SYNCHRONISING CLUB ACTIVITIES WITH TEACHING/LEARNING PROCESS TO FOSTER SKILLS ACQUISITION AMONG FOODS AND NUTRITION STUDENTS AT HILTON HIGH SCHOOL

BY

NAMUGENYI LILIAN

U/15/14589/GMVP/PE

A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS OF VOCATIONAL PEDAGOGY OF KYAMBOGO UNIVERSITY

OCTOBER 2017

DECLARATION

I declare that this action research dissertation submitted is my original work and has not been presented for a master's degree in any other university or for any award.

Signature:.....Date: 28th / August / 2018

Name: NAMUGENYI LILIAN

Reg No: 15/ U/14589/GMVP/PE

APPROVAL

This research dissertation has been written and submitted for the master's degree with guidance and approval of my supervisors;

Name: Dr. Mulebeke Robert.

Signature .....

Date 29/8/18

Name; Dr. Isingoma Evelyn

Signature .....

Date 29/8/18

DEDICATION

This dissertation is dedicated to my little daughter Namatovu Anastasia and my parents, may GOD grant them all that they desire.

ACKNOWLEDGEMENT

My sincere gratitude first and foremost is extended to my esteemed supervisors Dr Mulebeke, Dr Isingoma and My mentor Mr. Serwaniko Chris for their continuous guidance and support rendered towards this successful write up of the research dissertation.

Special appreciations go to the administration of Hilton High School for accepting my request to conduct this action research in their school. Furthermore am very grateful for their financial and moral support during the implementation.

I also acknowledge the collaborative participation of the foods and nutrition students and the teaching staff of Hilton High School, Mr Okot, Mr Sakari, Mr kasozi the HOD, Mr Zziwa, Mr Sewino to mention but a few.

I appreciate the company of my fellow students with whom we worked together as a team to see that each other's work was a success.

My profound thanks go to my parents, Mr and Mrs Mukasa Francis for the continuous financial support and words of encouragement which always gave me a go ahead during this master's study.

Lastly I thank GOD for my life and support, for He has led me through the whole study process.

TABLES OF CONTENTS

LIST OF PLATES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS/ ABBREVIATIONS

F/N	Foods and Nutrition
IPS	Integrated Production Skills
VET	Vocational Education and Training
UNESCO	United Nations Educations Scientific and Cultural Organization
H/T	Head Teacher
UNEB	Uganda National Examinations Board
HOD	Head of department
HE	Home Economics
FW	Future
S5	Senior Five
S6	Senior Six
BCM	Biology, Chemistry and Mathematics
BCFN	Biology, chemistry, and Foods and Nutrition.
ICT	Information Communication Technology

ABSTRACT

Foods and Nutrition is a practical subject that can equip learners with sustainable skills of self-dependency. However owing to the nature of the subject, being expensive in its requirements, the Foods and Nutrition department at Hilton High School is characterized by inadequate practical training of students due to insufficient funding. There is limited initiative to explore alternative methods of generating income to facilitate the foods and Nutrition department. This study therefore aimed at synchronizing Foods and Nutrition club activities with teaching/ learning process to foster skills acquisition among Foods and Nutrition students in Hilton High Schools. It was guided by specific objectives, which included: 1) identification of topics in Foods and Nutrition for practice during club activities. 2) Establishment of a Foods and Nutrition club in school. 3) Implement identified club activities related to topics identified. 4) To evaluate the effectiveness of the foods and Nutrition club on learning and skills acquisition. I employed the action research strategy and a participatory action research design. Participants involved were; deputy in charge of welfare, director of studies, Head of department, Senior six and five students of Hilton High school. Identified topics included pastry cookery, yeast cookery, cakes, biscuits, salads and chicken cookery. Club activities included the confectionery project of making bread and cakes for the school and conducting an exhibition. Participation in club activities increased the practical engagement of the students through making products for sale. In addition, the evaluation of the club activities showed that students had more time for practical training than during normal routine lessons. It was also observed that the students mastered the practical content (recipes). This was enhanced by repeated practice when making products in project work and when preparing for the exhibition. Therefore the study enhanced skills acquisition among food and nutrition students of Hilton High School

CHAPTER ONE

1.0 Introduction

This study focused on synchronizing club activities with the teaching/learning activities to foster skills acquisition among Foods and Nutrition leaners at Hilton High School. The aim was to increase on students' exposure to practical activities through introducing a functioning Foods and Nutrition club in school, an action based research strategy.

This chapter presents the background of the study in which a science club is defined as well as teaching/ learning activities in relation to the Foods and Nutrition subject. Furthermore an overview of the background, teaching/ learning process of the Foods and Nutrition subject at Hilton high school and challenges faced by the Foods and Nutrition department are presented. Thereafter, the problem under study, purpose, main objective of the study, its justification, significance and scope (content and geographical scope) are discussed.

1.1 Background of the study

This research was geared towards enhancing skills acquisition of learners through establishing a foods and nutrition club and synchronizing its activities into the teaching/learning activities. Learning activities are the teacher guided instructional tasks or assignments for students. These activities should involve students' participation to facilitate learning. According (Toth, 2006) many individuals learn best and become proficient in skills by practicing them rather than merely being a spectator for skills such as listening to teachers talk about the skill, reading about the skill or watching others perform the skill. Teaching strategies refer to the structure, system, methods, techniques, procedures and processes that a teacher uses during instruction. (Buehl, 2001)

According (UNESCO, 2009) a science club is a group of young people from 12 to 18 years of age, organized to pursue in an interesting and in an orderly manner, under proper leadership and guidance a definite programme of scientific investigation and experimentation.

School clubs are established to enhance the regular curriculum delivery through engagement in co-curricular activities, that is; putting the theoretical and classroom based education into practice. (UNICEF, SCHOOL CLUBS, 2014).

Hilton High School was started in 2003 with the aim of providing quality holistic education for self-reliance through developing the natural abilities of the students. The introduction of Foods and Nutrition was seen as one of the possible ways of achieving this objective. It was introduced at a later time in 2007 following a suggestion from one of the staff members during the end of year academic meeting (refer to minutes of 2007 end of year staff meeting).The major objective was to boost students' performance and equip learners with the skills of sustainability after school especially with the growing business in catering and confectionary.

As an employee with one year experience in this Department of foods and nutrition at Hilton high school, I noticed that there is inadequate practical training of the learners. The students are exposed to fewer practical lessons compared to the theoretical lessons. On the time table (appendix 1), time for practical is not included, when the funds are availed, the teacher has to find time for the practical and this happens thrice in a term. Being a practical subject, practical lessons should be conducted on a weekly basis. Therefore as a student of vocational pedagogy, I was intrigued to establish the root cause of the inadequate practical training of the learners through conducting a situational analysis.

1.2 Situational analysis

The situational analysis was carried out to analyze the teaching/learning activities and the challenges in the foods and nutritional department at Hilton High school. It was guided by specific objectives and these included.

1. To analyze the teaching/ learning processes in the department of foods and nutrition at Hilton high school.
2. To establish the challenges faced during the teaching/learning process of the foods and nutrition subject.

The required information was obtained using methods like the Interviews, focus group discussions with the stakeholders and Review of documents like time tables and result booklets. It also involved stake holders like Administrators of the school, Teachers in the department and students offering the Foods and Nutrition subject.

1.2.1 Teaching learning process

Learning is conducted in the Foods and Nutrition laboratory and the following methods are employed during the learning process. Guided discussions, demonstrations, and student discovery through research from text books in the library. However the latter is not effectively used because the school library hardly has any food and nutrition text book.

For practical lessons, requisitions are written in advance and submitted to the HMs office for approval before release of funds from the bursar. Ingredients like sugar, rice, wheat flour are obtained from the school food store.

The students also pay an extra fee in addition to School fees as a contribution towards the FN practical lessions. However because of their small number, this money is not enough to facilitate

all the practical lessons. Therefore the administration has to top up hence finding the subject very expensive.

Using the focus group discussions, the students, the subject teacher and administration specifically the director of studies and Deputy Head teacher, a work process analysis tool was employed to establish the activities involved in the teaching/ learning process from when the student is admitted in school to the time of final assessment. This is shown in table 1 below.

Table 1: Summary of steps and activities involved in the teaching learning process of students.

Steps	Activity involved	Equipment required	Competence
Admission of students into school	-Students admitted on the basis of their results. -Capturing the bio data of the students. -Signing of rules and regulations. -Guided on choice of subject combination and class stream.	-Books -Pens -Computers Rules and regulation booklets -Manila paper -marker	-Administrative skills -Knowledge of requirements of admission - secretarial skills -Computer literacy -Knowledge of the school regulations by the teachers
Orientation	-Touring around school -interpretation of school rules and regulations -Guided on the school routine -Distribution of uniforms to students		
	Orientation in the Food and Nutrition department -study of rules and regulations of the FN laboratory - study of syllabus outline -Taught how to use the different equipment including the safety - Group allocation	-Manilas -Markers -And chalk board	-Knowledge of the FN content

Teaching and learning in the FN department	-Theoretical learning is done in the classroom. -Practical in the FN laboratory -Discovery learning through research. -Teachers make schemes of work as well lesson plans -Conducting of lessons	-Text books -Exercise books -pens -Chalk board -Teaching aids	-Knowledge of the different teaching methodologies by the teachers - skill in making schemes of work and lesson plans
Assessment and evaluation	- continuous -summative assessment by UNEB	Exam papers -Pens	Knowledge of subject content

1.2.2 Laboratory and training equipment

The foods and nutrition laboratory is inadequately equipped in relation to the number of students. It has one electric oven, a small local oven, a very old refrigerator and a few equipment stored in the suitcase for 19 students, a ratio 1:19 for the large equipment instead of 1:5 typical of a secondary school. This equipment is insufficient in relation to the number of students and this demotivates the learners as they do not see the value of their money. In some instances students have to carry their own equipment from home especially for the UNEB practical subject. In addition, the laboratory is sometimes shared and used for other activities in school which leads to loss of equipment. This concurs with (Kiadese, 2011) who found out that problems such as poor school infrastructure, lack of qualified teachers, poorly equipped workshops and laboratories affect the teaching of prevocational subjects. In relation to safety, the laboratory does not have any safety equipment in place which endangers the life of the teachers, students and property.

1.2.3 Future workshop

The situational analysis also included future workshop which was conducted on 19th November 2016 in the foods and nutrition laboratory. It was a participatory future workshop with stake holders involved; the administrators represented by the deputy head teacher and director of studies, the teachers in the department, the laboratory assistant and the students.

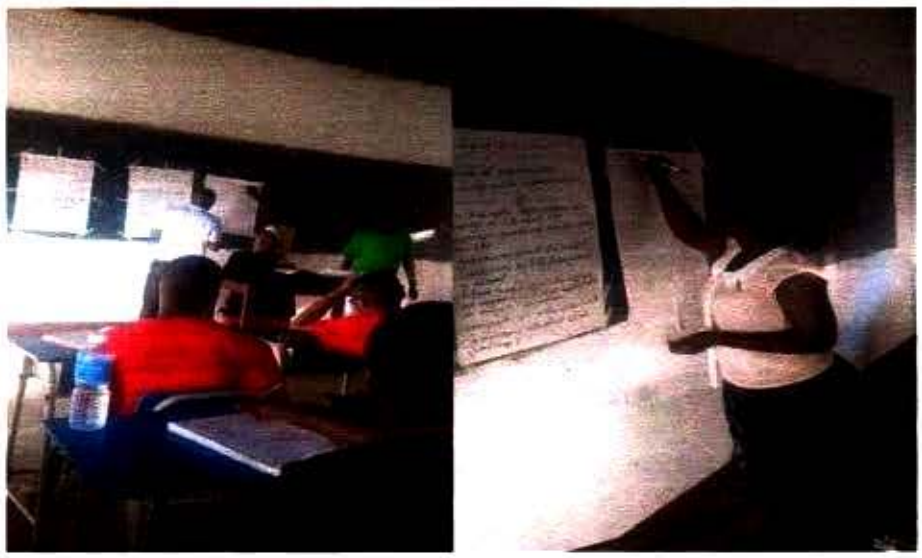


Plate 1: The teacher guiding the plenary session during the future workshop. (November 2017)

Plate 2: Participants in the future workshop (November 2017)

We started with the critical phase were we analyzed the stakeholders' expectations of the course (appendix 2), the challenges that inhibit practical training (appendix 3). Using the pair wise ranking method (appendix 4), we identified the most pressing challenge as;

- *Limited information on how the subject can be operated at a reduced cost; the administration offers less money to support all the activities of the FN department. This has also led to the poorly equipped laboratory and few practical lessons conducted.*

In visionary phase the stake holders suggested solutions to the highly ranked challenge (Refer to appendix 5).These solutions did not have limitations or constraints of resources, it's what the stake holders assumed was the perfect teaching learning environment. Through democracy with the show of hands, the stake holders expressed their support for a collective solution to the above mentioned challenge. Which is:-

- *Introduction of a functioning FN club.*

The members of the club would conduct activities like termly Exhibition, and products sold to generate income for the department. Secondly the students in the club would make confectionery products like bread and sell to the school. These activities would involve students practically and at the same time generate money to facilitate practical in the department hence enhancing skills acquisition.

1.3 Statement of Motivation

Being a teacher of Foods and Nutrition, who trains and equips learners with the skills of self-survival, I have noticed that few secondary schools have embraced the subject, because it's assumed to be expensive and even those that have adopted it offer less finances for labor, equipment and ingredients. Few practical lessons are conducted and lastly the students opt for it as a last resort after failing to perform well in other subjects. If the subject is well financed it offers self-employment and job opportunities because of the various skills it offers in bakery, hospitality, management to mention but a few, to students. As a student of vocational pedagogy, I noted that there is need to adjust the pedagogical approaches used in instruction, therefore I was

intrigued into conducting an action research at Hilton High School in the department of Foods and Nutrition to avert these financial and negative attitude challenges to foster skills acquisition among foods and nutrition students.

1.4 Statement of the Problem

There is inadequate practical training of the foods and nutrition students at Hilton high school due to insufficient funding and inadequate training equipment owing to the nature of the subject. There is limited initiative to explore alternative methods of running the Foods and Nutrition department at a reduced cost as identified by the Deputy in charge of welfare, the Director of studies, the HOD, S5 and S6 Foods and Nutrition students. Therefore the study focused on generating income and increase practical engagement of the FN students through introducing an FN club and synchronizing its income generating activities with the teaching/ learning process to enhance skills acquisition among students.

1.5 Purpose

The study was to link the foods and nutrition club activities with teaching/ learning process in the department of Foods and Nutrition to enhance skills acquisition among learners.

1.6 Objectives

(i) To identify topics in foods and nutrition for practice during club activities.

(ii) To establish an FN club in Hilton High school.

(iii) To implement club activities relation to the identified topics for skills development.

(iv) To evaluate the effectiveness of participation in club activities on learning and skills acquisition

1.7 Research questions

1. What topics in foods and nutrition are going to be practiced during club activities?
2. What is the process of establishing an FN club in school?
3. What club activities can be carried out in relation to topics identified?
4. What is the impact of participation of club activities on learning and skills acquisition?

1.8 Justification of the study

This study was a consensus of the community of Hilton High school specifically teachers and students in the department of nutrition as well as administrators of the school. The choice of the existing gaps in skills development was done by the students. The FN subject has a variety of topics that would equip learners with skills for self-reliance, however some areas are constantly practiced even when at home for example the traditional cookery but topics related to confectionery products are usually new topics to students therefore these give them a difficult time during the normal practical lessons and practical examinations.

1.9 Significance of the study

The study will increase practical engagement of the students as they participate in making products for the exhibition and also as they constantly produce bread and other confectionery products for the school.

Lastly the intervention will be used by other secondary schools offering Foods and Nutrition and vocational institutions in related fields to generate money to facilitate the subject.

1.10 Scope of the study

The scope of the study is described in terms of the geographical area, content covered and time taken to implement the research.

1.10.1 Geographical scope

The study was carried out in Hilton high school located in Mukono district, along Katosi road 2km off Jinja road. Specifically the department of Foods and Nutrition.

1.10.2 Content scope

The study content was based on the objectives of the study; identification of topics for practice during the club activities, Establishment of the FN club, the implementation process of club activities in relation to identified topics and evaluation of the effectiveness of participation in the club activities on learning and skills acquisition.

1.10.3 Time frame

The study was conducted from 19th November 2016 to 16th of August 2017.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter scholarly views in relation to the problem under study and the specific objectives are presented. A brief background of Foods and Nutrition subject in Uganda at secondary levels and challenges faced by schools that offer this subject are given in this chapter. Lastly the theoretical perspective that supports establishment of a Foods and Nutrition Club in school to enhance learning is discussed.

2.1 Foods and Nutrition subjects in schools

Foods and nutrition is a branch of Home Economics that deals with the food, the nutrients there in, how they are cooked, how the body utilizes the nutrients and the preservation of food for future use (UNEB, 2006). According (ZIMSEC, 2012) it is the area of Home Economics which deals with foods and their nutritive values. He further notes that the Ordinary level Food and nutrition curriculum is a gateway to many professions such as catering and nutrition services and gives a strong foundation for further studies in food-related disciplines. In the Ugandan syllabus, in addition to foods and their nutritive values, it also includes the aspect of science in a home that describes the different household equipment and how scientific principles of nature are related to everyday life in a home.

Home Economics is an applied, multi-disciplinary subject that provides students with a wide range of learning experiences, the knowledge, understanding and skills necessary for living as individuals and as members of a family (Stack, 2008). It was started to train the local women and

girls in skills of needle work, cookery, housekeeping, child care among others to enable them do their maiden roles and housewifery.

According to Ministry of education of bristish columbia, 2007, they state that; the aim of the Foods and Nutrition is to provide opportunities for students to develop the knowledge, skills, and attitudes that have immediate and future applications in their personal and family lives, as well as in local and global environments.

The foods and nutrition discipline has three components that is; (1) practical work (work technique). 2) Vocational theory (practical knowledge).3) General education (applicability).

The practical component comprises the training techniques of practical work; the vocational theory component has to do with teaching about principles guiding the practical, tools and materials used and function; the general education component teaches general academic subjects such as language, social studies and subjects of scientific nature (Liv, 2006). Foods and Nutrition subject therefore seeks to prepare students for professional careers.

2.2 Teaching learning activities in Foods and Nutrition

Learning Activities are defined as "any activities of an individual organized with the intention to improve his/her knowledge, skills and competence" (Jonasen, 2000) . There are a wide range of activities used both inside and outside the classroom that promote active learning.

Active learning is generally defined as any instructional method that engages students in the learning process ((Biggs, 2003). In short, active learning requires students to do meaningful learning activities and think about what they are doing. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor. According

(Jim, 2010) active learning activities include; class discussions, small group discussion, debate, posing questions to class, think pair share and posing short questions to class.

Teaching strategies refer to the structure, system, methods, procedures, techniques and process that a teacher uses for instruction. Active hands on teaching strategies and active learning activities are intended to make students active participants in their own learning.

The teaching methodology for foods and nutrition varies, it integrates both the theoretical like explaining/lecturing, discussions and practical teaching methods like demonstration, experimentation, project work (Plaxcedia, 2015, p. 75)

Demonstration method; as far as practical subjects are concerned, Demonstration is the best known teaching method. It is used to guide the development of the student's psycho-motor skills to be efficient. (Umar, 2016). During demonstration, people are informed about how to carry out a particular task, with possible inherent dangers being explained or shown.

Explaining or lecturing is the process of teaching by giving spoken explanations of the subject that is to be learned. Explaining or lecturing is often accompanied by visual aids to help students visualize an object or problem (Plaxcedia 2015). Lectures on the other hand are often geared more towards factual presentation than connective learning. It is a very appropriate method for enhancing learners' acquisition of knowledge thus becomes the foundation method upon which other strategies are built to complete the process of learning.

The Discussion method is the most effective in stimulating and facilitating the learning process. The discussions can be carried out in groups or even at classroom level, where learners interact, sharing new and old ideas and enriching their knowledge. Students easily understand when they

discuss what they have learnt as they will be clarifying grasped concepts. As such, they will not easily forget what they have discussed and their communication skills will be improved as well. (Annamali, 2015).

2.3 School science clubs

According UNESCO 2009 a science club is a group of young people from 12 to 18 years of age, organized to pursue in an interesting and an orderly manner, under proper leadership and guidance a definite program me of scientific investigation and experimentation. School club are established to enhance the regular curriculum delivery through engagement in co-curricular activities, that is putting the theoretical and classroom based education into practice. (UNICEF, SCHOOL CLUBS, 2014)

Clubs are structured groups of students who come together on a regular basis for a specifically defined and approved purpose. In Action aid girls club manual (Action Aid, 2012), it is stated that schools should offer diverse opportunities for children to explore their interests and interact with one another through extracurricular activities such as club activities as they spur their members to better school attendance and academic performance

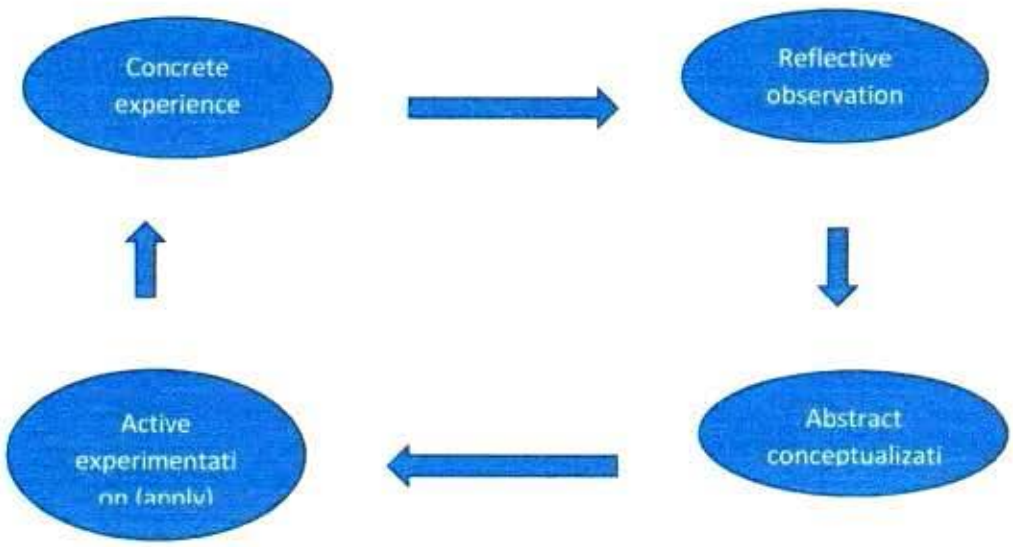
In the brief prepared by the national collaboration for the youth (2011 p 1), it is stated that motivation and concentration levels of young people are much higher in informal youth programs than they were in school, suggesting the untapped power in youth development programs that can positively impact school performance. According to (P.Weissberg, 2007, p. 8) to improve youths 'personal and social skills, programs must devote sufficient time to skill enhancement, be explicit about what they wish to achieve, use activities that are coordinated and sequenced to achieve their purpose, and require active involvement on the part of participants

2.4 Theoretical perspectives underlying the use of club activities to foster skills acquisition

2.4.1 Experiential learning by Kolb's

The study was based on Kolb's experiential learning of 1984, he refers to experiential learning as a process in which knowledge is created through the transformation of experience into existing cognitive frameworks, thus causing individuals to change the way they think and behave. According to Baker etal (2002) experiential learning focuses on "doing" in addition to the "hearing" and "seeing" that occur in traditional learning. Therefore the study being action based, it involved the actual implementation and evaluation of the strategies by the stakeholders. Kolb's (1984) classic model proposes that learning consists of four interdependent constructs: (a) concrete experience- engaging with the world through direct experiences, (b) reflective observation—taking serious consideration and meditation as well as discussing, (c) abstract conceptualization - transitioning from the experience to creating a plan for future actions and (d) active experimentation—testing the plan by implementation

Figure 1: Kolb's cycle of experiential learning theory



(*Secondary source*)

The learners begin with a concrete experience, which then leads them to observe and reflect on their experience. After this period of reflective observation, the learners then put their thoughts together to create abstract concepts about what occurred, which will serve as guides for future actions. With these abstract concepts in place, the learners actively test what they have constructed leading to new experiences and the renewing of the learning cycle (Baker etal 2002)

CHAPTER THREE

METHODOLOGY

3.0 Introduction

In this section, the research design, methods and instruments of data collection that were employed during the research implementation are presented. It also shows the participants, the sampling technique, the action plan that was followed during the research process and techniques used to analyze data obtained.

3.1 Research strategy

The researcher employed the action research strategy because a problem was identified in the Foods and Nutrition department that required practical involvement of the stakeholders in the department to solve the problem. According to Miller (2011) as cited in (CRESWELL, 2012) action research designs are used by teachers or other people in the educational setting to improve teaching and students learning process.

3.2 Research Design

The study employed a participatory action research design because the research process required the input of the stake holders of Hilton high school (FN students and teachers as well as the administrators). They participated in identification of the challenges in the FN department, solutions to those challenges as well as implementation of the suggested solution. Action research is collaborative as it's completed with others and practical as the researcher explores the participant input to solve a problem. (CRESWELL, 2012)

3.3 Participants

The study included all the stakeholders in the department that is; students offering Foods and Nutrition, teachers and the laboratory attendant as well as the administrators

3.3.1 Population stratification

The participants included the Deputy in charge of welfare, director of studies, HOD, students offering foods and Nutrition in numbers as indicated below

Table 2: showing sample size

Category of the participants	No involved
Administrators 1. Deputy Head teacher 2. Director of studies	2
Teachers	1
Laboratory assistant	1
Students (both S5 and S6)	15

The population was purposively selected, because of their attachment to the department of foods and nutrition. The HOD is a teacher of foods and nutrition, the director of studies responsible for the Time table and the Deputy Head teacher are representative of the Administrators while the students offer the subject. According to Barreiro and Albandoz, 2001, the person who is selecting the sample is who tries to make the sample representative, depending on his opinion or purpose, thus being the representation subjective.

3.4 Methods and tools for data collection

The study employed the following methods of data collection; Work process analysis, future workshop observation, focus group discussions, interviews as well as documentary analysis and the feature workshop. The tools included interview guides and observation checklist.

3.4.1 Work process analysis tool

This was employed during the situational analysis, to establish the learning process of the students. It included the steps and activities done for a student from time of admission at school to final assessment as indicated in chapter one.

3.4.2 Future workshop

In order to identify the cause of inadequate practical training of students in the department of foods and nutrition, we conducted a future workshop and many challenges were identified by the teachers and students in the critical phase. These included: - Limited information on how the subject can be operated at a reduced cost, Lack of collaboration with the world of work. Not knowing what the world of work requires of these students in terms of skills, Negative attitude by students and administration, Limited Finances, Lack of equipment/ infrastructure. Poorly furnished or designed lab, the library usually used for other activities, Wide syllabus.

Using the pairwise ranking (appendix 4), the most pressing challenge was identified as;

- *Limited information on how to operate the subject at a reduced cost, this challenge was discussed as the cause of the few practical lessons due to less finances for the departmental activities and the poorly equipped laboratory.*

Possible solutions were suggested in the fantasy stage, these solutions were arrived at through brain storming by the participants. They also included:- The administration should get involved in the FN departmental meetings, Introduction of career guidance days specifically for FN students, Exhibition by the FN department in school, Introduction of an FN club, Integrate ICT

for research in the department and also to motivate the students, Seminars with other schools and workshops.

Other solutions included: - Study trips to increase students' knowledge, FN students getting involved in community work, FN department should make products and sell to the school since it is the available ready market.

Still in the future work, through voting, the participants identified only 3 possible solutions that could be implemented in the shortest time without straining the administration and altering school program me. These included: - Establishment of the FN club, conducting exhibitions, Making bakery items and selling to the school for example bread and cakes for income generation.

It was resolved in the future workshop, that all students offering the FN subject should be members of the FN club. Secondly it was also resolved that the exhibition as well as bakery activities should be done as activities of the club.

After this resolution, we went on to construct an action plan that could be followed during the implementation of the above activities. According to stringer as cited in Creswell (2012), this plan simply involves implementing an ongoing research agenda to explore new practices.

Table 3: An action plan for the study

Month (duration)	***activity***	***Contact place/ person***
March 2017 (one day)	-Meeting with participants to reflect topics cookery that exist as the training gaps.	Researcher
APRIL (one day)	-Discussion with the administration about the club proposal and costs to be incurred during the implementation of club activities.	Researcher
April 2007	-process of establishment of the foods and	Department of foods and nutrition

	nutrition club.	
April 2017	-The club students make the first set of bread to be sold to the school as tea accompaniments for the staff members.	Teachers in the department
May 2017	-Conducting the first foods and nutrition club exhibition	Foods and nutrition department
June 2017	-Consolidating and reflection on data obtained after each implementation activity.	Researcher
July 2017	Data analysis	Researcher

3.4.3 Observation

It is a technique that involves systematically selecting, watching and recording behavior and characteristics of living beings, objects or phenomena (Chaelevu, 2009). In this research, observation was used to establish the relation between the clubs activities conducted with the content taught in the classroom. Secondly it was used to establish the extent of involvement of students in the club activities, the time taken to produce a particular product. Through observation it was possible to establish stakeholders take on the exhibited products in terms of the rate of consumption. Observational field notes were recorded and cameras as well as video recorders were used to obtain empirical data.

3.4.4 Documentary analysis

This was mainly used on students' recipe books and UNEB syllabus books to access the practical content covered in class. According to ((CRESWELL, 2012)), documents are any written information or physical objects that are analyzed for study to obtain data such as manuals, Books, journals, registers, newspapers, letters and minutes. In this study, the school club manual will be analyzed to establish the process and the rules governing club performance in school.

3.4.5 Interviews

The study included both formal and informal interviews. Formal interviews were used to establish the consumers' views on the quality of the products. The informal interview were conducted with the students to permit them to be free with the researcher. They were used to establish the topical areas of practice for club activities.

3.4.6 Focus group discussions

First and foremost focus group discussions were mainly used during the future workshops to identify the challenges that suffocate the department. Secondly to identify possible solutions to those challenges and to reflect on the impact of the club activities during evaluation. Furthermore they were used during the discussion with the administrators about the establishment of the FN club and the budget for the exhibition. These groups gave an opportunity to have a deeper insight on how best strategies would be implemented and how to avoid possible challenges that could have risen in the due process. According to Abawi (2013) in a group situation, active interaction of the members enriches the quality and quantity of the information needed.

3.4.7 Photography

Many photos were taken which increased on the authenticity of the research. These photos also helped to recall any information which could have been forgotten.

3.5 Procedure of data collection.

Data was collected in the order of and in line with the objectives. Following the action plan, the topic areas in food and nutrition to be practiced were established through informal discussions with the students. Meetings for formation of the club with the administrators were conducted and budget for its activities was estimated and drawn. Implementation of the club activities took

place and observational field notes taken in the due course. An evaluation workshop was conducted to reflect on the impact of the club activities on the students learning.

3.6 Data analysis

This was analyzed using qualitative data analysis technique. These include data transcription, coding, presentation and discussion (Creswell 2012)

3.6.1 Transcription

Data was transferred from the raw field notes and documented in logical flow according to the objectives. Data that was transcribed included: - Topics for practice during the club activities, Information about procedure for establishing a Foods and Nutrition club, data on the implementation process and evaluation techniques employed during the study.

3.6.2 Coding

Information was coded using numbers from 1, 2, and 3 so as to develop themes, sub themes under each theme as observed in chapter four. All data related to the first objective was corded 1, that related to second objective coded 2 and data related to third objective, and fourth were coded 3 and 4 respectively. This process of coding helped to obtain only relevant information under each objective and placing each sub theme rightly.

There are four core themes discussed and these included: - 1) Topical areas of practical training, 2) The foods and Nutrition club, 3) Implementation and 4) Evaluation of club activities. A variety of sub themes were developed, and these are discussed in chapter four under a respective core theme.

3.6.3 Presentation and discussion

The themes and sub themes are described and presented in relation to the objectives and discussed according to personal interpretations and scholarly evidence.

CHAPTER FOUR

ACTION IMPLEMENTATION, RESULTS AND EVALUATION

4.0 Overview

The chapter unfolds with a thematic presentation of the research interventions, outcomes as well as the evaluation. The presentation is sequenced chronologically in terms of the research objectives that is:

- To identify topics in Foods and Nutrition syllabus for practice during club activities
- To establish a Foods and Nutrition club in school
- To implement club activities in relation to the identified topics for skills development.
- To evaluate the effectiveness of participation in club activities on learning and skills acquisition.

4.1. Topical areas of practical training

The topical areas of training identified included Pastries, Bread, Biscuits, Cookies and Salad assembling as those that required more practical training sessions. Focus was drawn to those topics in practical syllabus that are not constantly practiced in everyday life. These topics differ from traditional cookery which involve steaming, stewing, roasting, frying and boiling.

Students were organized in sub-groups of three (3) and tasked to contemplate on those topics in the covered syllabus and where they needed to be offered more training. The topical areas were identified during a meeting with fifteen (15) students who offer the subject. The findings were further confirmed during one on one interviews (Appendix 6) with each of the students. Their responses revealed that they needed more practical training sessions in making pastries, making bread, Biscuits, Cookies and Salad assembling. During the interview, one student stated that; "*I*

find pastry preparation and handling very difficult". His statement correlated with other students, therefore pastry cookery was included among the topics to be practiced during club activities.

4.2: The foods and nutrition club.

Formulation of the FN club undertook writing of a proposal and identification of potential members to take on the club activities as further discussed below;

4.2.1: Proposal writing

The lead researcher wrote a proposal that was presented to the administrators. The document clearly explained the justification of the club, objectives, proposed club activities and budget estimates for running the club activities (Appendix 8). The proposal was accepted and implementation of the club activities started.

4.2.2: Club membership

Membership to the club was compulsory to all Foods and Nutrition students (Plate 3 showing Pioneer students) and optional to other students. Initial registration in the club was free, this encouraged even other students to join and they had to buy a T shirt for identification especially during the club activities.

Initiation of the club motivated three other students to change combination and join the department of Foods and Nutrition. Originally they offered BCM and then changed to BCFN. "*Am happy that I was allowed to join the club, this motivated me to change my combination*" stated one of the students

Plate 3: Pioneer students of the Foods and Nutrition club (June 2017)

4.3 Implementation of club activities.

The main activities implemented were; equipping the FN laboratory, conducting an exhibition, and a confectionery project. The activities embraced a diversity of training methods as presented herein.

4.3.1: Equipping of the FN laboratory

The proposal discussed in the meeting with the administrators included a list of equipment required to conduct the club activities (Appendix 8). Being the middle of the financial year, these equipment could only be budgeted for in the next financial year. However instead of local oven to be constructed, the head teacher suggested to buy a smaller electrical oven to facilitate the immediate cause of the club activities. The existing cooker was not in good mechanical condition to bake quality products. Below is the cooker purchased and attached is the receipt of purchase. (Appendix 10)

Plate 4: Cooker bought for the FN department. (July 2017)

4.3.2 The FN club exhibition

The products exhibited were from the topical areas that had been identified as discussed in theme 4.1. These included: - pastries, biscuits, cakes, yeast cookery, cookies, and salad assembling. Each of these topics included various products (Table. 4) for instance, pastries like; meat pies, sausage rolls

Table 4.Topical areas and the respective products.

Topic	Product	Topic	product
Pastry cookery Flaky, short crust and Ruffpuf	Sausage rolls Chapatti rolls Meat pies Vegetable samosas Meat samosas	Cakes	Queen cakes Functional cake Madeira cakes Rock buns Mable cakes
Yeast cookery	Fancy bread rolls Chelsea buns Pizzas	Biscuits	Belgium biscuits Chocolate pinwheels Ginger bread
Salad	Coleslaw Cucumber and onion salad Egg salad Spanish salad	Chicken cookery	Grilled chicken Stuffed chicken

Throughout the preparations and during the exhibition, teachers over saw the activities as the students actively engaged in the making of the products. The entire process for preparation of the exhibition was a learning process of active involvement and interaction among the students.

In a discussion with the administrators, it was agreed that the FN club exhibition would be conducted once a year and the money generated would be used to facilitate normal practical classes.

This exhibition was carried out on a visitation day to target larger audiences and market for the products (Plate 5 showing exhibition banner). In this case it was conducted on the school's visitation day of term II held on 9th of June 2017. The administration offered sum of 500000= to facilitate the exhibition and a sum of 730,000 was collected at the end of the exhibition.

Plate 5: An FN exhibition banner (July 2017)

Plate 6: FN club members exhibiting their products (July 2017)

Marketing skills

The exhibition was carried out on visitation day as suggested by the participant students, this was to target the market of the parents and other people who may have come to visit students. The

products were sold to the students and parents as anticipated and most of the exhibited products were sold off. The most popular items were; meat pies, grilled chicken, chapatti rolls, queen cakes and the marbled cakes (Appendix 11). The functional cakes were not very popular because they were expensive owing to their size. There were 3 functional cakes made and only one was sold.

In order to achieve maximum sales, we adopted several marketing strategies. These included; vending the products from one place to another trying to entice the buyer. The students also expressed good communication skills as they described the procedures to those who wanted to learn how the products are made (Plate 7 explaining to other students). We also employed the idea of buy two and get one more of the products, for the functional cakes.

Plate 7: A club member explaining to other students about their products (July 2017)

4.3.3 The confectionery project

Students make items like bread and cakes for the school instead of being purchased from outside the school. The first attempt was done using money that was collected from students. Each student in the club paid 2000= shillings to purchase ingredients and the products sold to teachers

at 500= shillings a piece during break time. Because of the small cooker availed with no prover, the anticipated volume of bread to feed the whole school could not be made.

Proving is important in the bread making process. Since the prover could not be procured, a technique was devised to manage the process where, the bread dough is placed on baking trays with cups containing hot water, then covered with polythene and placed under the sun. The hot water in the cup provides a steamy atmosphere for raising the dough without drying the crust as sun provides warmth (plate 9). Plate 8 shows students kneading the bread dough.

Plate 8: Students knead the bread dough and shaping bread rolls. (July 2017)

Plate 9: bread proved under the sun covered with a polythene bag. (July 2017)

4.3.4: Methods of training

Group learning, demonstrations and project - based learning were the main methods employed during the study as further presented in the following sub-themes.

4.3.4.1: *Group learning.*

Students were divided into 3-5 groups. These groups were established according to a product in a topic and according to the length of the procedure involved when making a particular product. For instance when making biscuits, because of the difference in procedures, the students divided in groups of 3, each group was allocated a different type of biscuits; ginger biscuits, chocolate pinwheels, coconut biscuits shortbread biscuits and the chocolate biscuits. The second example was when making pizzas, a product in yeast cookery. The students were divided into groups of five. Two groups prepared the dough and the other group prepared the fillings and also baked the products as shown in the plate 10.

Plate 10; students working in groups to make pizzas (July 2017)

4.3.4.2: *Project based learning*

The students were tasked to make a cake for the prefects' handover ceremony (plate 10) and bake the small queen cakes to be consumed as a snack during the function. The school purchased the ingredients and students working in groups of 3 and 5. They divided tasks as shown in table 5.

Table 5: Task sharing in groups during project learning

Group	Task 1	Task 2
Group 1 (5 students)	Creamed fat and sugar for the big cake.	Folded in the flour in the cake mixture
Group 2 (5 students)	Folded in flour, greased the baking tins and also baked the cake	Creamed the fat and sugar for the queen cakes
Group 3(5 students)	Prepared icing and decorated the cake.	Prepared muffin tins, and monitored the cakes on baking

Plate 11: A cake made by the students for the prefects hand over party. (August 2017)

The other is an ongoing project whereby FN students regularly bake and supply the staff with bread. Exhibitions as the other project shall regularly be held and conducted at once every year. Therefore, the Confectionery projects and the exhibition as discussed above were the major projects that the students undertook.

4.3.4.3: *Demonstrations.*

This was mainly employed during preparations for the exhibition, the teacher demonstrated to the students for each of the product presented. This was so, to ensure quality products suitable for sale and prevent wastage of materials through trial and error by the students.

4.3.4.4: *Motivational learning*

Students were motivated by actively engaging them in the making of decisions on how they could learn better. More to that, was having their own made products from the learning process revealing that they had attained the skill in baking and making of the respective products. "*I have learnt how to make and package biscuits"* were the words of a student being interviewed. ". Furthermore the sale of own made products which added an income to the students' account is another motivational factor. Even with ideal teaching methods, students learn better within a motivating environment as confessed by one of them "I *was always anxious to attend club training sessions when called upon because I enjoy the whole process of baking."*

4.4 Evaluation of club activities.

I present activities done to evaluate of effectiveness of the intervention. The evaluation therefore focused on; content coverage, assessment of skills acquisition, identifying challenges and benefits. Recommendations were also developed. The evaluation work-shop tool, informal interviews with students were used during the process.

4.4.1 Content coverage against time of practice

The topics handled during the intervention included pastries, yeast cookery, cakes, biscuits, doughnuts, chicken dishes and salads. Depending on length of the method of preparation and perishability of end product, each topic was allocated a particular day hence products that take longer time to decay were prepared first and packaged while those that needed to be eaten when fresh, were prepared on the day of the exhibition.

It was observed that during the club activities, the students had more hours of practice during the time for lessons except for the pastry products. For these pastry products, only four hours were

used to prepare compared to the 6hrs allocated to during practical lessons (table 4). This was because of their perishability therefore could only be prepared few hours to the exhibition.

Secondly it's also observed that, many products of varying quantities in identified topics were prepared using various methods than during lesson time for example cakes and biscuits, method like melting, creaming, rubbing in, whisking were all used.

Table 6: An evaluation table showing products and time taken to prepare them in normal practical lesson and during training in the club.

Topic	Name of a dish	Amount of dish prepared	Time taken to teach the topic in class	Time taken to train during the club activities
Pastries (Short crust, flaky pastry, and puff pastry.	Sausage rolls Chapatti rolls Meat pies Vegetable samosas Meat samosas	46pcs 50pcs 65pcs 45pcs 45pcs	Pastry taught in 4 double lessons (5 1/2hrs)	4hrs from 6am to 9am on the day of exhibition
Yeast cookery	Fancy bread rolls Chelsea buns Pizzas	15pcs 24pcs 5pcs	Yeast cookery takes 3 double lessons (4hrs)	One day on Thursday except for the pizzas. From 10am to 4:40 pm
Cakes (creaming, whisking and rubbing	Queen cakes Functional cake Madeira cakes Rock buns Mable cakes	95pcs 5pcs 35pcs 35pcs 25pcs	3 double lessons needed to teach cakes in class (4hrs)	3days (Monday to Wednesday) 10am to 4
Biscuits (creamed, rubbed in and melted biscuits)	Belgium biscuits Chocolate pinwheels Ginger biscuits	40pcs 20pcs 27pcs	2 double lessons are used to teach biscuits while in class. (2 1/2hrs)	One day on Friday
Chicken cookery	Grilled chicken Stuffed chicken	15pcs 1 whole chicken	1 triple lesson (2hrs)	5hrs on Saturday in the evening from 6pm to 10pm.
salads	Coleslaw Cucumber and onion salad		One triple lesson (2hrs)	2hrs on the day of the exhibition

Source; Focus group discussion of the researcher with the HOD.

4.4.2 Assessment of skills acquisition.

Assessment of student performance during the practicals was assessed by the FN teacher and the researcher, in relation to mastery of content (recipe) and quality of end product. Each item has a standard recipe and procedure that was supposed to be followed during production. Therefore during evaluation, masterly of content and quality of the end product are the two major variables that had to be assed, to ensure that correct recipes and procedures are followed.

4.4.2.1 *Masterly of content (recipe)*

Students' ability to memorize and put in practice the procedure of making a particular product was assessed. Students were divided into sub groups and each allocated a particular item to produce in suitable quantities for sale. Areas of focus were the knowledge of the ingredients, quantities and procedures of how each is added (recipe). The observation made was that, through repeated practice, students were able to memorize the recipes of the different products

4.4.2.2 *Quality of the end product*

Taste of the end product and its appearance .in terms of color, texture and consistency were the variables considered. The characteristics of the product were assessed according to consumers' response and comments. Consumers included parents, non FN students and other staff members. One parent commented that;

'I have really appreciated and loved the taste of your cakes, I actually advice the school to start a bakery and supply to the school and outside market as well'.

However not all was perfect, one student commented that; *"The doughnuts are very salty"*

The last comment was not a good one, but a reminder to the group responsible for the doughnuts that they messed with the recipe, either they put too much salt or did not just put sugar.

Furthermore, the student performance were assessed in comparison to the ideal desired characteristics of the end product. For example the doughnuts are supposed to have a golden brown color, an even open aerated texture and a sweat taste. The students' doughnuts tasted salty with a dark brown color. (Table 7)

Table 7; An evaluation chart indicating the desired expected characteristics of the product.

Topic	Name of a dish	Desired expected characteristics of the end products	Remarks
Pastries	Sausage rolls Meat pies Vegetable samosas Meat samosas	These products should be; Savory, golden brown, with crunchy pastry.	The products had a good golden brown color but over spiced. The pastry for the sausage rolls was dry and hard.
Yeast cookery	Fancy bread rolls Chelsea buns Pizzas Doughnuts	-Sweat soft golden brown bread. -The pizza should be savory and tasty with a juicy appetizing appearance. -The doughnuts should be sweat with a brown appearance and well aerated spongy texture.	The bread had strong yeast smell but with a good golden appearance and shape The doughnuts had a dark brown color and very salty
Cakes	Queen cakes Functional cake Madeira cakes Rock buns Mable cakes Ginger bread cake	-Sweat, soft with a well aerated even texture. -The rock buns should be hard and golden brown with a rough surface. -Mable cakes depend on the colors incorporated. - The bread should have a sweat	Generally all cakes were well risen with a well aerated texture. They marbled with nice colors. The ginger bread had too much bicarbonate giving it an unpleasant taste.

		ginger taste	
Biscuits	Belgium biscuits Chocolate pinwheels Ginger biscuits	-Belgium biscuits sweat and golden brown. -Pinwheels should have chocolate and golden brown appearance -Ginger biscuits are brown with a ginger taste	Had a nice taste, and the pinwheels well-marbled.
Chicken cookery	Grilled chicken Stuffed chicken	Chicken has a golden brown color and have a savory taste.	It had a juicy savory taste however presentation needed well-arranged vegetables.

(Primary source)

4.4.3 The evaluation workshop

The participants included the FN students, HOD, Director of studies and the deputy Head teacher in charge of welfare as the participants. Evaluation established the benefits and challenges encountered during the implementation process. Recommendations were also suggested in order to improve the club activities.

4.4.3.1 *Benefits of the intervention*:

To the students

The students expressed that they had more time to learn as they reviewed the topics practically. Emphasis being on topics that had been covered in class but not clearly understood. The FN club provided the students a second alternative to the master the content and also learn how to follow recipes practically especially for the bakery topics like cakes and bread.

Having been divided in groups to work on a particular item, it was necessity for the students to work to together. In their teams of production, each stage of production was responsible by an

individual student for example when creaming the cakes, the first students were supposed to cream fat and sugar as well as eggs, the second group could fold in the flour and marble the cakes. And one or two students could monitor the baking cake mixture. All these stages of cake production are crucial, therefore everyone was responsible for their neighbor's task as well to prevent bad products. This enhanced team work.

Products made during the club activities were sold off, the bread sold off to the teachers and the exhibited products sold off to the students, parents and other people who may have

on visitation day. Therefore emphasis was placed on having good quality products suitable for sale. Secondly good communication skills with the customers. The students went as far moving around with the products trying to entice the people into buying their products.

To department

The department was equipped with a new cooker to facilitate the club activities, and to conduct the normal class activities. Secondly, increased numbers of students was registered in the department, three (03) students joined to take on Foods and Nutrition in their subject combinations. The club also registered an increase in number of students from the original 15 students offering the subject. Furthermore, involvement of administrators in FN department activities was also observed because of the need to monitor the released funds for the club activities.

4.4.3.2 *Challenges during implementation of the club activities.*

The club was interfaced by the challenge of inadequate training equipment like a refrigerator, a prover to mention but a few, we had to borrow a refrigerator from the biology department to keep the pastries cold. Absence of a prover to leaven bread reduced on the anticipated bread capacities. Bread was proved under the sun aided by cups of warm water. This is inefficient for large volumes. Secondly the funds for the club activities were released late especially for the exhibition. This lessened on the time for training owing to the tight school programme.

Furthermore despite the fact that other three (03) students joined the club, the work done during these activities, especially when preparing for the exhibition was too much, for the 18 students to accomplish in the allocated week of training.

4.4.3.3 *Recommendations*

Solutions to the above challenges were suggested as follows:- the director of studies stated that the administration would be motivated to invest more funds in the club if the numbers grew bigger, therefore he suggested the following; Continuous sensitization of the students during assemblies about the subject and the club to motivate more students to join. He also advised Foods and Nutrition teachers to advocate for the subject at Ordinary level.

Further still, early submission of the budget for both equipment and ingredients to the administrators was recommended to allow extra time for budgeting and release funds at the right time. Lastly, utilization of a Sunday for the continuous club activities like the confectionery projects.

Plate 12: The researcher conducting an evaluation future workshop (September 2017)

CHAPTER FIVE
DISCUSSION, CONCLUSION AND RECOMMENDATION

5.0 Overview

In this chapter, the results of the implementation process are discussed in relation to the objectives, findings and related literature. Furthermore in this chapter conclusion and recommendation are drawn with regard to the findings.

5.1 Topical areas for club practical training

Identification of the following topics; pastry cookery, yeast cookery, cakes, biscuits, cookies, chicken cookery and salad assembling, focused the process of implementation when conducting club activities. The topics were identified during analysis of the already taught content in the FN practical syllabus by the FN students using the focus group discussions. This is also supported by Copie Moore (2010) who stated that, experience on the content covered, triggers reflection on issues of concern.

Attention was drawn to equipping learners with the practical aspect of manipulating and using availed ingredients to produce quality products like mable cakes, ginger biscuits, chocolate pinwheels, Chelsea buns, chocolate biscuits to mention but a few. Furthermore, attention was also drawn to the practical theory, relating to the principles of production like why cold temperatures should be maintained for pastry dough and warm temperatures for the bread dough. This is in support by Mjelde (2006) who stated that, the practical component comprises of the training techniques and the vocational theory component that explains the principles that guide the practicals.

5.2: Formation of a Foods and Nutrition club:

The FN club was introduced in the school to achieve the following objectives:- to enhance skills acquisition and to inculcate a spirit of team work and social cohesion amongst the students. The major purpose of the club was to strengthen the participation of the students in the practical learning activities and equip them with life skills of self-survival in food preparation, presentation and preservation (see Appendix 7).

The school administration positively adopted the proposed club, got included in the planning of activities and projects. This concurs with Lawhorns (2008) who noted that school clubs should receive leadership, direction and support from school. Also HoLung (2004) noted that staff should be included in the planning of activities and projects of the club. Involvement of the administration in the club activities motivated students and increased their participation in the club activities.

5.3: Implementation of club activities:

The club activities involved production of baked items, therefore the FN laboratory was equipped with a new cooker as supported by Puyate (2009) that no vocational program can be complete without training facilities. The availability of the new cooker stimulated and motivated the students to participate in the club activities (Semana, 2007). It quickened the process of production during the project activities.

The club conducted activities like an exhibition and participated in projects like making bread for teachers and cakes for prefect's hand over party. These activities involved active participation of the students which enhanced learning (Biggs, 2003).

For effective learning during practice, the club employed three (03) learning strategies as suggested by the participants; learning through projects, group working, and demonstration. Organizing students in smaller groups of 3-5 fostered team work and learning from each other as noted by Slavin (2011) that students help each other learn because they care about the group and its members, and come to derive self-identity benefits from group membership.

Furthermore group learning facilitated better quality products because the aim was to have products suitable for sale, therefore each student was a teacher of his/her neighbor in the group. According to Mills and Patrick (2013) small group learning is a learning situation in which dialogue and collaboration within the group are integral to learning. He further stated that small group learning can be hugely rewarding to both the students and teachers through flexibility, interaction and engagement in an activity.

5.4: Evaluation of club activities:

The intervention involved establishing a Foods and Nutrition club. The planned club activities included equipping of the FN laboratory, conducting an exhibition and carrying out confectionery project. Introduction of the club involved writing a proposal which showed clear objectives of the club budget estimates for the club activities. It was presented to the administration and later approved therefore the club was successfully introduced in school.

Furthermore, the budget estimates for equipping the FN laboratory and for conducting the club activities were honoured. A new cooker was purchased which facilitated the club bakery activities like the bread project and the cakes for the prefects hand over. Various products like biscuits, cakes, pizzas, sausage rolls, Chelsea buns, chicken dishes to mention but a few were

prepared and exhibited. Therefore the Evaluation shows that the results of the whole implementation process correlates with the intended objectives.

5.5 Relationship between the study and learning theories

The study was based on Kolb's experiential learning in1984, he refers to experiential learning as a process in which knowledge is created through the transformation of experience into existing cognitive frameworks, thus causing individuals to change the way they think and behave. According to Baker etal (2002), learners go through a four stage learning cycle during experiential learning process; concrete experience, critical reflection and observation, abstract conceptualization and active experimentation. These are described below in relation to the study.

5.5.1 Concrete experience and critical reflection

Concrete experience

The concrete experience by the learners was the actual classroom attendance and participation in the usual departmental activities. The students were exposed to more theoretical lessons than the practical lessons. Learning during the concrete experience only prepared learners to pass examinations not to prepare them for the world of work in the future. This challenge required the stakeholders to critically reflect on the learning process as to assess the causes and solutions to the problem. This is supported by Copie Moore (2010), who stated that experience on content covered triggers reflection on issues of concern.

Critical reflection

Reflection on the impact of the learning process on the students showed that it's characterized by inadequate practical training. Reflection was done during situational analysis in the future workshop. The members present included the students, the HOD, the director of studies, and the

deputy Head teacher in charge of welfare. So many challenges were established, some of which included:- Inadequate equipment in the department, Expensive equipment, delayed release of funds for practical lessons, inadequate time for practical, lack of FN text books in the library to mention but a few. During the future workshop, solutions to the above challenges were suggested (Appendix 5) and this led to the next step of abstract conceptualization and active experimentation.

5.5.2 Abstract conceptualization and active experimentation

Abstract conceptualization

Among the many ideas developed, establishment of the FN club was priotised concept. The club activities were synchronized with the teaching/learning process to experiment impact of the club activities on the student learning process.

The activities suggested included, conducting yearly exhibition and continuous participation of the students in the production projects like making bread and cakes for the school.

Active experimentation

The club was inaugurated in school and all students that take Foods and Nutrition as one of their subject combinations were members of the club. An exhibition was held in school and various products exhibited .These were sold off to students, parents and other stake holders who were around on visitation day. This process of active participation is supported by Baker etal (2002) who noted that experiential learning focuses on "doing" in addition to the "hearing" and "seeing".

5.6 Conclusion

Conclusively, a Foods and Nutrition club is an effective social strategy of operating the subject at a reduced cost. There was generation of money that could be used to run normal class practical lesson hence reducing on the schools' expenditure on the Foods and Nutrition department.

Evaluation of the club and its activities showed that; students had more time for practice when conducting club activities than the time for a normal practical lesson except for pastry cookery, which was practiced and prepared on the day of the exhibition. Therefore enabled increased practical engagement by the students in the practical sessions during the club activities.

Furthermore masterly of content was observed because the students repeatedly followed the recipes as they made products in quantities for sale. The continuous exposure and experience enhanced masterly of content by the learners. Therefore the study enhanced skills acquisition among food and nutrition students of Hilton High School.

5.7 Recommendations

These recommendations made based on findings for the study

1. The school should construct a local oven with approver large enough to facilitate the bakery projects of the club such that the products can be sold to the school to generate income for the department.
2. The school should fund study trips for FN club students such that they can have an exposure to better confectionery production techniques that are sustainable, and to motivate more students to join the subject and the club as well.

3. The school administration should introduce the foods and nutrition subject at O'level, this will motivate more students to join the club and the number of students who take the Foods and Nutrition subject in their subject combinations will increase at the Advanced level in school.

REFERENCES

Abawi, D. .. (2013). *Data Collection Instruments (Questionaires and Interviews).* Geneva.

Baker, J. &. (2002). Kolb's learning Model; Experience as the source of learning and development.

Barreiro, P. L., & Albandoz, J. P. (2001). *population and sample. sampling technique.* university of serville.

Biggs. (2003). *Teaching for quality learning* . SHRE and open University Press.

Bill Lucas, E. S. (2012). *How to teach vocational education; atheory of vocational pedagogy.* Centre for real world learning.

Bill Lucas, E. S. (2012). *How to teach vocational education; atheory of vocational pedagogy.* centre for real world learning.

Buehl. (2001). *classroom strategies for interactive learning.* Madison : International Reading Association.

Chaelevu, K. (2009). *DATA COLLECTION TECHNIQUES.* VIENTIANE.

Copie Moore, b. L. (2010). Effects of Experiential learning with an emphasis on reflective writng on deep level processing of leadership students.

CRESWELL, J. W. (2012). *EDUCATIONAL RESEARCH.planning,coducting and evaluating qualitative and quantitative research.* BOSTON: PEARSON.

David mills, P. A. (2013). *Small group teaching atoolkit for learning.* HIGHER EDUCATION ACADEMY.

HoLung, M. C. (2004). *Guidelines For Enviromental clubs* . West indies Kingston 7 Jamaica: the jont board of teacher education 2 Gibraitar Camp road.

Jim, E. (2010). *Using active learning instructional stretegies to create excitment and enhance learning. .*

Jonasen, D. (2000). *Learning as an activity.* University of Missouri.

Kiadese. (2011). An assessment of the teaching Effectiveness of Prevocational subject teachers in Ogun state .

Liv, M. (2006). *Magical properties of workshop learning.* Harper Collins Publishers.

Ministry of education of bristish columbia. (2007). *Home Economics; Foods and Nutrition* .

Molly Zhou, D. b. (December 2014). *Educational learning theories.* Dalto state college.

Olaitan, O. S. (1981). *Introduction to the teaching of Home economics.* Newyork: John Willey & sons.

P.Weissberg, J. A. (2007). *The impact of after school programmes that promote personal and social skills.* Chicago: CASEL.

Plaxcedia, M. (2015). Strategies for enhancing teaching of foods and nutrition in Mutare Urban seconadry schools, Manicaland Province. *Journal of reseach and methods in Education*, 75-83.

Semana, R. (2007). *Adressing quality education in uganda: Challenges and Dilemas in Western Uganda.* fort Portal: Mountain s of the Moon university.

Stack, E. (2008).*Looking at Home Economics.* Evaluation Support and REsearch Unit Inspectorate.

Suzanne, M. W. (2006). *Theories of learning and teaching, what do they mean for educators.* Washington DC: national education association.

Toth, H. (2006). Presence in teaching; . *Teachers and teaching.*

Umar, M. A. (2016). Effectiveness of Demonstration and Lecture method in learning . *Journal of education and practice.*

UNEB. (2006). *IPS students manual;Home Economics.* Uganda National Examinations Board .

UNESCO. (2009). *Clubs for UNESCO; Apractical guide* . Sector for external relations and Co-operation.

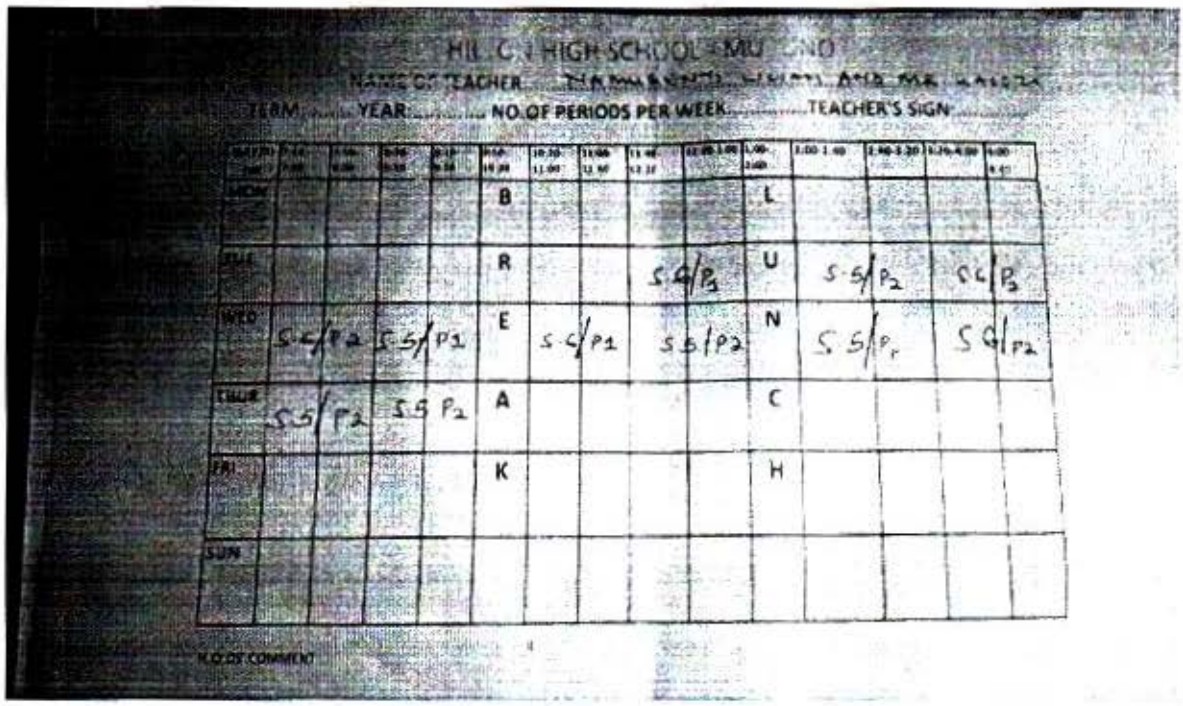
UNICEF. (2014). *SCHOOL CLUBS.* ETHIOPIA: Media & External Relations section .

Youth, N. C. (2011, March). The impact of youth development programmes on student academic achievement. *Abrief prepared by the national collaboration for the youth* . America.

ZIMSEC. (2012). *Challenges of implementing Foods and Nutrition.* Zimbabwe.

APPENDICES

Appendix 1: Class time table for six and five students



Appendix 2: Expectations of the stake holders from the department.

- Attain skills at the end of their two years study
- The administration introduced foods and nutrition such that it can enhance the students' performance since it can easily be passed.
- To enable become self-reliant in future after school
- The department was expected to reduce on the students' expenditure of the school for example, a few non-teaching staff were supposed to work together with students to make bread for students breakfast every Sunday

Appendix 3: Challenges faced by the Foods and Nutrition department

1. Inadequate equipment's in the department
2. Expensive equipment
3. Delayed release of funds for practical
4. An extra charge on the students which discourages other students
5. Less time for practical
6. Few practical lessons
7. No FN text books in the library
8. Lack of prior knowledge about the subject by students which has somehow contributed to the continuous poor performance of the students
9. Lack of study trips which would have widened the students' knowledge
10. Foods and nutrition laboratory usually used for other activities which leads to loss of equipment in the due process
11. The laboratory is poorly furnished and designed

12. Students have negative attitude towards the subject who usually look at it as the last resort in case the other subjects become so hard for them.
13. Un willingness of the school to invest in the subject
14. Lack of collaboration with world of work. The school does not carry out a needs analysis to know the competences required by the world of work or the employers.
15. Limited information about the success stories of those who offered nutrition even at the higher level which does not motivate the students.
16. Limited knowledge and information about the Foods and Nutrition content (curriculum)
17. Too wide syllabus especially for the students to be covered in one year.
18. Price fluctuation of the ingredients and yet little money is offered for practical.
19. Administration lacks prior knowledge about the subject and its requirements which leads and how to operate it at a reduced cost hence little and delayed release of funds for practical.

Appendix 4: Identification of the most pressing challenge using the pair wise ranking

	1	2	3	4	5	6	7	Total tally	Ranking
1		1	1	4	1	1	1	5	1
2	1		3	4	5	6	2	1	7
3	1	3		3	3	6	7	3	6
4	4	4	3		4	4	7	4	2
5	1	5	3	4		6	5	2	4
6	1	6	6	4	6		6	4	2
7	1	2	7	7	5	6		2	4

Source; feature workshop held on 19th November 2016

1 Lack of information on how to operate the subject at a reduced cost

2 Lack of collaboration with the world of work.

3 Negative attitude by students and administration

4 Finances

5 Limited practical lessons

6 Equipment\ infrastructure. Poorly furnished or designed lab, the library usually used for other activities.

7 Wide syllabus

Appendix 5: The stakeholders' visions included

1 Disseminate information early enough in s1 about Foods and Nutrition

2 Introduction of career guidance days specifically for Foods and Nutrition

3 Exhibition by the Foods and Nutrition department in school

4 Administration should equip the library with text books and syllabus books about the subject such that students can get information about the subject.

5 Brochures about the subject

6 Integrate ICT for research in the department and also to motivate the students

7 Seminars with other schools and workshops.

8 Study trips to increase students' knowledge

9 Administration should get involved in FN departmental meetings

10 Continuous lobbying from the administration

11 Administration should be educated about the product production process

12 FN students getting involved in community work like having the FN day

13 Mass mobilization for example on assemblies, in chapel

14 Workshops for head teachers about the subject

15 Nutritional studies/education to students and staff

16 FN department should get involved in production for the school e.g. making of bread for the whole school.

Appendix 6 Interviews conducted when establishing topical areas of training.

Researcher; *where do you need more clarification in the practical topics?*

Student 1; *Madam, I need to learn more about bread and biscuits*

Researcher; where *do you need more clarification in the practical topics?*

Student 2; *Salad making and assembling*

Researcher; *which topic gives you a hard time in practical?*

Student 3; *Teacher I need more practice in pastry making*

Appendix 7: Foods and Nutrition club proposal

HILTON HIGH SCHOOL

P.O.BOX 593,

MUKONO (U).

24th April, 2017

Received for Budgeting purposes

HILTON HIGH SCHOOL P.O. BOX 593, MUKONO

TO THE HEAD TEACHER,

HILTON HIGH SCHOOL

Dear Sir,

RE: **FOODS AND NUTRITION CLUB PROPOSAL**

I have written this letter to you proposing to establish a Foods and Nutrition's clubin Hilton High school. Its major objective is to enhance skills acquisition for sustainable living by the learners through increased engagement in practical club activities as indicated in the proposal.

Attached to this letter is the club's proposal. It's composed of the background of the club, the suggested club activities, its objectives, benefits of establishing the club in Hilton High School as well as the estimated budget for the equipment and a single expedition.

Kindly recognize this proposal and approve of the budgets for consideration next term, thank you.

Yours faithfully,

NAMUGENYI LILIAN

FOODS AND NUTRITION DEPARTMENT

3. Study trips and tours

   Students in the club are to go for study tours in areas conducting activities related to the content taught in class like bakeries, water and sewage treatment plants, food processing industries, hotels etc. these will be conducted with permission from the administration and willing students will support themselves financially.

4. Community work.
   The club will be involved in community work like cleaning activities, visiting the needy and the sick and offer both financial support and material support were necessary.

Benefits of establishing the club

- It would motivate more learners to join the subject.
- Involvement in the club activities would allow more exposure of students to practical activities in addition to the scheduled practical on the time table.
- Competent learners with required skills in bakery and food preparation as well as presentation.
- It will foster team work and good social relationship among teachers and students for academic purpose.
- It will reduce expenditure by the school especially on the confectionary products like bread and cakes.

Purpose of the club

- To strengthen the participation of students in practical learning activities and equip them with sustainable skills of self-survival in food preparation, preservation and presentation.

Objectives of the club

- To enhance performance and skills acquision amongst the learners.
- To inculcate a spirit of team work and social cohesion amongst the students.

Rules for the club

1. All students offering the foods and nutrition subject are members of the club and any willing student who does not offer the subject

Appendix 8: Exhibition budget

Saucepans medium sized ones	10	6500@	65000=
Kitchen weighing scales	2	45000@	90000=
TOTAL			**2225000=**

Proposed budget for a single expedition (the 1st ~~expedition~~ exhibition)

Items to be presented

- Cake at least 3 differing structures and different types of icing.
- Bread (loafed bread and atea rings, pizzas and doughnuts
- Juiced parked and sealed with a preservative
- Biscuits and cookies well parked
- Snacks well parked and preserved (crisps, buggies, daddies,banana crisps)
- Jam/ zesta
- Salads (fruit and vegetable)

ITEM	QUANTITY	UNIT COST	TOTAL COST
Flour	11pkts	6500=	71500=
Sugar	9kgs	4000=	36000=
Eggs	6 trays	9000=	54000=
Flavorings	4 tins	3500=	14000=
Lemon	20	200=	4000=
Icing sugar	12pks	3500=	42000=
Instant Yeast	1pkt	15000=	15000=
Baking powder	12pkts	1000=	12000=
Chocolate powder	1tin medium	8500=	8500=
Minced meat	2kg	13000=	26000=
Beef	1kg	10000=	10000=
Cooking oil	5litres	5000=	25000=
Vegetables			
Tomatoes	8big ones	300=	
Onions	1kg	3000=	3000=
Green paper	¼ kg	1500=	1500=
Cucumber	½ kg	2500=	2500=
Cabbage	2big ones	2000=	4000=
Celery	1 roll	2000=	2000=
Irish potatoes	1 trough	5000=	5000=

4

Carrots	½ kg	2500=	2500=
Fruits			
Mangoes	10 medium ripe	500=	500=
Water melon	1 big	4000=	4000=
Passion fruits,	1kg	5000=	5000=
Pine apples	3medium	2000=	6000=
Oranges	10 pieces	200=	2000=
Fresh Garlic	1pkt	2000=	2000=
Spices			
Turmeric	1 tin	12000=	12000=
Mixed spices	1 tin	2000=	2000=
Rose Mary	1tin	2000=	2000=
Royco	1tin	3500=	3500=
charcoal	1bag	60000=	60000=
Packing material		20000=	20000=
Transport			30000=
TOTAL			**507500=**

Prepared by,

NAMUGENYI LILIAN

TEACHER FOODS AND NUTRITION

Appendix 9: List of necessary equipment

2. The club will be headed by an executive committee i.e. chairman, secretary, treasure and mobiliser. All elected democratically by the club members. Their activities to be stipulated out with the other members.
3. Foods and nutrition club shirts to be bought on an individual basis of the students from the patrons of the food and nutrition club.
4. The students in the club will be mentored by the teachers of the foods and nutrition department as well as the administration.
5. The club is to conduct an exhibition at least once in term with the financial and moral support by the administration.
6. An accountability of the expenditures to be provided to the administration every after an activity is conducted by the club.

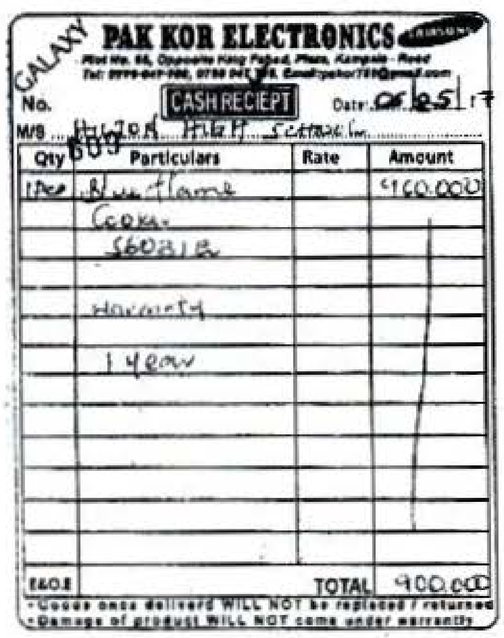
   NB- ***Other rule to be formulated with other members of the club.***

Necessary requirements

- The club to be established requires approval of the proposal by the administration.
- The department will require a laboratory assistant to help the students and teachers in the preparation
- The club requires advice and financial support from the administration so as to conduct the club activities to be able to achieve the intended objectives. There is need to purchase other equipment big enough for the activities as indicated. Below is the budget indicating the equipment and estimated cost.

EQUIPMENT	QUANTITY REQUIRED	ESTIMATED UNIT COST	TOTAL COST
An improved local oven.	1	850000=	850000=
An electric oven	1	900000=	900000=
Baking trays(related to size of the oven)	10	6500@	65000=
Loaf tins (1kg and ½ kg)	6@	40000= per 3 tins of 1kgs and 30000= per 3 tins of ½ kg	140000=
Baking Tins Queen cake tins	5 50tins	1200@	60000=
Basins/ troughs	10	4500	45000
Wooden spoons	10	1000=	10000=
Chopping boards	10		

Appendix 10: Receipt of purchase of an electric cooker



GALAXY

PAK KOR ELECTRONICS

No. 609

CASH RECIEPT

Date: 05/05/17

M/S Hilton High School

Qty	Particulars	Rate	Amount
1Pce	Blue flame Cooker S6031B		900,000
	Warranty 1 year		
E&O.E		TOTAL	900,000

- Goods once delivered WILL NOT be replaced / returned
- Damage of product WILL NOT come under warranty

Appendix11; Table Showing cost of the exhibited products as sold to consumers.

Name of a dish	**Amount of dish prepared**	**Unit Cost =**	**Total cost =**
Sausage rolls	46pcs	1000	46000
Chapatti rolls	50pcs	1000	50000
Meat pies	65pcs	500	35000
Vegetable samosas	45pcs	500	22500
Meat samosas	45pcs	500	22500
Fancy bread rolls	15pcs	300	45000
Chelsea buns	24pcs	3pcs at 2000	16000
Pizzas	10pcs	3000	30,000
Queen cakes	95pcs	500	47500
Functional cake	5pcs	40000	200000 Not sold
Madeira cakes	35pcs	2000	70000
Rock buns	35pcs	3pcs at 2000	23400
Mable cakes	25pcs	2000	50000
Belgium biscuits	40pcs	5pcs@ 1000	8000
Chocolate pinwheels	20pcs	3pcs@ 1000	6700
Ginger biscuits	27pcs	5pcs@ 1000	5400
Grilled chicken	15pcs	4000	60000
Stuffed chicken	2 whole chicken	25000	50,000
		TOTAL	733000=

Appendix 12: Attendance list of the evaluation future workshop

AN EVALUATION FUTURE WORKSHOP 16th/AUG/2017.

ATTENDANCE LIST.

1.	NABUKONDE MARIA RACHEL		[signature]	S.5
2.	KABOYA BEATRICE		[signature]	S.5
3.	[illegible] FAITH JUDITH		[signature]	S.5
4	BIIRA ANITA		[signature]	S.5
5	AKELLO SARAH GRACE		[signature]	S.5
6.	ADINYO DINAH DIANAH		[signature]	S.5
7.	FAIDA JULLIET		[signature]	S.5
8.	NAMAGANDA BETTY		[signature]	S.6
9	NANDUDU PETUA		[signature]	S.6
10	BAINGANA VIVIAH		[signature]	S.6
11	OONYU SIMON PETER		[signature]	S.5
12	EKKU JACOB		[signature]	S.5
13.	KATHUMA FRANK KIM		[signature]	S.5
14	AMAGURU HILDA		[signature]	S6
	[illegible]	[illegible]	[signature]	0772077257
	OKOT ERIC	DOS	[signature]	0704-926598
	Aurelia Ankwase	Mentor	[signature]	0757791904

Appendix 13: Introductory letter to Hilton High School

KYAMBOGO UNIVERSITY
P. O. Box 1 Kyambogo, Phone: 041-285001/2 Fax: 041-220464
www.kyambogo.ac.ug
FACULTY OF VOCATIONAL STUDIES
DEPARTMENT OF ART & INDUSTRIAL DESIGN
MASTERS IN VOCATIONAL PEDAGOGY PROGRAMME

29th September, 2016

HEAD TEACHER
HILTON HIGH SCHOOL

RE: INTRODUCTION OF NAMUGENYI LILLIAN

This comes to introduce to NAMUGENYI Lillian a student of Masters in Vocational Pedagogy (MVP) Programme at Kyambogo University. This student bears registration no15/U/14589/GMVP/PE and in her final year. As a requirement for graduation, this student is expected to carry out Action Research through a collaborative process with World of Work.

Any support rendered to her is highly appreciated.

Looking forward to your usual support.

Yours Sincerely,

Chris Serwaniko
Project Coordinator, NORHED MVP Program
Masters in Vocational Pedagogy Program