INCREASE IN PERFORMANCES FOR TEACHERS AND STUDENTS ALIKE:**

ICT tools has proven over recent time to be the most efficient means of collecting, storing and retrieving information. In this project, information was received through three main sources namely; FPR, IPSC AND HIM. All of these sources mentioned above receive information within the school milieu and send it to the main server where the data base is hosted, the information is processed and stored and it can be retrieved by an administrator by the click of a botton. Some of the advantages involve in ICT tools are; information can be replicated within a very short period of time without compromising with the quality of the image. Again, with ICT, analyses can easily be made within a very short period of time for effective decision. This process on its own helps to boost the speed at which the administration moves.

An increase in the performances of students and teachers can be directly link to the use of ICT tools within an establishment. For students, ICT tools as shown by the research result, has shown to be positively supportive to students as attendance sheet have 100% chances of accuracy. This enables students who needs special counseling session to be easily referred. On the part of teachers, ICT tools as shown by the experiment conducted will stimulate their duty consciousness and provide a conducive ground for ethical, professional and a more human environment which will be conducive for studies.

### **5.5. THE IMPORTANCE OF THE STUDY TO A GUIDANCE COUNSELOR**

A guidance counselor is someone who have undergone two years of professional training in a recognize institution (ENS) and has been recognized by the institution with a certificate attesting to the training he/she has undertaken. The role of a guidance counselor in a school establishment is intermediary. He/she resolve problems between students, he or she resolves problems between student and teachers, he/she resolves problems between students and the administration. The guidance counselor equally has as a role to resolve problems between teachers and the administrators. With the introduction of an EIS within the school milieu, the duties of the counselor will not be to ensure that system as a whole works rather, it facilitates his task as a counselor as he/she will concern his/herself with the information that is derived from the system.

#### ***a- The importance of the EIS to a guidance counselor:***

The use of EIS is not an end in itself, but a means to an end. By this, we mean that the use of FPR, IPSC and HIMC does not directly concern the work of a guidance counselor in school. It is the information derived from the system (EIS) that the guidance counselor is pre-occupied with. The importance of this system to a guidance counselor will include;

- **Easy identification of special cases**

With the use of an EIS, detailed information of each student can be identified on the data base of the system. These information include the time of arrival of each student, the number of hours spent in school, the number of classes attended, the duration each student in class. All of these detailed information helps the guidance counselor to identify cases that are irregular as there will appear as irregular on the spread sheet. Students of this caliber will be called up for counselling session and where required therapeutic remedies could be prescribed. On the other hand, students who are regular in school can be called up for encouragement or use as a good example or a model to those who do not respect the norms of the school.

- **There is a gain in time**

The use of an executive information system requires that information is being updated automatically by the machine. This information gathering is usually faster as the machine is capable of updating all information processed in it by itself. This procedure has led to an increase in the speed at which information can be disseminated, not only quantitatively, but equally qualitatively. In the manual process, information gathering was done by the use of paper and a pen. This procedure is quit cumbersome as information needs to be collected from one department to another, documents could be missing along the way, human errors are most likely to occur within the process of analyzing etc. The use of EIS, reduces all of these risk involve in the manual process to a much more efficient process within due time.

- **It is efficiency**

The use an EIS requires the implementation of high quality technology. This system enables the use of high-tech supper speed computer, which is a computer capable of processing information from different ICT tools such as FPR, IPSC and HIMC. All of this information is being processed simultaneously with the use of high-tech supper speed computer. The information provided by this system is accurate as it can be verified and re-verified. This makes the EIS a much more efficient system of gathering information within a school milieu.



- **It is standardized**

The rules that are involve in the use of an EIS, have no exception. That is to say everybody without an exception plays by the same rules for example, an EIS uses finger print reader to collect attendance of students, teachers and administrators. Any of these persons who do not show an effectively scan his/her finger on the finger print scanner, is certainly absent from the school milieu. An evidence of it can be produce by the machine corroborating the fact the person concern did not show up within the school milieu.

- **Reduction in paper work**

The implementation EIS requires that a machine should be use. These machines are capable of presenting information in an electronic version (E-version). This means that less physical papers are being used. This makes the offices of teachers and administrators more organized and friendly because most of the work that would have been done using papers are capable of being stored in an E-version. This has numerous advantages when we look at it in terms of replication of the materials, dissemination of the materials and storage.

## **5.6. IMPLICATIONS**

The work of a guidance counselor is huge, and for his/her services to be efficient on the field, there is a need to use a holistic approach. A holistic approach is one which takes into consideration every detailed information within and without the school institutional system. This approach call for all vital actors to play a key role in determining the life or destiny of every student. Among the actors are competent authorities of the school, guidance and counselor, parents, the community of which the school is located, the ministries in charge of education.

On the part of competent school authorities, it is important to organize professional workshop programs aimed at boosting the quantity and the quality of the outputs of the competent school authority. By the quality of output, we are referring to professional training that has a propensity to understand how the psyche of students function and it is equally capable of providing smart solutions to problems aimed at preventing students from getting into trouble. By quantitative output, we mean output that is capable of solving massive problems that is, it

takes into consideration a wide spectrum of problems and not just isolated cases. A quantitative output carries a wide vision for everybody in an institution. It provides standardize ethics through which everyone can comply.

On the part of guidance counselor, the use of EIS will facilitate the tasks of identifying critical cases that needs special attention. It is important to reiterate that a guidance counselor should not use the information provided by the EIS to group counseling. This is because the EIS is capable of generating critical cases which will need a face to face counseling. The use of an EIS can enable counselor to develop new theories, adapt to new practical realities as well as increase their level of professionalism. Should the guidance counselor provide only general counseling, special cases with severe attention may go without identification. This will post a problem not just to the institution concern, but equally to the families, communities and the entire community where the student lives.

Parents play a primordial role in shaping the behavior of students. It is in the family that the students acquire his/her first informal education. It is upon this education that the school can build a better foundation for the student. There are students who live their houses and do not reach the school campus. On the other hand, there are students who leave the school campus and do not arrive at their homes. This create a real problem to all actors involve in education. To resolve this problem, an EIS can play a key role in providing vital digital information on the activities of the students while on campus. EIS can equally accommodate the time the parent makes a call or sends an email into the institution, the duration of the phone call and in some cases a recorded version of the entire conversation can be regenerated. This will help to reduce and eventually eradicate all bad behaviors that students practice between their homes and the school, and vice versa.

The role of the community is a vital one. The community charges itself with the obligation to ensure that every student meet the standard of basic education, by so doing, the community is in charge of reporting to the school authorities behaviors of students that are against the civic norms of the society. EIS can link the bridge between the school and the community by providing allowances for new technological tools such as phones, emails, Skype, what Sapp. These new technological tools can easily be accommodated by the EIS, thereby providing a lifeline through which radical behaviors students can be brought to order.

To the ministries in charge of education. These ministries have an obligation to ensure that the educational programs run must carry with it an allowance for the use of ICT tools. This is because ICT tools can provide information of students within their establishments. It would be injustice not just for a student to be wrongfully dismissed due to inadequate evidence. This injustice can be felt at the level of an individual (student), his/her family, the community and the general society at large. I am recommending the use of EIS in all schools throughout the national territory beginning from basic education, secondary education, higher education and professional education.

### **5.7. LIMITATIONS OF THE EIS TO A GUIDANCE COUNSELOR**

The use of an EIS doesn't only have advantages. It equally has some disadvantages or limitations. Among them are; - **High technology** EIS requires the use of high technology such as super speed computers and the use of internet. These technologies are very recent and their implementation within the system is very complicated for an average Cameroonian. This complication can lead to several misinformations which could damage what it intended to resolve.

#### **- Too much detailed personal information**

The use of an EIS requires a data base which is a storage device capable of accommodate personal information of every individual registered in the data base. Among the information are the order of the names of every individual as it is on their birth certificate, their date of birth, their regions of origin, their marital status, their phone numbers, email addresses etc. All of the above mention private detailed information can be abused by an individual or a group of individuals who have access to the machine or a hacker with a malicious intent.

#### **- Machine error**

Machine errors are very common in recent time. This is the ability of a machine to break down within the course of processing information. The causes of machine errors are numerous. Among them are; in experience personnel controlling the machine, viruses gotten through the use of

internet and other external computer devices such as hard drive, USB and an outdated nature of a machine can cause a machine error. All of the above mentioned errors can provide misleading information which will have a devastating impact on the life of a student, teacher or an administrator.

- **Dependence on the use of a machine**

The implementation an EIS in school can only work accurately with the use of a machine such as computers. This will lead to an over dependence of every personnel of the school to depend on a machine while on campus. For instance, access to the school is being permitted by the use of a finger print scanner which is a machine; security within the school campus is being controlled by IP security cameras which are machines, attendant sheet are being recorded by machine. This over dependence on the use of a machine is most likely to create a new problem related to the use of a machine.

- **High cost of purchase**

The use of an EIS within an institution is very costly. Huge sum of money which could have been used for coordinating other educative programs for students, teachers and the administrators are used in buying machines. This money are taken off from the school account and converted into the use of EIS. This means that in the short and medium terms, the standard of living as well as the quality of education given to students, teachers and administrators will fall due to the inability to finance some very important pedagogic projects.

## **5.8. SUGGESTION FOR FURTHER RESEARCH**

We have mentioned in this chapter that, EIS is not a perfect system. We have equally come out with some of the limitations of the use of an EIS within an institution. It is important to point out there are still vast oppurnities of research to be carried out once this system had been put in place within an institution. Among them are;

- **Teachers and students behavior within a classroom**

EIS is built to carry out information on attendance of teachers, students and administrators. This system as of today can not give information concerning the quality of information that is been shared between teachers and students while in classroom. This can lead to some educational malpractices which we will recommend on next generation of researchers to take keen interest on.

- **Another area of research is on the security in the use of an EIS**

Security in recent times has been a course for concern not just by the actors involve in education, but equally at the level of the state. Personal information of students, teachers and administrators can easily be hacked by hackers of malicious intention. This information can be past on to radical groups such as boko haram, al Qaeda, ISIS, putting the lives of the students, teachers or administrator in a jeopardy. Security should be a great area of research to the next coming generation of researchers.

- **Finally**

New problems relating to the use of an EIS and or machine should be a key area of research to the next coming. The ability of man to adapt to the use of machine is not always very easy. It would be our humble prayers that the next generation of researchers should develop theories and give other scientific explanations aimed at reinforcing the use of an EIS in schools.

## **CONCLUSION**

In this chapter, we have discussed the summary of findings, the importance played by a guidance counselor in using an EIS, we have seen some limitations based on the use of an EIS, we equally came with new areas of research and we can come out with a conclusion based on this chapter that the use of an EIS within a school milieu has more advantages and it can be a very useful tool for counselors in particular and other school personnel in general, in executing their functions. By using this system, counsellors can therefore give more attention to areas where more attentions are needed and give less attentions to areas where less attentions are due.

## GENERAL CONCLUSION

From the results obtained in this research, it can be concluded that ICT tools such as FPR, IPSC and HIM has a huge propensity to boast the performances of teachers, students and the administrators. We discovered that part of the reason why this fact was established was as a result of the unbiased nature of the machines and the ability it has to regenerate information that can be used as evidence. The result thus indicates that a lot has to be done in order to build a technological culture in school. This culture can be very useful for the human personnel of the school and will equally serve as a useful tool for preparation to prepare future Cameroonians for an emerging nation. The government, educators, counselors and even the society at large has to use these results as a wakeup call to revolutionize the implementation of ICT tools and the internet in schools. There is a need for all of us to work together to ensure that information and communication technology remains an ally to us by helping us develop information competence and not an enemy that supply us with information of dubious quality or other disadvantages. Information technology should link us even more strongly as a global world rather than bring to us more causes for concern.

In an article by Dzounesse, T. and Njiale, P.M (2011), they observed that with the installation of the Wifi network and electric switches in the ENS Yaoundé campus, it is evident to find students at almost every hour especially during free time in front of their computers seeking for one information or another. This assertion is not just true in ENS Yaoundé it is equally true for most state universities including the University of Yaoundé II at Soa.

The above observation supports the fact that our society of today is built on information where people spend most of their time using either one ICT tool or the other to get information on varied aspects of life. Students are not exempted in the search of information, in fact they even use this new technology to get information more than the other age groups of the society however, we call on parents, teachers and administrators to help in guiding the quantity and quality of information students look for in the internet. It is important for us to ask the question of knowing whether these students are able to identify the quality of information they need efficiently. In other words the question is that of knowing if they have developed the necessary

information competence skills that can help them know how to go about this information. Our results gotten from this research provide evidence to say that we need more work to be done in order to acquire the necessary competence in the search for information.

All in all, it should be noted that even though ICT has come to stay in Cameroon, there is a lot to be done in order to help especially students, teachers to know how to identify the need for this information because not all information is useful in every situation as observed by Siemens (2005), who believes that the information that is useful today might not be useful tomorrow. Also, they need after the identification of the need for information to be taught to be able to access the needed information, evaluate it and be able to use it effectively and efficiently to solve complex problems in the school. Precaution should equally be given to teachers, students and administrators as to the use of internet this is because, over recent time, the internet has become a source for radicalism not just in the world but also in our beloved country Cameroon.

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