

**ORGANISING LEARNING MATERIALS AND ACTIVITIES IN A WORK
PLACE TO FACILITATE LEARNING FOR INFORMALLY TRAINED
MOTOR VEHICLE MECHANICS:**

A Case of Action Africa Help Mechanical Workshop – Adjumani

BY

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**A RESEARCH REPORT SUBMITTED TO KYAMBOGO UNIVERSITY GRADUATE
BOARD IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR THE
AWARD OF MASTER OF VOCATIONAL PEDAGOGY OF KYAMBOGO
UNIVERSITY**

SEPTEMBER, 2016

DECLARATION

I, Eyamu Andrew hereby declare that this is my original work and has never been presented to any university or institution of higher learning for the award of a Masters degree.

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APPROVAL

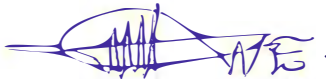
This is to acknowledge that this research thesis entitled “Organizing Learning Materials and Activities in the Work place to facilitate Learning for Informally Trained Motor Vehicle Mechanics” A case of Action Africa Help Mechanical Workshop, Adjumani” is submitted with the approval of the following undersigned University Research supervisors.

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DEDICATION

I dedicate this study to my dear son Andrew, my late father, Mr. Odeke Charles who laid a strong foundation for me in my education, but unfortunately is unable to witness my work. I want to congratulate my mother for the great work she has done in my life in bringing me through all this time to date.

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I would also like to appreciate all stakeholders (Students, AAH staff, Mechanics, among others) in this research. Without your cooperation, transparency and voluntary participation, I would not have managed to get the findings for this study. I am deeply grateful to all my graduate colleagues of Cohort IV most especially Ms. Busingye, Bonnie and other professionals in motor vehicle mechanics who shared with me very valuable information and insights throughout the process of this research. Many thanks go to my beloved mother, brothers, sisters, nieces and nephews for their endless love, support and encouragement. Without them, I would not have been able to complete this study. Lastly, my appreciation goes to my dear son Eyamu, Andrew Okitoi for his encouragement throughout this report writing. I dedicate my work to all of them!

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LIST OF ACRONYMS

AAHI:	Action Africa Help International
AAHU:	Action Africa Help Uganda
VET:	Vocational Education and Learning
DIT:	Directorate of Industrial Learning
UBTEB:	Uganda Business and Technical Education Board
FUE:	Federation of Ugandan Employers
MVM:	Motor Vehicle Mechanics
MVP:	Masters in Vocational Pedagogy
KYU:	Kyambogo University Uganda
UNHCR:	United Nations High Commission for Refugees
ATP:	Assessment and Learning Package
ICT:	Information Communication and Technology

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ABSTRACT

The research is aimed at improving “How Learning Material and Activities in Action Africa Help Mechanical Workshop can be Organized Effectively to Facilitate the Learning for Informally Trained Motor Vehicle Mechanics”. The paper provides an overview on some of the existing perspectives within learning of informally trained motor vehicle mechanics all based on the objectives of the study. Chapter two of the research discusses some existing academic literature concerning workplace learning; Maclure, (1997) asserts that this sector of education has been ignored for a long time in most countries. According to him, it is evident that fewer financial and human resources have been devoted to learning. It is finances that enable the heads of to acquire learning resources that are adequate in supporting skills acquisition. The study undertook an action research approach where the stake holders included instructors, mechanics, students and administrators who were involved from problem identification, implementation, follow up, evaluation and validation of findings. Many problems were identified using the future workshop as a tool through five stages. The challenges that needed urgent attention were further discussed and possible solutions were generated and implemented by stakeholders within the period of August 2016 to September 2016. The challenges identified were inadequate learning materials, and the fact that learners were not given opportunity to practice on the vehicles that came for repair in the workshop, an action work plan was designed and responsible persons to follow up during implementation were identified. Follow up meetings were conducted and finally a workshop to evaluate and validate findings with stakeholders was conducted. Both cases showed that learning in the workplace can be realized. However, learning in the workplace has special requirements that should be seriously taken into consideration. Developing special learning materials, that fits into the needs of these learners are expensive but can surely be re-used in regular education. The project learned that using learning materials developed for learners in the workplace increases the authentic experience for even students in secondary education.

CHAPTER ONE: INTRODUCTION

1.0 General Overview

The Motor Vehicle Mechanics (MVM) course in Action Africa Help Uganda (AAHU) is a one-year learning program which aims at enhancing the efforts by the government of Uganda through its skilling Uganda development frame work; whose aim is to equip all Ugandans with quality and employable skills to enable them become self- reliant and fight the existing unemployment in the country. According to bodies like the Directorate of Industrial Learning, and the Federation of Uganda Employers (FUE), among others, clearly state motor vehicle mechanics should be able to perform ranging from key tasks in mechanics' profession, proper use of tools and equipment, exhibit proper attitude towards the profession and show appropriate safety and health standards (DIT MVM' ATP, 2013).

A situational analysis was conducted by following up and interviewing professionals (mechanics) and their employers at their workplaces to establish if the informally trained mechanics were satisfying the practical needs of the community who needed their services. Various challenges were identified which revealed that there were indeed gaps in the learning processes of informally trained mechanics that needed to be addressed (details in Table 1). Through action research, a future workshop was organized and key participants who were instructors involved in facilitating the learning program for informally trained motor vehicle mechanics, students, mechanics and administrators.

The challenges in the learning processes were identified as inadequate learning material, and learners were not given enough opportunity to practice on vehicles that came for repair. These were to be implemented within the period August 2016 – September 2016. A workshop was conducted to evaluate and validate findings from the study. Stakeholders were involved in all activities as supported by (Meyer, 2000) who maintains that in action research, practitioners identify any existing problem, seek and implement practical solutions, and systematically monitor and reflect on the process and outcomes of change.

This current research was based on action research process whereby Whitehead & McNiff, (2006) re-affirm that an action research process is often described as a recurring spiral of planning, doing, observing (or evaluating and reflecting, in order to generate positive change. It should be noted that, action research is a cycle. Through follow up meetings, with stakeholders it was noted that some problems were minimized while others still persisted. It meant therefore that, evaluation was not the end of this action research neither was there need to relax, but we continued to reflect on those persistent problems through regular meetings with stakeholders, conducting other future workshops in order to find solutions until the workplace was problem free. Having previously undertaken group action research work and together with colleagues, we produced mini project reports and this experience enabled me acquire competences in working with the community on how to identify a problem, propose solutions to such existing problems through conducting future workshops with stakeholders.

Plate 1: Processes of action research undertaken in the study

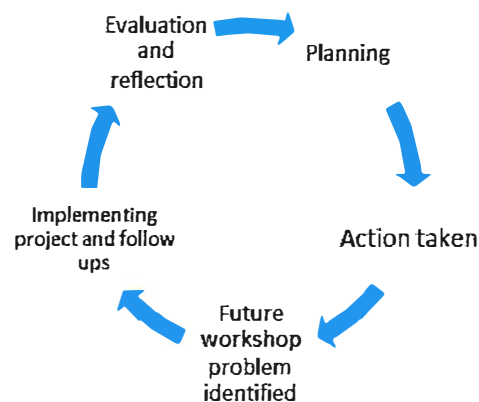


Plate1 above indicates the processes of action research undertaken as generated by the researcher and stakeholders at AAH in Adjumani. The above research process was chosen because the nature of my research needed to choose an approach that would incorporate the concept of action learning, a process which brings people together to find solutions to real

important organizational problems and since the action learning approach is process oriented and operates in cyclical manner, it was chosen to be used in this research.

1.1 Background of the study

This section is divided into three sub sections as follows; my personal background, work experience in teaching and learning processes in addition to knowledge I gained from the Masters Vocational Pedagogy (MVP) program and how the skills attained were used in improving the learning processes of informally trained MVMs. Whereas the study background explains the processes behind starting the program, aim of the study, and, assessment in comparison to developed countries like Denmark as a way to improve the learning of informally trained MVMs, the motivation for undertaking the study is because of the MVP program on conducting action research.

1.1.1 Personal background and experience

I am currently practicing motor vehicle mechanics profession as well as an Instructor at AAH Mechanical Workshop and a student pursuing Masters in Vocational Pedagogy. I have 4 years' teaching experience in MVMs. I hold a bachelor's degree in Vocational Studies in Technological Studies with Education of Kyambogo University (KYU). I am among the beneficiaries of a scholarship from the Norwegian Support for Higher Education (NORHED) project which supports capacity building in MVP partners especially in the areas of Vocational Education and learning. Masters in Vocational Pedagogy was the answer to my dreams because I knew this was the right program to improve my skills in teaching methods and ability to motivate students to learn MVM which is a practical trade.

From my experience as an instructor, I used to teach students MVM practical's through reflections and reviewing as way to help them memorize the procedures because they tended to depend on instructions only. It's easy to forget if one does not continue to practicing the procedures they have learnt. Papert, (1996) affirms that the role of the teacher is to create the conditions for invention rather than provide ready-made knowledge. Students should use other means to discover for themselves or practice individually in their free time and possibly try to seek knowledge from other experts so as to become better in their profession in addition to what has been learnt.

Through the MVP program, I have realized that students learn better through discovery, enquiry and learning by doing which strategy I will use to transform the learning processes of informally trained MVMs. For example, from the tasks given on book review, report writing, essay writing and getting mentoring after individual trials. This strategy of teaching has shaped me to be an independent learner and the whenever I fail to discover from books or the internet, I inquire from mentors or my colleagues and this way I was able to learn.

1.1.2 Study background

The informal learning at AAH aims at producing fully qualified mechanics. The general objective of the program is to enable students acquire knowledge, skills, values and attitudes relevant to help them become self-reliant. The program was started in 2005 as a partnership between AAH and United Nations High Commission for Refugees (UNHCR) originally to train refugee youths and the host community from Adjumani. Resource personnel like consultants from Toyota Uganda, City Tyres, technicians at AAH mechanical workshop are all involved in the learning. AHH-I is an African led, international non-governmental organization, based in Nairobi, Kenya, that supports livelihood challenged communities in East and Southern Africa to sustainably improve their wellbeing and standard of living. With country programs in Kenya, Somali, South Sudan, Uganda and Zambia, AAH-I has 25 years' experience working with communities in conflict and post conflict situations, including refugees internally displaced people and host communities.

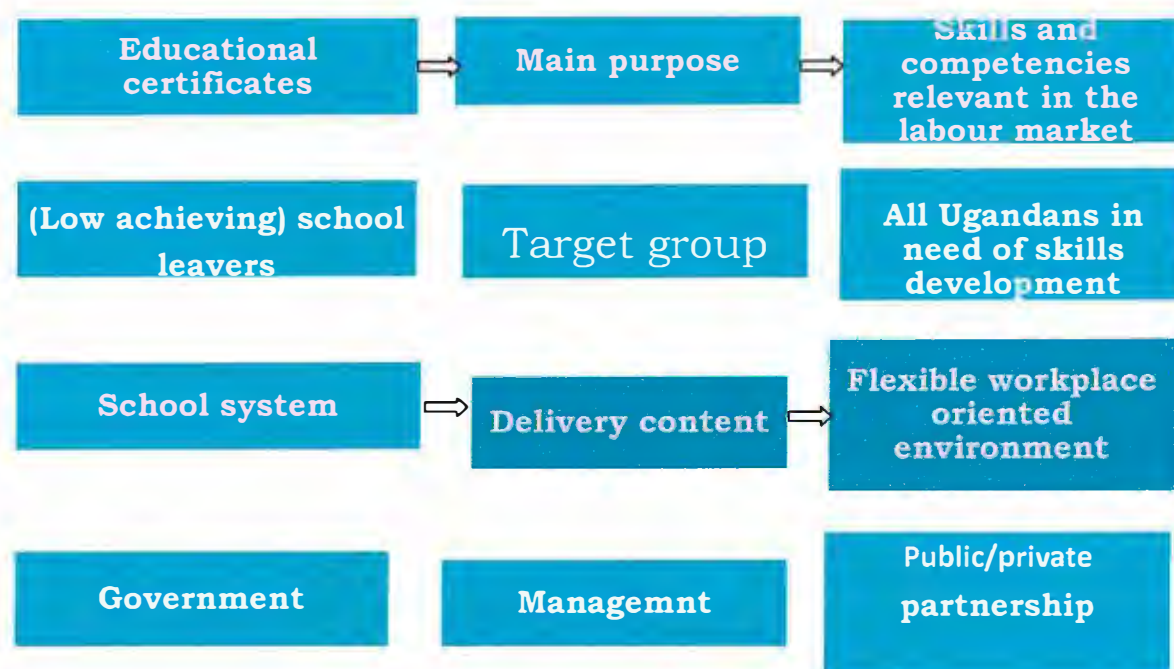
The entry qualification for a candidate to be admitted to the program is but not limited to primary seven level of education. In addition to that they should have passed English with at least a credit and should have good command of spoken English. During one of the situational analysis the presenter conducted on graduates from such learning programs for MVMs and employers for these graduates, the MVM graduates upon completion possess inadequate skills. Most of the graduates first serve as helpers with local garages; for them to fully acquire the competences required in the world of work. Some individuals continue to criticize these graduates saying that they lack the culture of a mechanic, knowledge about motor vehicle operation because they do not socialize with the well experienced mechanics in the field in order to learn more informally and get used to different kinds of vehicles. This has motivated me to conduct an action research on how to effectively organize learning resources and activities in the workshop to facilitate

learning for informally trained MVM so as to produce competent graduates who can satisfy the needs of the community.

According to the Danish Vocational Education and Learning (VET) programs which are organized according to dual principle, the apprentices alternate between theoretical and practical learning in VET – schools and practical learning in the workplace. These system is a highly valued asset in Denmark and if one has worked through the workplace for some time then they can be nationally recognized for the delivery of technical services.

Furthermore, “Skilling Uganda” which is Uganda ‘s development framework, formulated in Uganda’s Vision 2025, denotes a paradigm shift for skills development in Uganda. The Strategic Plan is embedded in the overall education policy framework and hinged on the Business Technical and Vocational Education and Learning (BTVET) Act of 2008. BTVET is under the Ministry of Education, Science, Technology and Sports (MoES).

Plate 1:2 Skilling Uganda- Paradigm shift in BTVET



Source: MoES final Version-Skilling Uganda - BTVET Strategic Plan 2012/3-2021/2

From the above plate 1.2, Sanderson, Siple, & Lyons, (1999) supporting skilling

Source: MoES final Version-Skilling Uganda - BTVET Strategic Plan 2012/3-2021/2

From the above Plate 2, Sanderson, (Siple, & Lyons, 1999) supporting skilling Uganda's main purpose affirms that, "*possession of a qualification certificate in MVM's is not guarantee that one is able to service and repair cars*" rather the competency standards of a mechanic by DIT are what the community expects normally in the workplace. That is the reason why some consumers prefer to employ unqualified mechanics who are only skilled practically as compared to those who only possess certificates without the practical knowledge. The informally trained graduates are expected to develop and exhibit skills and desired competences to execute tasks in both formal and informal settings.

In 2014, in line with Uganda's vision 2040 and skilling Uganda Project, AAHI started a non-formal modular vocational skills learning in motor vehicle mechanics, which is supported by the activities in the mechanical workshop. The recognition that learning occurs within the workplace and that it is necessary for the development of working knowledge and skills is not new. However, in recent years an interest among employers, researchers and policy makers in what comprises learning and how it can be facilitated within workplaces has increased.

The study explored learning practices at AAH-I because these would provide a rich experience in carrying out an action research concerning vocational education and learning. (www.AAHI.org)

1.2 Current situation at the workplace

A situational analysis was conducted by following up and interviewing professional mechanics and their employers at their workplaces to establish whether the informally trained mechanics were meeting the practical needs of the community. Various challenges were identified as shown below which revealed that there are indeed gaps in the learning processes of informally trained mechanics that need to be addressed. Stakeholders were involved in all activities as supported by (Meyer, 2000) who maintains that in action research, practitioners

identify any existing problem, seek and implement practical solutions, and systematically monitor and reflect on the process and outcomes of change.

1.2.1 Existing gaps in MVM practice.

- Insufficient ability to give preventive service to vehicles
- Inability to cooperate with other mechanics.
- Insufficient ability to diagnose vehicle faults.
- Mechanics are generally disorganized
- Inability of mechanics to follow instructions e.g. from manufacturers manuals.
- Inability to care and use different tools and equipment in the workshop.
- Generally poor communication skills among most mechanics.
- Limited knowledge on health and safety skills in the workshop
- I. Poor time keeping among most mechanics.

1.2.2 Work process in production of a MVM

The work/production process was the starting point of the future workshop. I intended to give participants a clear view of the processes taken in the learning process. The processes aimed at identifying duties, tasks and competencies required and challenges encountered at each stage in the process by learners, instructors, mechanics and administrators.

This gave participants a clear view of what we intended to focus on. Through focus group discussion each category had to feel free and give their own views as shown in Table 1 below;

Table 1: Work process analysis in the production of a MVM

Work process	Duties/Tasks	Competence required
Admission	• Advertise for study opportunities. • Receive applications. • Select qualified applicants. • Publish names of successful applicants. • Issue out admission letters. • Register applicants.	• Knowledge of ICT. • Communication skills. • Interpersonal skills. • Records management. • Administrative and secretarial skills. • Interpersonal skills. • Analytical skills: able to identify genuine certificates from fake ones.
Orientation	• Introduce admitted students to all departments and sections • Meet students and educate them on their duties, responsibilities and the rules/regulations of the university. • Register new students.	• Communication skills. • Administrative skills. • Knowledge of ICT.
Delivery of content	• Prepare scheme of work • Prepare lesson plan • Prepare lesson notes • Lecturing the content • Organize/manage class • Use of teaching aids/materials	• Knowledgeable of the subject matter. • Communication and presentation/Skills. • Management and interpersonal skills. • Knowledgeable of ICT and the use of teaching aids.
Assessment of the learners	• Ask questions on the subject matter • Give class work, assignments and tests • Give internal examination	• Knowledge of the subject content. • Professional ethics. • Knowledgeable about the rules and regulations of the institution. • Manage time strictly.
Graduating the learners	• Prepare lists of graduands. • Publish the names of graduands. • Release successful graduates to the world of work.	• Skills in management and administration. • Skills in public relations management. • Knowledge in ICT. • Skills in financial management.

1.2.3 Problem identification

The future workshop was used as a way to identify problems encountered in delivery of content to the informally trained motor vehicle mechanics. The future workshop was originally developed for citizen groups with limited resources who wanted to be part of the decision making process. It was developed by Robert Jungk and Norbert Mullert in the 1970's (Apel, 2004). It is meant to shed light on a common problematic situation, to generate visions about the future, and to discuss how these visions can be realized. This method involves the participants of a project in the process of working out solutions according to the existing situation.

The future workshop was a way to highlight problems and look for suggestions to solutions. This was done in phases of planning, critique, fantasy, implementation and follow up.



Plate 3: participants at the future workshop on 30th Oct 2015

Plate 3 above shows Stakeholders including instructors, students and administrators attentively listening to procedures of identifying problems following future workshop phases in an action research process.

1.2.4 The critique phase

At this stage participant in their groups highlighted the challenges encountered in delivery of content to the informally trained mechanics of Action Africa Help Mechanical workshop. Each group was to feel free and list the problems affecting the learning processes. The challenges highlighted by the groups are presented in Table 3.



Plate 4: Instructors and students engaged in group discussions which led to findings presented in Table 3 below.

Table 3: Challenges presented at the future workshop

<i>Challenges presented by students</i>	<i>Challenges presented by instructors and administrators</i>
• Inadequate materials for learning like manual gearbox, running engine • Short period of learning MVM • Little practice got from the garage • Poor learning methods used for learning • Lack of support given to trainees by mechanics.	• Adapting available learning material to current developments (update ICT) • Inadequate textbooks • Time for practical not enough e.g. taught outside the workshop • Failure to participate in education field tours • Poor attitude of admitted students

Table 3: above highlights challenges presented by instructors, administrators and students at the future workshop.

Participants arranged challenges starting from the most serious ones up to the least ones. Coding was done to show major challenges that can be easily solved without resources as shown in Table 4 below:

Table 4: Arranging, coding and prioritizing the challenges

No	Challenges	Coding
1	Inadequate learning materials.	A
2	Short period of learning.	AB
3	Little practice got from the garage.	A
4	Poor learning methods used.	B
5	Limited support given to learners by mechanics.	A
6	Limited use of ICT in the learning	B
7	Inadequate text books for learning.	C
8	Failure to participate in field tours	B
9	Poor attitude of admitted students	C

Key:

A: Can be easily solved without resources

B: Needs more time and resources

C: Takes long time and needs more resources

From the table 4 above, challenges were arranged in order according to the most critical ones to the less critical ones as shown from numbers 1 to 9. Coding was done according to alphabets A, B and C as shown in the key above. Therefore, action research is focusing on category A because it can be implemented within a short time and without using more resources. The major challenges were taken to the *future workshop* (fantasy phase) in order to generate solutions of which details are presented in action work plan Table shown in Appendix 1.

1.2.4 The Fantasy phase

At these stage participants tried to work out utopian solutions without any restrictions. Stakeholders then generated real solutions which could be implemented without so much resources. Since action research is a cyclic process, when the above listed challenges are solved within the given time frame then one can reflect and think on category B: observe, plan and act until when the challenges affecting the learning processes are minimized.

1.2 Motivation for undertaking the study

Having worked as a teaching instructor for the MVM learning program for 4 years, I have been keenly observing challenges affecting the learning. With knowledge gained from MVP program on vocational pedagogy and action research, I have realized that there is need to improve the learning processes of MVM learning programs. This is supported by Mjelde (2006) who clarifies that Vocational pedagogy is a revolutionary way of thinking about teaching and learning.

1.3 Statement of the problem

It was observed that there existed a gap in the learning processes for informally trained mechanics at AAH. A mechanic should be able to use tools effectively and in an efficient manner, should have the ability to undertake the work of the day such as brake repair, as well as the ability to diagnose problems associated with the repair of automobiles. However, learning is hampered by workplace production which is of an emergency nature and students do not get opportunity to practice on vehicles. The students after the learning are not able to perform properly because they are given little hands on skills and knowledge in MVM's. Therefore, the gap between students and learning processes should be closed in order achieve the Skilling Uganda objectives of hands on learning and employability.

1.4 Purpose of the study

The purpose of this study was to design appropriate strategies for organizing learning resources and activities in the workshop to facilitate learning for informally trained motor vehicle mechanics at Action Africa Help mechanical workshop in Adjumani district.

1.5 Objectives of the Study

The study will be guided by the following objectives;

- To establish the adequacy of learning resources and activities in the workshop.
- To implement appropriate strategies to organize the learning resources and activities in the workshop in order to facilitate learning for informally trained MVM's.
- To evaluate the outcomes of the appropriate strategies employed to organize resources and activities.

1.6 Research Questions

The study will try to answer the following questions

- How adequate are the learning resources and activities in the workshop?
- What appropriate strategies can be employed to organize learning resources and activities in the workshop in order to facilitate learning for informally trained MVM's?
- What are the outcomes of the strategies employed to organize the learning materials and activities in the mechanical workshop to learning in the workshop?

1.7 Scope of the study

Geographical scope

The study will be carried out in AAH mechanical workshop 2km off Adjumani – Moyo road. This location was chosen because the learning practices of informally trained mechanics at AAH would provide a rich experience in carrying out an action research concerning vocational education and learning.

Content scope

The study shall be carried out based on the objectives which are; to establish the adequacy of learning resources and activities in the workshop, to implement appropriate strategies to organize the learning resources and activities in the workshop. And to evaluate the outcomes of the appropriate strategies employed to organize the learning resources and activities in the workshop.

Time scope

The study shall take a period of 6 months that is from March 2016 – September 2016. The time frame above was chosen because it would be relatively sufficient for all the research processes to be concluded in time.

1.8Significance of the study

First and fore most the study was carried out with the aim of helping me gain skills on how to carry out an action research study in any community. The study was also aimed at assisting VET implementers, policy makers, and curriculum developers in recognizing how the available learning resources and activities can be organized to facilitate learning for informally trained motor vehicle mechanics. The study would also enable other researchers to carry out similar researchers in areas that I could not conclude.

CHAPTER TWO: LITERATURE REVIEW:

2.0 Overview

This chapter reviews the literature related to other written material relevant to the research approach, what a mechanic is. What learning requirements they must have, what a good workshop comprises as well as the specific problems under investigation as outlined by stakeholders in this study.

An automotive mechanic is someone who works on cars and light trucks. Their responsibilities include maintaining, inspecting and repairing these vehicles. The majority of mechanics hold certificates in automotive technology. These programs combine classroom work with real-world experience between formal schooling and on-the-job learning, it can take up to 5 years to become fully qualified. Additionally, innovations such as hybrid engines and GPS technologies mean that mechanics must update their skills constantly.

Most employers in Uganda prefer that mechanics become certified through the DIT which requires experience and an examination. DIT offers certification at different levels such as level 1, 2 and 3 etc. as the mechanic progresses in his career. This is because the workshops in which this mechanics must work in are comprised of sophisticated tools and equipment such as wheel alignment machines, tyre removing machines, an upgraded compressed air system, more storage space, enough lighting, floor jacks and jack stands as well as electrical service among others, all of which require adequate learning and competence to operate.

Learning Requirements; some vocational institutions offer adequate learning programs, though most mechanics are expected to have completed a certificate program in automotive technology learning. A certificate program usually ranges from 6 months - 2-years depending on the certification body. During this program, the learner is often responsible for completing an apprenticeship at a car assembly plant, repair workshop and a car dealership like Toyota Uganda. This apprenticeship is similar to entry-level employment and the learner will likely be paid for his or her time at work. Employment is often based on the students' specific track, which specify which brand of car they'd like to specialize in, as many schools offer differing programs based on car manufacturers. In addition to this apprentice work, students are required to complete courses

in math, automotive emissions, engine diagnosis, suspension and steering among others, coursework involves hands-on learning as well as theory assessment work.

While outside of a school-sponsored apprenticeship there are no learning requirements, most entry-level automotive mechanics begin as trainee technicians and acquire their skills by working alongside and assisting experienced mechanics. According to the BLS (www.bls.gov), it usually takes five years of experience to become fully qualified as an automotive mechanic or service technician. Specialists, like brake specialists or transmission specialists, may require an additional 1-2 years of learning.

Because automotive technology is consistently updated, employers are frequently sending their experienced mechanics and technicians to learning programs and centers for to remain abreast of current industry trends, including alternative energy engines, green air conditioning systems and electronic fuel injection.

It takes a great deal of learning and hands-on experience to be a credentialed mechanic. Obtaining a certificate in automotive technology from a trade school or apprenticeship program are needed. Upgrading your skills is a mandatory duty for this job, and it makes you a better mechanic in the long run.

Challenges affecting the learning processes of the informally trained mechanics at AAH Adjumani based on the objectives of the study;

This section will discuss the literature review based on the following objectives:

- To establish the adequacy of learning resources and activities in the workshop.
- To implement appropriate strategies to organize the learning resources and activities in the workshop in order to facilitate learning for informally trained MVM's.

2.2.1 To establish the adequacy of learning resources in the workshop

The above challenge was revealed by students that the learning program lacks adequate learning material for the learners to practice on. Material resources include textbooks, charts, audio-visual and electronic instructional materials such as radio, tape recorder, television and

video tape recorder. Other category of material resources consists of paper supplies and writing materials such as pens, eraser, exercise books, crayon, chalk, drawing books, notebooks, pencil, ruler, workbooks and so on (Atkinson, 2000).

The researcher together with the participants identified limited tools and learning materials as the most critical challenge to be solved first. The technical institute curricula are designed to provide a framework for teaching and learning. This specifies the skills, performances, attitudes, and values learners are expected to learn from workshops. If learning materials are not provided, there is the likelihood of considerable variation between what the curriculum specifies that students should learn, what teachers teach, and what students actually learn. This situation is likely to cause apathy or lack of interest and concern in the teaching of practical subjects due to the absence of instructional materials and effective instructional strategies, leading to inefficient use of instructional time. As a result, many instructors may not be able to cover the intended curriculum, so will only cover those parts that they expect to be examined. The implication here is that teaching methods will not be imparting higher-order cognitive skills, such as problem-solving skills rather, the emphasis will be on rote memorization and passive learning will be rewarded.

Newton, (1997) professed that the magnitude of instruction is more scientific base; make instruction more powerful; make learning more immediate and finally make access to education more equal. Adeogun ,(2001) discovered a very strong positive significant relationship between instructional material resources and academic performance. According to Adeogun, schools endowed with more resources performed better than schools that are less endowed. This is collaborated with the study by (Babayomi, 1999) that private schools performed better than public schools because of the availability and adequacy of teaching and learning material resources. On the other hand, Adeogun,(2001) discovered a low level of instructional resources available in public schools and stated that our public schools are starved of both teaching and learning resources. Therefore, effective teaching/learning cannot take place within the classroom if basic instructional resources are not present. (Fuller, 1986) suggested that the quality of instructional processes experienced by a learner determines quality of education. Mwiria, (1985) also supports that student's performance is affected by the quality and quantity of teaching and

learning resources. The author noted that institutions with adequate facilities such as textbooks stand a better chance of performing well in examination than poorly equipped ones. A study conducted by Gogo ,(2002) on the input of cost sharing on access, equity and quality of secondary education in Rachuonyo district found that the quality of education had remained average for the entire period 1996 to 1999.

It should therefore be noted that poor performance of some professionals could be attributed to inadequate teaching and learning materials and equipment. In addition, Gogo recommended that in order to provide quality education the availability of relevant teaching /learning materials and facilities is crucial. Ayot, (1984) suggested that all that heard and seen, only about 10 percent through the sense of hearing is retained and 80 percent or more through seeing. In this consideration, it would appear likely that the inadequacy of learning facilities affects the quality of education and subsequently learner's performance (Ayot and Olembo, 1984). Maundu, (1987) concurs with the above findings that, good performance demanded that every learning institution be equipped with relevant and adequate text books. Mbiti, (1974) strongly feels that when equipment and supplies are delayed, the policy implementers cannot work properly. According to Muthamia, (2009), teachers can only be effective and productive in their work if they have adequate and relevant facilities. In addition, Makau, (1986) stated that instructional materials such as textbooks and science equipment for both teachers and students are key variable in student's learning and performance at all school levels.

Furthermore, Maundu, (1987) states that instructional resources play an important role in explaining the wide variation in academic performance among the students. For effective teaching and learning, textbook and resource materials are basic tools, in absence or inadequacy makes teachers handle subjects in an abstract manner, portraying it in a dry and non-exciting (Eshiwani, 1984). In addition, Ayot and Briggs, (1992) point out that poor results in education relates to the amount of resources and instructional materials allocated to it. This study dwelt more on textbooks and integration of ICT in education as they are critical.

Findings in AAH revealed that there is only one nonfunctional vehicle, one diesel engine that cannot be fired as well, and one automatic gearbox which equally got vandalized due to

mishandling. Because of these reasons students feel that as much as they get to hear what an engine is like and other material as described earlier on, they think this is not enough learning for one to become a qualified mechanic who can address the challenges of drivers in the world of work. This is due to the fact that they are not able to understand fully how a motor vehicle operates and functions with all its components intact in good condition.

One of the stakeholders asserted that the learners at the time of graduation in most cases are not able to perform to satisfaction what is expected of them as mechanics i.e. they cannot diagnose vehicle faults, fix the faults in the vehicles and hand it back to the client while in good condition.

Access to learning materials can be more difficult in a work environment than in any other form of learning venue because the organization must first evaluate the impact of buying materials for learning purposes rather than for the organization's work. There is also conflict in access time or competition between job activities and study time which might require a separate area where trainees can use the materials without interruption of their learning. (Zimmerman, 2001).

Issues regarding responsibilities for providing and access to appropriate equipment must be addressed. In addition to ensuring access to appropriate equipment, access to digital libraries, glossaries, field specific web browsers can be useful too. (Bonk, 2000)

For example, if a trainee has to effectively acquire skills and competences in motor vehicle mechanics, he/she has to be provided with a live vehicle, computer systems, lathe machine, special service tools, wheel alignment machines, compressors among others. This indicates that learning in the workshop requires adequate instructional resources in order for the delivery to be adequate. The adequacy of materials eases explanation of facts by the trainers and facilitates learners' skills acquisition. Learners are able to grasp better if they are demonstrated to using available materials during the learning process.

Hadra, (1996) says that in many cases the lack and inadequacy of instructional materials seriously hampers the effectiveness of non-formal learning. Above all, the viability and sustainability of Programs has frequently proved difficult.

Maclure, (1997) asserts that this sector of education has been ignored for a long time in most countries. According to him, it is evident that fewer financial and human resources have been

devoted to learning. It is finances that enable the heads of vocational institutions to purchase learning resources that are adequate in supporting skills acquisition.

From my long time teaching experience I have always observed that whenever there is inadequacy of learning and learning materials during the teaching and learning process students always tend not to become relaxed during the learning process because learning becomes passive in nature due to the fact that they do not make any sense from what the teacher is saying and therefore learning does not take place in such a learning environment, because of this they end up not performing. Furthermore, practical subjects like motor vehicle mechanics require adequate learning materials because of its abstract nature in that when taught with little or no material at all, that lesson ends up becoming a wasted lesson because learning would not have taken place.

2.3 Strategies of organizing learning materials and activities in a workplace to facilitate learning. Strategies

A strategy may be defined in many ways and contexts but according to the Collins dictionary, defines a strategy as a plan or method for achieving a specific goal. (Collins English Dictionary, 2014). However, in the above context of teaching and learning strategies to enforce learning among learners can take different forms and as agreed upon by the stakeholders during the future workshop, several methods were agreed upon and as used earlier on by other researchers.

Coaching and mentorship

To ensure mechanics support trainees during their learning process within the workshop and also to make sure that they monitor the progress of these learners towards the completion of their tasks during the teaching learning process, stake holders agreed that coaching and mentorship method be used by assigning some particular learners to some mechanics who will mentor them to become what they want to be experts in.

The review demonstrates the importance of coaching and mentorship relationships and provides practical examples of how effective this approach can be established, ranging from the student's requirements to the organizational needs. However, there is limited empirical evidence available and literature is almost entirely based on personal and professional experience of

coaching relationships. Establishing effective coaching relationships requires an in depth examination of the needs of individuals as it is necessary to determine exactly what is necessary and required from the coaching relationship so as to make sure that the intervention is designed effectively and appropriately.

Coaching and mentorship have a long history, which can be traced back to Socrates, who believed that individuals learn best when they have ownership of a situation and take some form of personal responsibility for the outcome. A recent survey of more than 500 respondents demonstrated that organizations are now moving away from classroom based learning and placing emphasis on other forms of learning and development, the survey highlighted:

- A 51% increase in the use of coaching over the last few years
- 47% increase of e-learning
- And 96% of respondents agreed that individuals required advice and support if they were to take on more responsibility for their own learning. (Parsloe and Rolph, 2004).

This is a very good approach during learning of mechanics because it helps to unlock a person's potential to maximize his or her own performance. A focus on improving performance and development of skills is the key to an effective coaching relationship. Features of modern organizational structures and lower job security, often results in employees, particularly newly promoted individuals having to progress and develop quickly, adjusting to substantial changes in terms of skills and responsibility (Jarvis, 2004)

Now just like mechanics in their profession with a similar challenge, coaching and mentoring helps support these individuals, as it has the adaptability and flexibility to support a range of individuals with different learning styles. The development needs of individuals are diverse and the “one size fits all” model of development is often inappropriate. Thus coaching has the potential to provide a flexible responsive development approach that can be used to support an increasing number of individuals within the organization than the traditional forms of learning (Jarvis ,2004)

Another notable cause of action in the research was giving clear instructions on work tasks as well as monitoring the progress of learners. It is observed in most cases that learners will not be familiar with the workplace, or the way things are done, it will take them few days to remember names and find their way around. The first thing that should be done – on their first morning with you – is induct the student. This should be done by the employer or the nominated supervisor – don't assume that the induction will happen if you have not given someone specific responsibility for it! Take it slowly, and reinforce key information (e.g. supervisory arrangements, no-go areas and excluded activities). You have a legal obligation to provide a safe and healthy working environment for all your employees and contractors. Structured workplace learning students are no different. They are owed the same duty of care, and you must take all the same steps to safeguard them during their learning period. You must assess your workplace to determine which activities can be safely managed. Students should be given tasks which are interesting and which will give them an understanding of your daily activities. However, you must take care NOT to place them at risk, and you must provide supervision at all times.

CHAPTER THREE: METHODOLOGY

3.0 Overview

In this chapter the choice of research design and how it relates to the research topic will be discussed. This will be followed by explaining why certain research methodologies within the research design were chosen. The methods of data collection and analysis as well as a timeline indicating when the various stages of the research occurred will also be presented. Finally, reference will be made to reliability and validity of the findings, as well as some of the inherent limitations associated to the research methodology

3.1 Research design

The research design for this study was majorly qualitative in nature because of the underlying assumptions associated with it and the nature of the research. The assumptions include focus on process, in addition to results and an interest in meaning especially the experiences of people was a key assumption taken in this research. The research design approach taken involves the gathering of information, the asking of questions. It also involves field work, is descriptive and finally is inductive.

The nature of my research needed to choose an approach that would incorporate the concept of action learning, a process which brings people together to find solutions to real important organizational problems and since the action learning approach is process oriented and operates in cyclical manner, a qualitative methodology seemed most appropriate to the research.

In addition, my research required a methodology that was change focused, empowered the people involved in the research process, would lead to a change in practice, enable a reflection in practice and enable triangulation of data. Many of these requirements could be met by action research. Essentially my research was concerned with looking at experience of the course participants and in so doing giving them an opportunity to reflect on their professional practice as well as provide an insight on what appropriate strategies for organizing learning resources and activities in the workplace to facilitate learning for informally trained motor vehicle mechanics.

According to Pope & Mays, (1995) the goal of qualitative research is to develop concepts which help us to understand social phenomena in natural rather than experimental settings giving due emphasis to the meanings, experiences, and views of all participants. The intent was to conduct an intensive, descriptive study which comprised a one-to-one interview together with focus groups with the graduates and employers in the workplaces while conducting the situational analysis. In addition to that, evaluation was conducted individually using questionnaires that made participants feel free to open and give what they felt about how much implementation had been achieved. The future workshop also involved using research questions to guide stakeholders in the focus group discussions. Follow up meetings with stakeholders were conducted and minutes from meetings were generated for further reference during thesis writing.

3.1.1 Action Research approach

My exposure to action learning came in 2015 when I was involved in designing and delivering an informal learning program to informally trained mechanics in Action Africa Help Adjumani. It involved empowering the learners with knowledge and skills to enable them become self-reliant. The modules covered included engine mechanics, the transmission system, the braking system among others. The focus on action learning during the informal learning at AAH led me to the belief that adopting an action research approach in my master's study was the most logical step. The reason being that both action learning and action research are based on the same learning cycle which focuses on learning from experience with an action and a reflective phase. In addition, the purpose of action learning is to make improvements in the real world. Similarly, action research seeks to make improvements in the real world, but learning resulting from research needs to be of benefit to the wider community rather than just contributing to individual learning Burning, (1994). So I focused on action research because they seemed to go together and my study was centered around an action learning course.

The action research approach was also chosen because I wanted the participants to be part of the research in terms of driving the direction of the research, with only the first interviews and focus group discussion having predetermined questions. The subsequent interviews and focus group discussions would be based on issues arising from the first contact.

In a sense the research started with some preconceived notions and then moved towards a more emergent approach as the research proceeded. Cocklin, (1996).

This process mirrored my own development, as I became more confident in my research skills and I did not feel the need to have some set agenda and I was also more prepared to go where the research took me which was a key learning step for me. Finally, the research approach itself was very time consuming in terms of keeping up with all participants, however to balance this it was fulfilling to see how some people had developed since we met for the first time and to also develop a sense of connection with people of whom I had invested so time and energy. For me it was important that the research participants gained something from the experience and that the conclusions from the research would be of benefit to other people undertaking professional and personal learning. I did not want the research to be done for research sake but for the research to lead to change in a way that personal and professional learning is often delivered. In this sense it was important for me for the research to be shared as a process as well as a final product.

3.1.2 Implementation of Action Research

In the Reality/Implementation phase (stage 4 of the future workshop), stakeholders implemented solutions following an action work plan Table in appendix 1. This is supported by psychologists like Walton who states that, feeling that you are part of the team can spur you to take on tasks (Walton, 2014). In this study, the roles of students, instructors and administration were clearly agreed upon and my role was to follow up on action implementation and track on what is being implemented and what is not working well.

3.1.3 Follow up on implementation of action work plan

Follow up and monitoring was conducted on the performance of instructors, students and administrators to find out if any change and improvement is exhibited within the timeline of the action research from November 2015 to August 2016. In addition to that, evaluation was conducted to determine the success or failure of the Future Workshop to solve the problem, recommendations are made and the next course of action taken (details in chapter 4 and 5) Therefore, since action research is a cycle, if there is no improvement on challenges presented in

appendix 1, the cycle continues until when the teaching and learning processes challenges are eliminated.

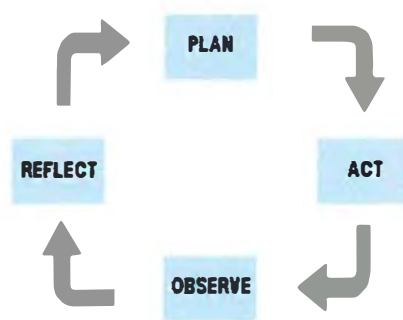


Plate 3:1 above: Action research cycle

- **Population, population size and sampling technique.**

Category of population	Sample size		Sampling technique
	Target size	Actual size	
Students	20	10	Purposive
Instructors	05	04	Purposive
Administrators	03	03	Mandatory
Mechanics	04	04	Voluntary
Total	32	21	

The major participants of this study were students, instructors, mechanics and administrators. At the beginning all the students participated in the future workshop, however the ones who were finally selected were chosen because of their good command of spoken English since this was the only means of communication throughout the research study and they were able to keep up with all the proceedings in the research. They were other factors such as interest towards the subject matter, however I did not want to force the issue of participation so I decided the number of ten would be sufficient for the purposes of this research. The four instructors out of five were chosen because of their experience in the subject matter under discussion and because of their willingness to participate in the study. The four mechanics were chosen because they were the ones who were willing to participate in the research.

The three administrators were chosen mandatorily because they had to be there since they were certain matters that they had to be consulted before moving forward with the research.

3.4 Methods used in data collection

Methods used included interviews, participant observation, Focus Group Discussion (FGD), meetings, evaluation and documentary analysis

3.4.1 Interviews

In this study, dialogue conversations were given to all participants to gain understanding of the participant's perceptions on challenges encountered at workplaces. Seidman, (1998) states, "If a researcher's goal is to understand the meaning people involved in education make of their experience, then interviewing provides a necessary, sufficient avenue of inquiry". Interviewing is a valuable assessment tool because it allows the participant to share their experiences, attitudes, and beliefs in their own words. An interview guide was designed and used to collect information on the challenges encountered by the MVM students and their employers at the workplaces. The interview prompts were open-ended and further follow-up questions were used when needed for clarification. Merriam, (2009, p. 85) states that interviews can be used to obtain "direct quotation from people about their experience, opinions, feelings, and knowledge".

3.4.2 Participant observation

Observation is another method for collecting qualitative data. The objective of observation is to collect data in a "natural setting". This method was used to observe attitude of mechanics towards the trainees during the learning process. This method provides the researcher with privileged access to the research subjects in a social situation and captures the context of the

social setting in which individuals function by recording subjective and objective human behavior (Gillis & Jackson, 2002); (Munhall, 2003).

3.4.3 Focus Group Discussions

The focus group discussion is a qualitative method of assessment, encouraging a free flow of ideas. It is typically led by one moderator but can sometimes be assisted by a scribe or other team members. Focus group discussions were used in the future workshop.

This was done according to category and position: students, instructors and administrators. instructors formed their group different from administrators while students formed their own group. Students and instructors had to feel free to express their challenges in their groups without fear of administrators and likewise students were free to air out their views without fear of their superiors. A questionnaire guide was designed and used to collect data on challenges encountered in the teaching and learning process (as shown in appendix 7 and 8 on evaluation of instructors, administrators and students).

3.4.4 Documentary analysis

Document or Documentary analysis is a social research method which is used as a tool for obtaining relevant documentary evidence to support and validate facts stated especially in the literature review chapter. The exercise involved analytical reading and review of lots of written material. The source of reading material had to be acknowledged to prevent plagiarism.

According to Guba and Lincoln, (1994), researchers must provide two key assurances of the “trustworthiness” of their analyses: they must be explicit as to the process by which they interpret their evidence and authenticity (fairness, enrichment, education, stimulation to action) and the findings may be verified.

3.5 Data collection tools/Instruments

Data collection tools used in the study include: the future workshop, Work process analysis, Interview Guide, evaluation forms, photography, logbook. All the instruments targeted different individuals and groups within the different stages of the research.

3.5.1 Administration of the instruments/tools

The researcher first explained to the respondents the purpose of the study, and that the respondents were not compelled to participate in the study

All the instruments were easily administered due to manageable number of participants. Accordingly, one of the more obvious ways of gathering data is by observing the culture or environment under study. The observation schedule was thus used in identifying, explaining and describing some of the learning processes and establishing the adequacy of learning material in the workplace.

This helped in shading more light on how the learning process of informally trained mechanics was being managed. Observation within the social and physical environment allowed for the tapping of first-hand information on the aspects under study. Photographs were taken in the selected areas and sections to help in explaining, describing and verifying data.

3.51 The work process analysis

The work/production process being the starting point of the future workshop was given to participants as a clear view of the processes. It aimed at identifying the work processes, duties, tasks and competencies required and challenges encountered in the process as shown in Table 12.

3.5.2 Future workshop

The Future Workshop is used as a tool in this study, being basically qualitative, because it aims at supporting participants in identifying common problems, develop visions and ideas. It was originally developed for citizen groups with limited resources who wanted a say in the decision making process. It is meant to shed light on a common problematic situation, to generate visions about the future, and to discuss how these visions can be realized. It was developed by Robert Jung and Norbert Muller in the 1970's (Ape, 2004). This method involves the participants of a project in the process of working out solutions according to the existing situation. The method is an intuitive and analytic way to highlight problems and look for suggestions to solve them (details shown in appendix 1).

I employed this tool because once stakeholders are directly involved in the process, they are often recognized as being the best actors to make suggestions about improvement in their own work environment. Empowering them by counting on their opinions provides them with authority, responsibility and accountability for required decisions Jose, (2004, vole 10 No 2)

3.5.3 photography

Photographs were captured for purposes of reviewing and accuracy during report writing. Photographs were taken as evidence to confirm having participated in the action research. Lincoln and Guba, (1985) argues that they are used for trustworthiness validity, reliability and dependability of data collected in qualitative.

3.5.4 Logbook

A log book was used to note down all the proceedings of the interview and other observations. (Market and Morehouse, 1994) in support of the use of logbooks for field notes clarifies, "The keen observations and important conversations one had in the field cannot be fully utilized in a rigorous analysis of the data unless they are written down".

3.5.5 Validity of the instruments.

The research instruments were validated by the research participants together with the researcher. The contents within the interview guide, observation checklist were reviewed and analyzed to ascertain that the instruments were suitable for the purpose for which they were set. They offered suggestions which the researcher used in making the necessary corrections and improvements on the instruments.

3.6 Data collection procedure

Introductory letter from the coordinator of MVP program was obtained and delivered to the workplace administrators i.e. the workshop Manager. The future workshop was conducted using the work process analysis as the starting point. Focus group discussions were used to obtain data from different groups as this allowed each group to open up without fear.

Furthermore, follow up meetings with stakeholders on implementation were conducted and minutes recorded for reference during thesis writing. Evaluation was done which generated findings on what have been improved upon and what failed and why.

3.7 Data Analysis

Data was analyzed both quantitatively and qualitatively. Both types of data were collected to provide for a balanced assessment and interpretation of the past, current and developing practices. Data gathered involved a collection of specific information and a visit to the workshops, and other workplaces.

The above process was done by inspecting, cleaning, transforming and modelling data with the goal of highlighting useful information, suggesting conclusions and supporting decision making.

The understanding of the concept of data analysis is supported by (Arya et al., 2010) where they assert that data analysis involves reducing and organizing data, synthesizing, searching for significant patterns and discovering what is important for the study. Since this study was qualitative in nature, I employed qualitative techniques of data analysis thus the process involved transcription of data from the field, validation, coding and categorizing, presentation and interpretation based on my own reflection and discussion.

3.8 Ethical Considerations

Punch, (1994) discusses ethical issues which include informed consent, dishonesty, privacy, harm, identification and confidentiality. Researchers should be aware of such issues in the context of the research project and make sure that they follow the established codes of conduct. Putting into consideration the ethics in research, the following were observed:

- An introductory letter from the MVP program coordinator to workplace was obtained.
- Consent to take photos and collect data from participants was sought.
- Gender balance of participants and balancing views from participants according to gender was done.
- Voluntary participation and presentation of problems without influence and interference was ensured.
- Participants were assured that individual's name will not be mentioned in the report for confidential reasons.

CHAPTER FOUR: RESEARCH FINDINGS AND EVALUATION

4.0 Overview

This chapter consists of the research findings, it contains statistical computations that provide the required basis to make discussions and recommendations in the study. The study was based on objectives from which the research questions were derived and were very fundamental in guiding the research process. The chapter will also highlight on what has been done and has not been done and reasons why it was not done will also be talked about. The findings were drawn from students, mechanics, instructors and administrators after two months of implementation. Two follow up meetings with stakeholders were conducted and evaluation carried out before September.

The research questions from which the findings were drawn are;

- a. How adequate are the learning resources and activities in the workshop?
- b. What appropriate strategies can be employed to organize learning resources and activities in the workshop in order to facilitate learning for informally trained MVM's?
- c. What are the outcomes of the strategies employed to organize the learning materials and activities in the mechanical workshop to learning in the workshop?

Research question (a), How adequate are the learning resources and activities in the workshop?

4.1 Evaluation and findings from students

Table 4: Responses from evaluation completed by 10 learners and after 2 months of implementation

Inadequate learning materials	Strongly agree	Fairly agree	Disagree	Undecided
Buy spare and service parts for learning	06	03	01	00
Provide enough tools and equipment for learning	00	05	05	00
Arrange for field visits to expose trainees to new technologies.	00	00	00	00
Use of ICT models and illustrations for learning.	10	10	00	00
Trainees are unable to practice on vehicles brought for repair in the workshop				
Mechanics should always support trainees	10	00	00	00
More practical should be taught in the workshop	05	04	01	00
Give clear instructions on work task	07	02	01	00
Monitor progress towards completion of tasks	10	00	00	00
Discuss a learning plan with students by grouping students for workshop activities.	10	00	00	00
Provide encouragement and feedback to students. During work	06	02	02	00
Total				

Interpretation of findings in table 4

Findings from AAH showed that the training program lacked adequate learning materials for the informally trained mechanics to learn from. According to the inventory from the stores and participatory observations within the workshop, it was evident that the training program only had one nonfunctional vehicle, one nonfunctional diesel engine, one nonfunctional automatic gearbox and one incomplete tool box.

This was insufficient for the learning of informally trained mechanics in order to produce fully qualified personnel. Resource personnel however were adequate as compared to the material resource. Mechanics are supposed to be able to diagnose vehicle faults and repair them, however the learners revealed that the nonfunctional items were not appropriate for learning because the learners could not test their abilities after any repair had been done on them.

However, after two months of implementation, Availability of learning material as revealed by the students, in the above Table 4, has fairly improved audio-visual and electronic instructional materials such as videos are now being used in the learning, learners are now able to demonstrate practically when given tasks. one running vehicle was allocated for the learning of informally trained mechanics.

This indicates that learning in the workshop required adequate learning material in order for the delivery to be adequate. The adequacy of materials eases explanation of facts by the trainers and facilitates learners' skills acquisition. Learners are able to grasp better if they are demonstrated to using available materials during the learning process however the issue of having field visits to Toyota, Nissan Mitsubishi has not yet been implemented and yet a majority of students revealed that they still have high expectations to know what is happening out in other workplaces.

The use of ICT was a major breakthrough to compensate for inadequate materials with computer models and illustrations. Findings also revealed that instructors no longer handle the subject matter in an abstract way portraying it as dry and non-exciting.

On the issue of learners not having adequate opportunity to practice on vehicles that came for repair in the workshop, findings reveal that there was improvement in the learners being given opportunity to practice on the vehicles that came for repair in the workshop. students can now practice with the work that comes into the workshop. In addition to that, more time for practical lessons in the workshop was realized. Also to avoid students overcrowding in the workshop, the idea of rotating students in groups between the workshop and classroom has helped to reduce the number of students per vehicle. Best on my own experience, the maximum number of students that can practice on a vehicle at a time is up to four individuals at a time.

This helps to eliminate room for students to become idle and disorderly and it also the instructor to observe every student closely. In addition, it helps to make sure that work is done on time by limiting delays of explaining and monitoring so many learners during the work learning process.

4:2 Evaluation from lecturers and administrators

Table 4:2 Evaluation completed by four instructors, three administrators and four mechanics on implementation of solutions after 2 months.

Inadequate learning materials	Strongly agree	Fairly agree	Disagree	Undecided
Buy spare and service parts for learning	07	04	00	00
Provide enough tools and equipment for learning	04	07	00	00
Arrange for field visits to expose trainees to	00	00	00	00

new technologies.				
Use of ICT models and illustrations for learning.	04	07	00	00
Trainees are unable to practice on vehicles brought for repair in the workshop				
Mechanics should always support trainees	11	00	00	00
More practical should be taught in the workshop	03	06	02	00
Give clear instructions on work tasks	02	07	02	00
Monitor progress towards completion of tasks	03	07	01	00
Discuss a learning plan with students by grouping students for workshop activities.	07	02	02	00
Provide encouragement and feedback to students. During work	07	02	02	00

CHAPTER FIVE: DISCUSSIONS CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

The chapter will make various discussions, conclusions and recommendations towards Organizing Learning Resources and Activities I to Facilitate Learning for Informally Trained Motor Vehicle Mechanics at Action Africa Help Mechanical Workshop in Adjumani. The hypothesis was that adequate learning resources and activities in a workplace always improve the learning of skills and competences required by the world of work for informally trained motor vehicle mechanics. Therefore, the investigation showed that Action Africa Help lacked the basic learning resources and activities to facilitate learning for informally trained motor vehicle mechanics and therefore measures to improve the proper learning of informally trained motor vehicle mechanics should be put in place.

5.1 Discussion of findings

In this research, we have drawn on our findings in the area of workplace learning to advance strategies for workplace learning with three emphases. The first of these concerns the adequacy of learning materials and activities for learning for informally trained mechanics, the second concerns instruction about science in the workplace as well as appropriate strategies for learning for informally trained motor vehicle mechanics workers and the final section considers an evaluation of the most appropriate strategies for learning in the workplace instruction for learners with exceptionalities.

In each of these three related emphases, participation is not enough. The strategies we recommend provide guidance at three levels: organizing learners' experience, guiding the development of routines and the understanding of routines, and facilitating the development of self-regulated learning and use of knowledge to respond to changing tasks and workplaces.

The knowledge economy demands that we recognize the differences between school learning and workplace learning and that we scaffold learners' experiences so that they are cognitively engaged with the workplace.

Findings revealed by stakeholders during follow up meetings and evaluation are discussed in a relation to different authors and summing up with personal views as presented below:

5.1.1 Inadequate learning material

The concern of inadequate learning material especially the lack of alive vehicle was effectively addressed. The lack of a live vehicle and consequently a diesel engine to be used for learning by the students no longer exist as students can now practice freely with the instructor without any interruptions. Some students have links with other local garages around town. Students practicing motor vehicle mechanics skills have improved tremendously. According to Muhamad, (2009), teachers can only be effective and productive in their work if they have adequate and relevant facilities. In addition, Makua, (1986) stated that instructional materials such as textbooks and science equipment for both teachers and students are key variable in student's learning and performance at all school levels. In support to Mathai's views through my observation and follow up on this action research I noted that some MVM students were able to service a vehicle without any difficulties within the workshop but they also offered mechanics services together with mechanics outside voluntarily and learnt from these experienced mechanics

It was also revealed from the findings that arranging for field visits to expose trainees to other workplaces and experiences has not yet been done mainly because management is still trying to finalize a collaboration between Toyota Gulu so that they can work out a modality of placing students there for industrial attachment. And the study collaborates the observation by Roeske (2003) that, notwithstanding the important role industrial attachment plays in instilling into trainees the practical skills, know-how and understanding necessary for employment in a particular occupation or trade, many formal learnings have shown little or no interest in encouraging technical trainees to undertake such attachments. If this situation continues, trainees are likely to enter into the labor-market with little or no practical learning experiences which are relevant to the world of work or are a foundation for entry into further education and learning for specific occupations.

Industries are supposed to be partners in progress to technical colleges as products from such institutions are employed by it, the findings show that industries should be sought through cooperation to assist learning institutions. This is very important because by so doing products (students) are fully prepared to take appointment in the industry. Emphasizing the same point,

although using a university as a case study, (Gore and Leonard, 2007) maintained that learning tomorrow's leaders requires a collaborative effort between industry and the university. Higher education must build collaborative partnerships, improve all forms of scholarship and provide opportunities for students to contribute to the common good.

It was also seen from the findings that ICT has been incorporated into the learning. This was seen clearly by the use of computer models and illustrations to compensate for some of the learning material that is not enough thus enhancing the quality of learning amidst limited learning material. ICT was also being used to provide exemplars of good practice to the students and these were screened directly on the computer. ICT accompanied with sound pedagogical learning can help teachers prepare and deliver lessons more learner-centered. Research indicates that ICT can be used to create external conditions that can significantly enhance learning and retention.

5.1.2 Trainees are not given chance to practice with the vehicles that come for repair and maintenance in the workshop

The above concern was revealed by both the students and the instructors who participated in the research. However, findings have shown that there was improvement in this matter. This problem has been addressed in that trainees are being given a chance to have a hands on experience to train from real life problems that come into the workshop for both maintenance and repair.

Best on my own experience, as an instructor and also observation from other learning places, the maximum number of students that can practice on a vehicle at a time is up to four individuals at a time. This helps to eliminate room for students becoming idle and disorderly and it also helped the instructor to observe every student closely. To achieve this, the researcher together with the stakeholders agreed that;



Plate 5: A MVM learner servicing a vehicle in the workshop as proof that the lack of enough learning material no longer exists.

Discuss a learning plan; with the students as this made sure that every student at one time gets to handle a particular job at a time. However, one of the instructors noted saying that whereas some particular jobs were frequently coming into the workshop, other jobs have yet appeared for the last six months according to the records of workshop activities that came into the workshop. Examples of these kinds of jobs include engine and gearbox overhaul, therefore some students do not get to experience this kind of problem solving techniques. It was however agreed that for the time being students concentrate on learning with what we have as we wait for an opportunity in the near future.

It was also agreed that mechanics should always support trainees;

The mission statement of the organization is better health better livelihoods meaning that AAH strive to improve on the livelihoods of individuals through vocational education and learning. Therefore, to have mechanics always support students, it was agreed in one of the

meetings that during the appraisal period January – June, Support to students be included as an objective for all Mechanics so as to ensure that they perform in this task. The mechanics were mainly given the task of ensuring that they provide students with clear instructions perform the work tasks assigned to them. They were also expected to monitor the progress of each student assigned to them to make sure the task assigned to them is executed duly to its completion. And most importantly they were to provide encouragement and feedback to students during their learning



Plate 6: A mechanic above on a dark overall supporting learners in the workshop

5.2 Conclusions

Researchers such as Harris et al, (2001) have argued that vocational learning should largely be located within the ‘authentic’ culture of the workplace. Although this may be the case, it is important to look at workplace learning in detail and to note how skill acquisition actually occurs and what the benefits/limitations are to this type of learning.

It is also important to note what appropriate strategies facilitate this benefits and which ones contribute to the said limitations. This has implications for formal vocational learning, as much of the practical technical skills associated with this type of learning are located here. As well, informally-trained mechanics, and those following traditional apprenticeship systems, gain the majority of their practical technical skills in this venue; so again, the study of workplace learning has value for researchers interested in informal learning.

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5.3 Recommendations

The workshop manager should consider learning of instructors, mechanics and students in ICT in order to update their knowledge and skills in areas essential to teaching and learning processes.

General evaluation should be conducted every after three months by the vocational learning coordinator to find ways of improving the MVM learning. In addition to that, administrators and instructors should have time to meet students at least once a month to hear their challenges.

Team work among instructors and mechanics as well as regular Section meetings can pave way to improve the teaching and learning processes of MVM students.

5.3.1 Narrowing of the skills gap

This should be done through learning according to what is required by the job market. The following approaches towards this recommendation were agreed upon by the researcher and stakeholders.

5.3.2 Demand driven skills learning

Here a market assessment should be done on profit oriented skills in different local markets.

A learning module should then be designed and developed to suit that specific market demand, and after the learning the learners with those specific skills will automatically be absorbed in the market that they have trained for.

In respect to this context teachers have to return to the industry for internships, participate in company learning programs, interview employers and employees about new knowledge and skills in the workplace, and increasingly seek out advice from business persons on education-related matters (Richard and Sheila, 2006). According to Atchara, (2002) this type of learning of learners and trainers could be linked to experiments in the involvement of enterprises in the definition of new programs. In this regard learners or trainers would thus be asked to undertake learning courses in an enterprise that are directly linked to the contents of the learning they dispense or enrolled for in developing the TVET system.

This is very vital and should be considered the cornerstone of the whole process, so as to improve quality of TVET in order to provide learners with the competences and knowledge they need to enter working life. The challenge to learning institutions has been, first: to establish closer links with the workplace-i.e., work experience which makes learning more relevant to pupils' future lives.

Partnership between education and businesses offer opportunities to make education more relevant to life and work; raises standards and levels of attainment, raises enterprise awareness and industrial understanding amongst teachers and students, and informs, develops and counsels, so that individuals are better placed to build and use their skills (Nanga 2007).

5.3.3 Industrial attachment

It was also agreed that learners after the learning in the workshop be attached to various garages and companies with more advanced tools and equipment to help learners catch up with the more recent technologies and ways of work which were not available at AAH. This will help in making their skills relevant in the job market.

Most of the best TVET systems in the world are a mixture of on the job learning alongside classroom learning. Student internship should be incorporated into each discipline in TVET, and made an integral part of the curricula. Necessary legislation shall be done to ensure industry's acceptance of internees. Systems to evaluate internship would need to be developed and they should be awarded credit. Institution Management Committees would assist in

placement of students in industry/workplaces. (UNESCO 2009) TVET teachers and trainers in Sub Saharan Africa SSA) are considered as a whole, insufficiently trained for the fulfillment of their respective tasks, often news of them, which are imposed upon them as a result of their contacts with enterprises (UNEVOC 1997).

In addition to the consolidation of their technical skills for giving them a command over the knowledge related to the trades that they have to teach, it is from now on necessary to give them skills in building up such relationships. greater challenge for TVET is to establish closer links with the workplace-i.e., work experience which makes learning more relevant to pupils' future lives, links between teachers and local industry-which strengthens the pedagogic/economic competence component (UNEVOC 1997).

Asimple model of narrowing the skills gap approach to a more sustainable profit oriented venture. This would encourage employers to employers to employ as many graduates as possible in order to gain more profits in their businesses.

The approach is more like building the capacity of individuals with relevant skills right on the market to spur production.

The plate form is unique in that, whenever any registered employee within the local area of the project operation requests any set of skills, or employment opportunity, it is immediately sent on mobile phone, and he or she is able to use it as a guide to do work or learn and on successful completion of using the skills, either through a case question or evidence of doing work, a certificate is sent directly on plate form ready for printing. It is both audio and text to cater for every form of disability and can be accessed both in online and offline systems by everybody registered on phone, computer and printed copies.

5.3.4 Use of relevant ICTs accompanied with sound pedagogic learning

Information and communication technologies drives the new economy and human capital is its fuel. In fact, the ICT revolution makes knowledge a competitive resource. In this economic era, economic prosperity depends on brains than brawn and value is created by employing knowledge workers and continuous learning. The need for recurrent education and the changing labor market conditions, call for flexible access to TVET.

Continuing education models that will meet workers' lifelong learning needs have to be relevant and flexible to provide just-in-time learning without distance. ICTs can play a crucial role in removing distance from education and in developing a lifelong learning culture in TVET.

In spite of these potentials little is known regarding the usage of ICTs in TVET in AAH and Uganda as a whole. The researcher together with the stakeholders recommended that this study try to bridge this knowledge gap. This recommendation will majorly focus on the usage of ICTs in TVET. More specifically it focuses on the use of ICTs for administrative purposes, communication, teaching and learning, curriculum development, assessment, career education and guidance, labor market information, job placement, and systems control.

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FACULTY OF VOCATIONAL STUDIES

DEPARTMENT OF ART & INDUSTRIAL DESIGN

MASTERS IN VOCATIONAL PEDAGOGY PROGRAMME

10th November, 2015

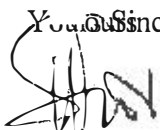
RE: INTRODUCTION OF EYAMU ANDREW

This comes to introduce to you **EYAMU Andrew** a student of Masters in Vocational Pedagogy (MVP) Programme at Kyambogo University. This student bears registration no. 14/U/129112/GMVP/PE and in his 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 him is highly appreciated.

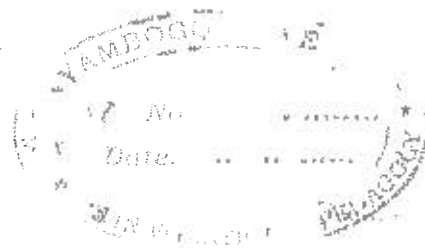
Looking forward to your usual support.

Yours Sincerely,



Chris Serwaniko

Project Coordinator, NORHED MVP Program
Masters in Vocational Pedagogy Program



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UNIVERSITY

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Kyambogo University Graduate School

Form: KyU/GS/PR/1

APPENDIX 2: PROGRESS REPORT RESEARCH WORK

ACULTY VOCATIONAL STUDIES..... DEPARTMENT ART AND INDUSTRIAL DESIGN

STUDENT'S NAME..... EYAMU ANDREW

REG.No. 14W/129112/GMVP/PE/PhD /MSc /MA/ MA Phil Full/Part Time

PROJECT TITLE ORGANISING TRAINING MATERIAL AND ACTIVITIES IN THE
WORKPLACE TO FACILITATE LEARNING FOR MOTOR VEHICLES
TECHNICIANS.

SUMMARY OF WORK COMPLETED DEVELOPED AND HANDED IN PRELIMINAL

DEVELOPED A WORK PLAN FOR THE RESEARCH.

DEVELOPED A QUESTIONNAIRE, AND ACQUIRED A SMARTPHONE FOR PHOTOGRAPHY.

RESEARCHED AND OBTAINED SOME LITERATURE, ENGAGED FOCUSED GROUP

PROPORTION OF ORIGINAL WORK PLAN COMPLETED 4/9

ABOUT 45% COMPLETE.

CONSTRAINTS, PROBLEMS/SUGGESTIONS. LATE REPORTING OF TRAINEES.

DELAY IN RESEARCH FUNDS, WHICH HAS DELAYED THE PROCESS OF

DATA COLLECTION.

THE RESEARCH PERIOD, DOES NOT FAVOUR ACTION RESEARCH PROCESS.

WORK PLAN FOR THE NEXT SIX MONTHS. ADMINISTER QUESTIONNAIRE - 27.06.2016 - 01.07.2016

DATA ANALYSIS - 04-08.07.2016, IMPLEMENTATION - 11-22.07.2016

EVALUATION WITH STAKE HOLDERS - 25-29.07.2016

THESIS WRITING AND SUBMISSION - 30.07.2016

STUDENT'S SIGNATURE DATE 22.06.2016

COMMENTS: BY THE PROGRAMME COORDINATOR

EYAMU NEEDS TO REDUCE ON THE DELIVERY PERIOD TO

TO GIVE ROOM FOR EXAMINATION. OCTOBER IS TOO FAR!

NAME & SIGNATURE C. M. S. GEMWANIKA - ADV

DATE 24-06-2016

APPENDIX 3: NOTICE OF SUBMISSION OF THESIS

The student to submit three (3) copies of this form and submit it to the Graduate School

TO: The Chairperson; Kyambogo University Graduate School Board

FROM: Student's Name: EDAMU ANDREW
Registration Number: 1410124112 / GMVP / PE
Student Number: 141020124112
Department: ART AND INDUSTRIAL DESIGN
Faculty/School: VOCATIONAL STUDIES
(Par Time/Full time) Full Time

I propose to submit my thesis (MAG, MARS, MBA, MeD.PPM, MAH, MSc.SCM, MSP, MOPP or PhD) For examination on or before Day: 30th Month September Year: 2016

Area of Specialization: MECHANICAL / PRODUCTION (e.g. Sport science, Literature etc)
Thesis Title: ORGANISING TRAINING MATERIAL AND ACTIVITIES IN THE WORKPLACE TO FACILITATE LEARNING FOR MOTOR VEHICLE MECHANICS

Student's signature: [Signature] Date: 25.08.2016
Comments from the following:

(a) Principal Supervisor:

Reasonable date

Name: Eng. Dr. Semfuka Christopher

Sign: [Signature] Date: 25 Aug 2016

Appendix 3: BUDGET

Item	Quantity	Unit cost	Amount
Future workshop			
Communication			
Modem	1	90,000	90,000
Airtime (for modem)	5	5,000	25,000
Airtime (Communication)	10	5,000	50,000
Stationery			
Log book	1	10,000	10,000
Printing letters and photocopying	48	200@	9,600
Printing proposal and binding	3	30,000	90,000
Pack CD's	1	30,000	50,000
Flash disk 16 Gb	1	80,000	30,000
Flip chart	1	25,000	80,000
Markers	1pck	10,000	25,000
Celt tape	1	5,000	10,000
Refreshments (2 workshops)	2		
2 Soda crates @ workshop	2	50,000	200,000
2 Water cartons @workshop	2	10,000	40,000
4 (packs) Cakes @workshop	2	25,000	100,000
Sign language interpreters (2)	2	50,000	200,000
Transport to Wow (5 organ's)	2	10,000	100,000

Lunch and water (2 days @ org)	2	5,000	50,000
Workshop validation/evaluation	37		
Break tea and snacks	37	2,000	74,000
Lunch	37	5,000	185,000
Sodas (2 crates)	2	25,000	50,000
Water (boxes)	2	10,000	20,000
Transport refund	37	25,000	925,000
Communication airtime	01	10,000	10,000
Flip chart	01	25,000	25,000
Marker(packet)	2	40,000	80,000
Printing thesis and bidding	3	55,000	165,000
Total cost			3,000,000

Appendix 10: Minutes from follow up meeting instructors and administrators

meeting held on 30/07/2016 to discuss way forward for solutions to challenges not yet implemented

Attendance

Okot Charles

Vocational Learning Coordinator

Semwanga Henry

workshop Supervisor

Eyamu Andrew

Researcher

Agenda

1-prayer

2-Communication

3-Review points from previous meeting on issues not implemented

4- Way forward

Minute 1: Prayer

The short prayer was led by the chairperson for the meeting

Minute 2: Communication

- Welcomed members
- Asked each member to have a copy of previous minutes

Minute 3: What has been done (trainees are unable to train on the vehicles that come for repair in the workshop)

- Mechanics are supportive towards the trainees
- More practical are now taught in the workshop than in the classroom
- Clear instructions are now given to trainees on work tasks in the workshop
- The progress of trainees towards completion of tasks is closely monitored

What has not been done

A learning plan has not been discussed with the students on how to rotate them between the workshop and classroom

Suggestions

- Trainees should always be accompanied by an instructor whenever they are in the workshop
- Mechanics encouraged to mentor students to enhance their learning, and this should feature in their appraisals.
- Encouragement and feedback should always be given to trainees

Minute 4 Way forward from HOD

- Encourage students to always stick to what has been agreed upon so that they can achieve more during the learning.
- Should have a brief meeting to see how to implement the rest which have not been implemented
- Encouraged students to feel free to approach administration whenever there is need or concern that needs urgent action

- Assured students about confidentiality in case a student raised an issue, he would not disclose his /her name

Min5 Closing prayer

The meeting was closed with a word of prayer from the researcher.

Appendix 9: Minutes from follow up meeting with stakeholders
Meeting stakeholders on action implemented activities on 15/07/2016

Agenda

- Communication.
- Review of the work plan on proposed implemented activities
- What has been implemented? What has not been implemented and why?
- Suggestions on what should be done and way forward.

Participants in attendance

Names	Designation
• Oleg Frank	Mechanic
• Wasabi Kenneth	Mechanic/Instructor
• Dragu Peter	Mechanic/Instructor
• Lindrio Lillian Mugu	student
• Lajuba Betty	student
• UnzimaiDenish	student
• Guma Charles	student
• Amoko savoir	student
• Abaza ben	student
• Feniemmmanuel	student
• AlaakAtem Mayen	student
• Tamara George Ambayo	student
• Obulejo Norbert	student

- Okua Godfrey Kenyi student
- Ambayo Simon student
- Nyanzu Dominic student
- Eyamu Andrew Researcher

Absent with apology

- Oboth Julius Katandi Workshop Maanager.
- Bongo Godfrey Mechanic/Instructor

Minute 1: Communication

- The researcher welcomed stakeholders
- Informed them that they are free to open up in discussion
- Reminded them that it was an action research follow up from November 2015 to 30th June

Minute 2: Review of work plan on proposed implemented activities

What has been done (inadequate learning material)

Use of ICT has been done, computer models and illustrations are now being used for learning.

Provision of spare and service parts has been done.

Some tools and equipment have been provided from the store

What has not been done

Field visits have not yet been conducted

Suggestions

Invite industry professionals to minimize on the cost of transporting trainees.

Introduce cost sharing on the cost of field tours.

- Informed members to check points which are not yet implemented.

Minute 3: Points reviewed

Minute 4: Way forward

Exposure of students in order to instill confidence in them

Students should be encouraged to always be inquisitive to learn from the mechanics.

Meanwhile as some things take time to acquire for now, students were encouraged to actively practice using available materials

Without any other business the meeting closed at 2pm.

Appendices

Appendix 1: Action research/ implementation work plan with focus on priorities and suggested solutions November 2015-September 2016

Challenges	Solutions	Person(s) in charge	Time frame
Inadequate learning materials	• Buy spare and service parts for learning • Provide enough tools and equipment for learning • Arrange for field visits to expose trainees to new technologies • Use of ICT models and illustrations for learning	Instructor Workshop manager Learning Coordinator	3 months for each activity
Students are unable to practice on vehicles brought for repair in the workshop	• Mechanics should always support trainees • More practical should be taught in the workshop • Give clear instructions on work tasks • Monitor progress towards completion of tasks • Discuss a learning plan with students by grouping students for workshop	Mechanics Workshop supervisor Workshop manager Learning coordinator Instructor	3 months for each activity

	activities • Provide encouragement and feedback to students. During work		
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Above: workshop manager supervisor instructor and mechanics agreed to implement the solutions as indicated.

Appendix 4: Interview guide questions for various experienced mechanics at workplaces

- For how long have you worked as a mechanic both privately and employed by a workshop?
- Did you have any prior experience before being appointed by the organization?
- What other duties are assigned to you as a mechanic in the Organization?
- Relating to your personal experience in different settings of the mechanic's profession, what challenges do you face? What experience have you gained?
- What is your preferred area of specialization as a mechanic? and Why?
- Do you get advice relating to your profession from consumers, colleagues or your employer? What advice do you get?
- To what extent do you find knowledge from mechanic's course beneficial to you as a mechanic?
- What do you feel should be included in the learning program /course from your working experience?
- Which area do you feel should be improved upon in the learning program focusing on teaching and learning process for better performance/service delivery to the trainee mechanics, Why?
- When you were studying to become a mechanic were your expectations met/goal achieved? If not what do you think should be done?

- What problems were encountered in the teaching/learning process during your time of study as a mechanic? What do you think should be done to improve the teaching and learning process?
- What do you think should be done to improve on the methods used in assessment for mechanics' courses?
- Any other issues regarding teaching and learning you would like to share?

Thank you

Appendix 5: Interview guide to employers of DSLI graduates at workplaces

- Under what situations do you seek for the services of mechanics? why?
- When was the last time you used the services of a mechanic? For how long has this mechanic worked for you?
- What other roles do you think mechanics should play?
- To what extent do you feel your mechanic works under the guidance of his profession?
- Are you always satisfied with the services provided by your mechanic?
- What competence(s) do you expect your mechanic to exhibit when working for you?
- In your own opinion do you think competences required by mechanics exhibited by some of the graduates? If not, Why?
- What do you think can be done to produce competent graduate mechanics?
- Any other issues concerning mechanics that you would like to share?

THANK YOU

Appendix 6: Focus group discussion guide to stakeholders at the future workshop

- Are your expectations being met during the course of your study? If not what do you think should be done?
- What problems do you encounter in the delivery of content?
- Do you think the content being taught is relevant to the world of work?
- What comments do you have on the resources used in teaching /learning process? materials, tools, cars etc.?
- What do you think should be done to improve the teaching and learning process?
- How do you assess competence of learners?
- What are the challenges faced during assessment?
- What are your comments on the methods used in assessment?
- What do you think should be done to improve on the methods used in assessment?
- What do you think can be done in order to produce competent graduates?

THANK YOU

Appendix 7: Evaluation for students

EVALUATION FOR STUDENTS ON IMPLEMENTATION OF WORK PLAN FROM NOVEMBER 2015 TO MAY 2016

Dear participant,

As one of the participants in an action research on organizing learning materials and activities in the workplace to facilitate the learning of motor vehicle mechanics, I kindly request you to participate in an evaluation on the implementation of solutions to challenges following a 4 months' action work plan as presented below to guide you in giving feedback.

I wish to encourage you in this action research study to be open, honest, clear and direct in responding if you observed any changes individually or as a group. All contributions are highly appreciated and confidentiality will be observed.

Mark with a tick to match the statement according to the three choices.

Inadequate learning material	Strongly agree	Fairly	Disagree
Buy spare and service parts for learning			
Provide enough tools and equipment for learning			
Arrange for field visits to expose trainees			
Incorporate ICT into learning e.g. use of models and illustrations			

If you have marked disagree why was it not satisfactorily implemented?

.....

.....

What are your suggestions for improvement on the above?

.....

.....

Trainees are unable to practice on vehicle that come for repair in the workshop.	Strongly agree	Fairly	Disagree
Mechanics should always support students			
More practical's should be taught in the workshop			
Give clear instructions on work tasks			
Monitor progress towards completion of tasks			
Discuss a learning plan with students			

- If you have marked disagree why was there no improvement on the activity?
-
-
-

- What are your suggestions for improvement on the above?

THANK YOU

Appendix 8: Evaluation for instructors, mechanics and administrators

EVALUATION FOR INSTRUCTORS ON IMPLEMENTATION OF WORK PLAN

FROM NOVEMBER 2015 TO MAY 2016

Dear participant,

As one of the stakeholders in action research in improving the teaching and learning processes of the DSLI programmer, you are requested to participate in an evaluation on implementation of solutions to challenges following a 6 months' action work plan as presented below to guide you in giving feedback.

I wish to encourage you all in this action research study to be open, honest, clear and direct in responding. All contributions are highly appreciated and confidentiality will be observed.

Mark with a tick to match the statement according to the four choices.

Inadequate learning material	Implemented	Fairly done	Not done
Buy spare and service parts for learning			
Provide enough tools and equipment for learning			
Arrange for field visits to expose trainees			
Incorporate ICT into the learning e.g. use of models and illustrations			

If you have marked not done what hindered the implementation of the activity?

.....

.....

What are your recommendations on the above?

Trainees unable to practice on the vehicles that come for repairs in the garage	Implemented	Fairly done	Not done
Mechanics should always support trainees			
More practical's should be taught in the workshop			
Give clear instructions on work tasks			
Monito progress towards completion of tasks			
Discuss a learning plan with students			

If you have marked not done what hindered the implementation of the activity?

.....

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What are your recommendations on the above?

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