# Chapter One: Problem Identification

## **Introduction**

The purpose of this study is to develop online multimedia content software for teaching computer studies at Chipindura high school. This chapter starts by outlining the background of the study, statement of the problem, and objectives of the study, significant of the study, and the concluding summary

## **1.1Background of the Study**

The education sector has been a top priority for the Zimbabwean government since independence in 1980. In fact, the sector often receives the most allocation of funds in the national budget with the year 2018 being no exception. Despite this, many schools, especially in rural areas and informal settlements have a shortage of textbooks, while others have none whatsoever for example at Chipindura high. Furthermore, the school is chacterarised by a high student to teacher ratio, with figures in the range of 50:1. This makes it very difficult for the teacher to be able to attend to each and every student individually. The end result is that the school will have a very low pass rate, for instance with a pathetic 29% pass rate in the November 2016 ZIMSEC O-level exams. In many of the before mentioned disadvantaged areas like Chipindura high the pass rate can be a shocking zero percent. There are many factors that contribute to the low pass rate, but the availability of quality studying material is a major culprit.

The problem is even worse when it comes to ICT subjects because there is a shortage of qualified ICT personnel, not just teachers but all professions, and not just in Zimbabwe, but worldwide. At the same time, Zimbabwe boasts an impressive mobile penetration where ¾ of the population do have phones, thereby the situation provides an opportunity to assist those disadvantaged students who are unable to access quality educational material to have textbooks and learning systems on their mobile devices, to help them perform better in their studies at a fraction of the cost of printing and distributing physical textbooks all over Zimbabwe.

## **Investigation and description of current system and Literature Review**

### **Literature Review**

The purpose of the literature review is to show the researcher’s ability to find relevant information and to summarize existing knowledge. This chapter is focused on literature whose main purpose is to help researcher to find the effective online multimedia content system that can help students learn better freely.

One significant change is the development of multimedia instructional activities. Multimedia is defined by Zin, Latif, Bhari, Salaiman, Rahman, Mahdi, and Jamain (2012) as a combination of many different types of media communications including text, graphics, audio, video, music, and animation. Eastman, Iyer, and Eastman (2011) states that Interactive media is incorporating multimedia with computing technologies.

Sanchez (2000) postulates that appropriate integration of technology in the classroom through the use of multimedia instructional tools coupled with a focus on student learning by changing to a student-cantered pedagogy results in an increased quality of education without increase in the cost. According to Schilling (2009) technology-based materials offer students on-going practice opportunities that provide immediate, high-quality, detailed feedback. High quality, timely, and frequent feedback can help improve student’s work as well as their learning.Twigg (2000) said that Learning opportunities and formative assessments are available through the use of problem-solving activities, simulations, and practice assignments. Available summative assessment activities include computer-based quizzes, capstone projects, and computer graded exams. Research by Gantt (2001) has shown that assessment activities can be used to support student learning.

Computer science integration in the school curriculum fosters student centred learning. This is to say the student will be responsible for initiating his or her own learning while the teacher will act as a facilitator in the student’s learning. Furthermore, computer technology provides a multimedia for imparting instructions to the students in the form of texts, audio and visuals. Computers as a media of learning are also suitable for the disadvantaged, whether it is due to disabilities or due to geographic location. It is important that students are provided with productive and relevant learning activities that encourage them to spend appropriate time on task. Multimedia instructional tools can provide students with these opportunities. The use of multimedia applications has been shown to improve student learning by providing meaningful student engagement with their activities (Anderson 2004).

### **1.2.2 Investigation and description of current system**

Currently, students are relying on physical, paper based textbooks for their revising and learning needs. The tests books are provided by the school in short supply. However, as highlighted above, in many areas the schools are unable to afford or acquire textbooks. This is for a number of reasons including;

* Though education receives the most funding by government, the funds are not enough to meet the needs of all the schools that the government is responsible for.
* Even in the cases where the schools receive sufficient funds, some school officials are corrupt and will misuse the funds.
* The textbooks wear out over time and need to be replaced.
* The information contained in the textbooks can quickly become obsolete as new knowledge is acquired and old theories are replaced. This is particularly the case in ICT where there is very rapid change and some concepts can become obsolete and need to be updated.
* Textbooks are sometimes stolen.

# Statement of the problem

Many researchers have found that pupils learn better when on hands on activities (class activities, video, hand-outs with activities and online learning). These were also considered to be successful in the teaching and learning. Therefore the researcher also felt need to develop software tool that are effective in the teaching and learning of computer studies

## **System objectives**

The overall aim of the proposed system is to develop online multimedia content application in schools. To be able to achieve this, the following objectives must be met:

* To create an Online Multimedia Content System software (**OMCS**)
* To developing a new system better than the current system.
* To determine students perception on use of different learning media

## 1.5 D**escription of the proposed system**

Characteristic of the proposed system

* **User Friendly**: - The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.
* **Reports are easily generated**: reports can be easily generated in the proposed system so user can generate the report as per the requirement (monthly) or in the middle of the session. User can give the notice to the students so he/she become regular.
* **Very less paper work**: The proposed system requires very less paper work. All the data is feted into the computer immediately and reports can be generated through computers. Moreover work become very easy because there is no need to keep data on papers.

**Features of Proposed Query helpdesk system**

The system after careful analysis has been identified to be presented with the following modules:

**The feature involved are:**

* Administration
* student
* Search
* Report
* Authentication

Administrator:-

In this module the Administrator has the privileges to add all the student and register them in the organization and check the information of the students and check the status of the query and can delete and update query.

**Search:-**

This module contain complete search like topics.

**Student:-**

In this module student has the privileges to use his registration number and password for login and he can use his or her mobile phone to login on **OMCS**. He or she can view the status of the query either query has responded or not.

**Reports:-**

This module contains all the information about the reports generated by the students based on the activities they do.

**Authentication:-**

This module contains all the information about the authenticated user. User without his reg number and password cannot enter into the login if he or is only the authenticated user then he can enter to his login.

## **1.6 Limitations/ challenges**

During the research period, the researcher faced a lot of challenges. Some of these include:

* **Financial constraints: -** The researcher had a limited budget. A lot of money was needed to print and photocopy questionnaires and interviews guides
* **Time constraints: -** The researcher did not find adequate time required to fully perform this research. As a full time employee, time to go and collect data was limited and often done at working hours
* The hierarchy in which supposed to approve for this research is too long and they are hard to find due to being busy
* Resistance to change from manual to automated system by other staff and finally as a result the research and conclusions will be carried out on the available information.
* Training users of the new system was costly since technical expertise were required.

## 1.7 **Scope/delimitations of the system**

The scope of this research work is limited to using multi-media as necessary tool to teaching and learning computer science in some select secondary schools in Bindura. It covers the problems encountered and the solutions to such problems in the case study.

## **1.8 Definition of terms**

**Authorization** - The state of a user having sufficient permission in order to perform a desired task.

## **1.9. Conclusion**

After the problem where identified, the aim of the project, objectives to be achieved and justification of developing a new system, the next step is to determine how to successfully complete the project in the planning phase.