



IMPROVING SKILLS OF 2nd YEARS TO PRODUCE QUALITY WOOD WORK
FURNITURE IN WOODWORK TECHNOLOGY DEPARTMENT AT
ST. JOSEPH'S TECHNICAL INSTITUTE, KISUBI

BY

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16/U/14004/GMVP/PE

A RESEARCH REPORT SUBMITTED IN THE GRADUATE SCHOOL IN PARTIAL
FULLFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTERS IN
VOCATIONAL PEDAGOGY DEGREE OF KYAMBOGO UNIVERSITY

NOVEMBER, 2018

DECLARATION

I **BARYAKIRA PARK**, hereby declare that this is my original work and has never been presented to any board of examiners of University or Higher Institution of Learning for the award of Certificate, Diploma, Degree in Education, Master's Degree in Vocational Pedagogy.


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APPROVAL

This research report titled, “IMPROVING SKILLS OF 2nd YEARS TO PRODUCE QUALITY WOOD WORK FURNITURE AT WOODWORK TECHNOLOGY DEPARTMENT OF ST. JOSEPH’S TECHNICAL INSTITUTE, KISUBI” has been presented for examination with our approval.

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Sign.......... Date 15 / 11 /2018

DR. LUBAALE GRACE

Sign.......... Date 15 / 11 /2018

DEDICATION

This piece of work is dedicated to the family members of late MUTAMBUKA Constante who laid a firm foundation stone to my studies.

ACKNOWLEDGEMENT

I wish to express my sincere thanks and appreciation to all parties that spared all their time in order to make this research on Improving Skills of 2nd Years to produce Quality wood work furniture in Wood Work Technology Department of St. Joseph's Technical Institute Kisubi, a success.

First and foremost, special thanks go to my mentor Professor J. B. Matovu, for his tireless-devotion and parental advice most especially during future workshop progression.

Also special thanks go to my supervisors, Dr. Lubaale Grace and Dr. Nyende Jacob, program coordinator and all lecturers in general of the Master in Vocational Pedagogy section –Department of Vocational studies, support staff and classmate-friends.

Thanked are also instructors and students of wood work technology department, and administration at St. Joseph's Technical Institute Kisubi, who assisted me collaboratively identified the problem under study. Industrialists (old students St. Joseph's Technical Institute, Kisubi) at industrial area Kampala and Entebbe Municipality respectively, are greatly honored for the information that was availed.

I also acknowledge my spouse Mrs. Baryakira(Tumuheirwe) Topice who willingly accepted to keep the home, managing it on meagre resources whilst supporting me for transport to and from Kyambogo University and the associated scholastic materials. Of course my children are not forgotten with whom I was competing school fees all the time and bent down to feed on posh and beans throughout.

Definitely I am not forgetting the family of my only brother, Mr. and Mrs. Katendeko Fred of Lweza Estates, for the readily financial support they seldom rendered towards my children's education whenever approached.

Last but not least, I honor my parents Mr. and Mrs. Constante Mutambuka (RIP) that chose to put me into school for such glorious moments.

Finally, I thank Kyambogo University in association with the Government of Norway for sponsoring (partial) me on the course.

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ACRONYMS/ABBREVIATIONS

BTVET:	Business, Technical, Vocational Education and Training
CBT:	Competent –Based training
D. I.Y:	Do It Yourself
H.O. D	Head of Department
NCDC:	National Curriculum Development Centre
UJTC:	Uganda Junior Technical Certificate
UNEB:	Uganda National Examinations’ Board
UNESCO:	United Nations Education Scientific Cultural Organization
UNQF:	Uganda Vocational Qualifications Framework
DWWT:	Department of Wood Work Technology.
As,Bs and Cs:	Grading used in High school Certificate Level

ABSTRACT

The research study was conducted at St. Joseph's Technical Institute Kisubi on 2nd year learners (2017-2018) of wood work technology department(WWTD). The purpose of the study was to improve wood work furniture construction skills in WWTD. The trade wood work technology was one of the pioneer courses when St. Joseph's Technical Institute Kisubi was started in 1911 as a rural trade school. Throughout its progression, graduates of St. Joseph's Technical Institute Kisubi, built a good fame of producing quality wood work furniture. However, there arose continuous complaints on poor quality wood work products, from employers and consumers of wood work furniture supplied by graduates of that institute. The researcher collaboratively with stake holders investigated causes of poor quality wood work furniture production in the department of wood work technology, in view that learners could be successfully prepared for the world of work when solutions were eventually established. By means of future workshop application, it was established that poor quality wood work furniture production was largely as a result of lack of appropriate tools and equipment, learners not able to interpret drawings and specifications, and less supervision by instructors during Practicals and self-practical practice. In addition to future workshop; observation, interview guide and focus-group discussion were other major research tools that were employed in data collection. Therefore, in an effort to ensure quality wood work furniture production, learners were provided with an Angle-Grinder (an electrical power hand tool) for efficient timber-smoothing, and asked to prepare a drawing (individually-on prescribed standards) for a church-pew, from which quality wood work would be demonstrated. Each Learner constructed a church-pew, therefore eleven furniture pieces were realized, though only seven learners managed to apply a first coat on their furniture, three only sand papered, and one learner could not clean, sand paper and do the nailing. However, for adequate skills acquisition by learners it was recommended that learners carry out self- practical practice, participate in preparation of drawings for the intended work furniture, be availed with a variety of power hand tools, and be exposed to such advanced sophisticated tools and equipment.

CHAPTER ONE

1.0 INTRODUCTION

This chapter presents to the reader what prompted the researcher to take up a study on causes of poor quality wood work furniture production in woodwork technology department of St. Joseph's Technical Institute Kisubi, it spells out how fore trainees and graduates performed in comparison with their present counterparts in relation to wood furniture production during and after study. This chapter also covers; the brief explanation of vocational training and vocational pedagogy as a field, background of the study, statement of motivation, situation analysis, statement of the problem, purpose of the study, objectives, justification of the study, significance of the study, scope of the study and definition of terms.

1.1. Vocational Training and Vocational Pedagogy as a Field.

1.1.1 Vocational Training

Vocational training is a type of training that emphasizes skills and knowledge required for a particular job function (such as typing or data entry) or a trade (such as carpentry or welding).

Therefore, vocational /technical education prepares an individual for the day-to- day duties that he/she will be doing in his/her specific trade, craft, profession, or role.

In conjunction with that William (2016) and Peterson (2018) assert that, Adults learn better when they experience what they are learning, a learning process termed as hands-on –training. Hands-on training is focused on that very premise – learn then try on your own. It is a training method(hands-on) that can have a dramatic impact on the participant's mindset. Learning new software is like riding a bike, cannot be learned by reading about it.

1.1.2 Vocational Pedagogy

. Vocational Pedagogy is the sum total of the many decisions which vocational teachers take as they teach, adjusting their approaches to meet the needs of learners and to match the context in which they find themselves. It is a field concerned with cross-section of cultural education teaching international and national students in vocational education.

excluded people who are a burden to economies therefore limiting the growth and investment in future oriented areas and sectors. Many of those who lack the skills to compete in the rather weak economy and tight labour market end up loitering around from dawn to dusk, littering sports betting centres in search of jackpots.

Therefore, raising the skills and literacy levels of such groups can help our country- Uganda yield large economic gains. However, parents should encourage their children to take on such opportunities because they will increase their involvement in the society and, will not toil in the scorching sun hunting for jobs.

1.2 Background to the study

One of the challenges facing present graduates and trainees of Woodwork Technology Department at St. Joseph's Technical Institute Kisubi, is the production of quality woodwork furniture which is to the requirements, by the world of work. The type of self-practical practice and experience acquired by them (graduates)raises concern.

However, experiential-type of learning reinforced with competence-based training, is a key foundation to the success of a craft trainee in his/her practical endeavors in the world of work and eventual possible- continued study progress.

Wu (2013) competency based training (CBT) is a popular method that focuses on improving employees' knowledge, abilities, skills, and organizational performance. It is majorly focused on specific skills/competencies. However, through interactions with one of the retired instructors (1972-2008, service period) wood work technology department, contributed that, 'wood work technology graduates produced good quality wood furniture which attracted/initiated many youths from all over Uganda and beyond to join St. Joseph's Technical Institute Kisubi for training/acquisition of similar skills.'

Currently the fame which was fostered by such fore graduates is gradually being shunned down as indicated by the resonant disappointment announcements from the society (world of work), unpleasant woodwork furniture products being displayed by today's graduates of wood work technology department, St. Joseph's Technical Institute Kisubi. Therefore, if this is true, there was need for the researcher to identify the causes of poor quality wood work products in relation to self-

practical practice learners experience, and hence, the restoration of the glory of quality wood work products to woodwork technology department at St. Joseph's Technical Institute, Kisubi.

In this regard, Robert et al (2014) asserted that, Effective Teaching is that which leads to improved student achievement using outcomes that matter to their future success.

In addition, Chirswa (2010) pointed out that effective teaching and learning depend on the qualified teachers, workshop assistance and utilization of suitable and adequate resource such as books, laboratories, library and host of other vital and audio teaching aids which aids performances of students in external examinations.

Therefore, the type of teaching /training technique(s) employed by instructors (qualified) at the department of woodwork technology of St. Joseph's Technical Institute Kisubi, should ably qualify learners acquire requirements for the world of work.

1.3. Statement of Motivation

Natural beauty of wood and its warmth on touch needed to be preserved through continual quality wood work productions. Therefore, persistent incompetent wood work products (as per dissatisfaction reports from world of work communities) by current wood work technology department trainees and graduates, compelled the researcher into a motivational action to investigate the causes of poor quality woodwork products. However, the achievement of the investigations and possible solutions to the eventual identified gaps needed a collaborative involvement and support of the stake-holders and trainees, therefore action research was deemed the best method to employ since it involves the community in the process of action/investigation.

1.4 Situation Analysis

Situation analysis is an intervention to investigate a problem in a particular society/community in view to bring about a positive sustainable change.

Therefore, situation analysis was thoroughly carried out in and outside the Department of wood work technology at St. Joseph's Technical Institute Kisubi, employing the following research tools; observation, interview guide, focus group discussion and later a future workshop was held.

Under **Observation** and through interactions with stake holders, the observed challenges among others; were lack of modern machines, lack of enough building(space) to accommodate finished

articles, untidy working space, poor quality furniture and poor attitude by learners. In addition, **Focus Group Discussion** with students and some of the stakeholders, other challenges faced by wood-work technology department are lack of portable power- hand tools, lack of industrial visits, internet accessibility, old/worn out tools and inability to interpret drawings and specifications. Furthermore, **interview guide** revealed the following challenges; trainees' performance not satisfactory to instructors, lack of new technology application, lack of timber yard, training facilitation not enough, some instructors cannot overhaul wood work machines, instructors 'upgrading, an individual's initiative and a high pay to instructors still required.

Practical training in the department of wood work technology, is carried out following the time table laid out by the head of department in conjunction with the department staff. The department admits o-level leavers and U.J.T.C graduates that have been certified by UNEB and UBTEB respectively.

The course (trend of training) is designed for two years and UBTEB the examining body follows the curriculum developed by NCDC. UBTEB examines trainees at the end of each academic year, Industrial Training inclusive. Industrial training is a great and invaluable experience for students. Android (2016) contributes that, the main importance of industrial training is to expose students to the working environment in industry. So, it will enable students to understand the theories studied with more detailed and hands- on practice within a Real-Job situation, therefore, industrial training help students gain their self-confidence and discover their own ability.

However, according to the researcher, industrial training is also a preparation or a preview to working environment later in future. Students participate in teamwork from different ages in which more maturity and open-minded is read when at work.

Therefore, through this industrial training, students can take this as a challenge and test their perseverance and thinking abilities when facing a decision-making situation in view to quality wood work furniture production.

In the same vain, the Principal St. Joseph's Technical Institute Kisubi, through the Institute Bursar facilitates the department with the training materials every term though at times these materials are released a bit late. Facilitation of training materials enhances a learner's understanding and his/her

competence improves greatly. This fulfills a Chinese saying/proverb “I hear I forget, I see and I know, I do and I understand” (Confucius quotes from Brainy Quote .com), (Vallencourt 2009)

In addition, the department provides hand tools to learners but since they are not enough, learners share them during practical periods and are encouraged to acquire/buy their own. The available hand-tools are supplied to students by the department’s store- keeper who also collects them after every activity and keeps them in the store. Shelves have been constructed so that tools are safely kept /stored, Ref.Fig.1 below.



Fig. 1: Shelf for Storing Tools; DWWT (Source: Primary Data 2018).

The above figure shows how department tools are stored.

Head of department purchases timber for the department though at times he delegates. Purchased timber usually not dry enough is dressed using department wood working machines. One of these machines is the thicknesser (in Fig. 2) which is still very sound and is used to plane (dress) timber to the required thickness.



Fig. 2: Thicknessing Machine Used to Dress(Plain) Timber; DWWT (Source: *Primary Data 2018*)

Practical training is carried out with the practice of from known to unknown, a method which motivates learners since learners are encouraged to design and construct items on their own at a small scale.

Learners per class undertake practical lessons eight hours every week, a duration learners allege that it is not enough.

The Department lacks a variety of up to date power hand tools to form such sophisticated designs on wood works as desired by employers in the world of work, therefore, learners graduate with less or no experience on power hand tools' application.

One of the industrialists (an old student to St. Joseph's Technical Institute, Kisubi) at the industrial area Kampala, when visited at his workshop under tracer study, said that the received graduates always need to be retrained for a period close to six months in order to master proper application (operation) of power hand tools. Therefore, that information concurred with what the Principal (St. Joseph's Technical Institute Kisubi) said when the researcher visited him in his office, that he was not satisfied with what some instructors delivered since some of them could not overhaul a wood - work machine.

Besides that, the department is one of the departments with the smallest number of learners (40 in total ,1st years and 2nd years compared to other departments ranging from hundreds) and in spite of that, the last female learner sat her advanced certificate in 2008, therefore gender in wood work technology department is also an issue.

In an article by, World Bank (2011) it was pointed out that, Gender equality exists where women and men have equal access to opportunities and services, equal control over resources, and an equal say in decisions at all levels. Evidence demonstrates that where gender equality is greater, there is higher economic growth and a better quality of life for all.

Therefore, the department has a challenge of gender equality which should be addressed. However, the department is manned by a six- male teaching staff and one store- keeper lady who is a wood work technology department's graduate (2008) of St. Joseph's Technical Institute - Kisubi.

It was also noted that, the department takes long to carry out a thorough general cleaning and arrangement of its property, therefore creating uncondusive learning environment.

For instance, timber pieces scattered in the machine shop, should be stored in a timber yard but not as captured in Fig.3 below.



Fig.3: Timber Pieces Scattered Around the Wood-Work Machines (*Source: Primary Data 2018*)

Also completed items (furniture) need to be moved to some stores till their dispatch to their respective recipients, otherwise congestion in a working place (joinery-workshop) creates uncondusive learning environment.

Furthermore, completed work piled in between working benches inhibits clear work-flow and likely to cause accidents. Furniture pieces as in Fig.4 are a potential to cause accidents.



Fig.4: Finished Articles Are Kept for long time in the Joinery Workshop; DWWT (Source: *Primary Data 2018*)

Cheng (2013) reaffirms that, it makes sense that students would do better when they learn in positive environments. After all, most people would agree that some environments are more conducive to learning and academic performance.

A student taking a test in a quite peaceful room will almost certainly do better than a student taking the test in a loud, chaotic room.

Therefore, there is need for staff and learners in wood work technology department to keep learning environment clean and orderly, a situation that can easily enhance quality wood work furniture production since conducive environment motivates a learner.

The experiences learners have included; having more theory lessons than practical work, a situation which exposes them to complete the training when they are half-baked therefore failure to meet world of work standard requirements (quality wood work furniture production).

In conjunction with that, ‘Skilling-Uganda 2008, BTVET-Strategic-Plan’, has it that, some progress has been achieved recently with introduction of the Uganda vocational qualifications framework (UVQF). The UVQF is a major tool to ensure that training contents are aligned with the skill demands in the labour market and that training is re-focused to practical competencies though the UVQF requires more implementation.

However, all the challenges were categorized under the following themes; industrial training, enough space to accommodate finished furniture, modern woodwork machines, poor quality furniture, facilitation not enough, lack of exposure, poor attitude, untidy working space, tools and equipment not enough, high pay to instructors, lack of instructional skills by some instructors and gender balance.

In order to identify the most pressing problem, the researcher together with stakeholders, clustered themes under short term and long term categories as shown in Table.1

Table.1: Showing Challenges Under Themes.

Long term	Short term
-modern machines	-lack of exposure
-space/building to accommodate finished articles.	-poor quality furniture
-facilitation not enough	-untidy working place
-poor attitude	
-high pay to instructors	
-gender balance	

Source: Primary Data 2018

Considering the available research period, the researcher together with stakeholders resolved to solve challenges under short term category by sorting out one deemed most pressing challenge, through pairwise matrix procedure as displayed in table 11

SHORT TERM THEMES

- A . Lack of Exposure
- B. Poor Quality Furniture
- C Untidy Working Place

PAIRWISE MATRIX

Table .2: Showing Pairwise Matrix.

ITEM	A	B	C	TALLY	RANK
A	////////	B	A	1	2 nd
B	O	////////	B	2	1 st
C	O	O	/////	O	3 rd

(Source: Primary Data 2018)

Therefore, the table-results display that, the most pressing problem at wood work technology department of St. Joseph's Technical Institute Kisubi is the production of poor quality wood furniture by trainees. (Refer Short -Term Themes Above).

However, in an effort to establish the causes of poor quality wood furniture production, the concern was subjected to a future workshop.

The future workshop was involved of the following members: administrators (two Deputy Principals), department staff and learners. The discussion was inclined to highlighting the experiences, gaps and expectations that all stake holders had, on factors affecting quality wood work furniture production at wood work technology department of St. Joseph's Technical Institute, Kisubi. However, the progression of future workshop as a tool is fully reflected under methodology in chapter three.

1.5 Statement of the Problem

The employers in the world of work expect graduates from wood work technology department of St. Joseph's Technical Institute Kisubi, to produce quality wood work furniture. However, trainees experience less supervision and self-practical practice during training and lack exposure to practicing using such advanced tools and equipment, coupled with inability to interpret drawings and specifications, has failed current trainees and graduates to produce quality wood furniture. This has been confirmed by continual complaints from employers in the world of work and consumers /customers of graduates from St. Joseph's Technical Institute, Kisubi.

1.6 Purpose of the study

The purpose of the study was to ensure that trainees in wood work technology department, interpret drawings and specifications, do self-practical practice and be able to use such advanced tools and equipment in order to acquire skills, knowledge and positive attitude to produce quality wood work furniture. Therefore, be ably placed in the competitive world of work.

1.7 Objectives of the study

The main objective of the study was to improve on the quality of wood work furniture products by trainees of wood-work technology department at St. Joseph's Technical Institute, Kisubi.

The specific objectives of this study were to;

- i. Identify the causes of Poor quality wood- work furniture production at the Woodwork Technology Department of St. Joseph's Technical Institute, Kisubi.
- ii. Establish strategies for intervention to poor quality wood work furniture production at wood work technology department of St. Joseph's Technical Institute, Kisubi.
- iii. Implement strategies for intervention to poor quality wood work furniture production at St. Joseph's Technical Institute, Kisubi.
- iv. Evaluate the impact of the strategies to quality wood work furniture production at Woodwork Technology Department of St. Joseph's Technical Institute, Kisubi.

1.7.1 Research questions

- i. What are causes of poor quality wood work furniture at Woodwork Technology Department of St. Joseph's Technical Institute, Kisubi.
- ii. What are strategies for intervention to poor quality wood work furniture production at Woodwork Technology Department of St. Joseph's Technical Institute, Kisubi.
- iii. What are strategies for implementation in order to ensure quality wood work furniture production at Woodwork technology department of St. Joseph's Technical Institute, Kisubi.

1.8 Justification of the study

The clients and industrialists in the world of work need skilled workforce that can produce wood work products of good quality. Therefore, Learners are the potential flag bearers of the training institution in terms of marketing for fresh clients (entrants) and employers. During training, learners should receive required skills and knowledge to qualify them for world of work required appreciations.

However, during situation analysis, it was discovered that employers who absorb current graduates from St. Joseph's Technical Institute Kisubi in wood work technology department

are not satisfied with the displayed performance, therefore, the recruits are always subjected to a further training while at work. Therefore, this study examined the practical practice experiences and suggested ways of improvement so that the department could graduate learners with required competent skills.

1.9 Significance of the study

This study will be useful in the following ways;

Instructors will produce/graduate learners suitable for the world of work.

The department(WWT) will achieve improvement on intake enrolment.

Trainees in woodwork technology department, will gain skills to make them ready for employment by industrialists and self-employment.

Kyambogo University will benefit from the researcher's knowledge contributed to the library stocks.

The researcher himself will have benefited from research organization, and acquired knowledge.

The institution (St. Joseph's Technical Institute Kisubi) will gain fame in relation to quality wood work furniture production.

The policy-makers will be able to win external supports for improving wood work training programs.

1.10 Scope of the study

1.10.1 Geographical area

The study was conducted on learners of wood work technology Department of St. Joseph's Technical Institute, Kisubi in Entebbe Municipality because the quality of wood work furniture production had started to decline as reflected by employers and wood furniture consumers in the world of work.

1.10.2 Content scope

In an effort to ensure production of good quality woodwork furniture products by woodwork technology department of St. Joseph's Technical Institute Kisubi, the study was focused on; providing appropriate tools and equipment, giving enough supervision and practical self-practice, ensured ability to interpret drawings and specifications by learners during training.

1.10.3 Time line

The study focused on 2017-2018, a period when the quality of wood work furniture products at Woodwork Technology Department of St. Joseph's Technical Institute Kisubi, was realized to start declining.

1.10.4 Conceptual Frame work

Fig:5. Below summarizes the Conceptual Frame work for analyzing Improvement of skills in wood work training Department at St. Joseph's Technical Institute Kisubi and Uganda in General.

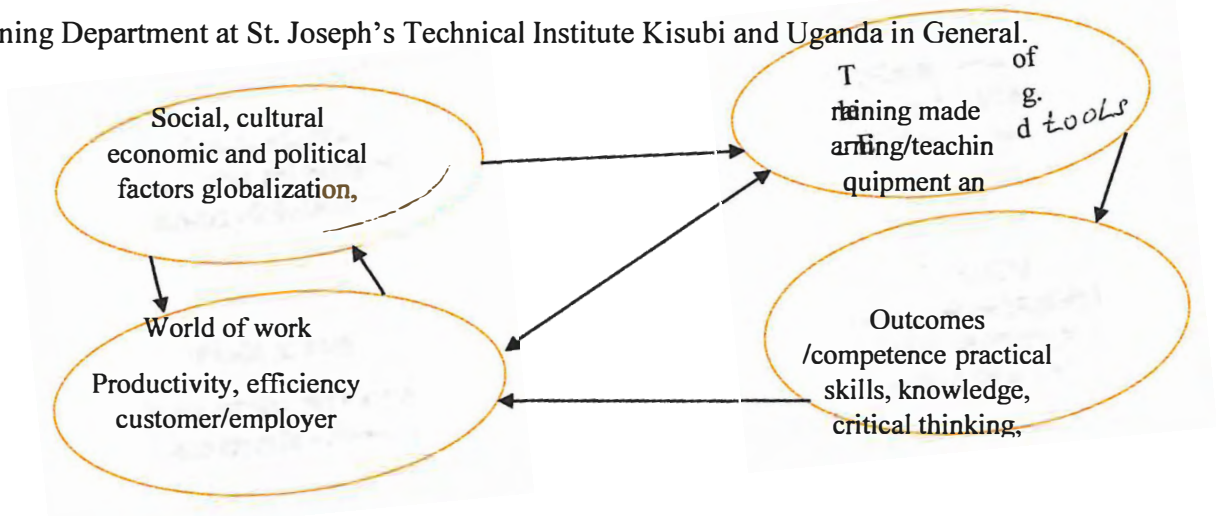


Figure .5: Conceptual Framework analyzing improvement of skills (Source: Primary Data, 2018)

1.10.5 Interpretation of the conceptual frame work.

Training (Improving Skills) activities in WWTD take place within cultural, social, economic and political settings.

To this effect social, economic, cultural and political factors are extraneous variables that affect training objectives. For instance, curricula are designed according to societal needs and Government Educational objectives which are in turn derived from major international goals such as Millennium Development Goals(MDG) and Education for All (EFA). On the other hand, economic factors constitute the life blood VET learning objectives because of huge financial resources required for equipment and materials used in VET institutions, St. Joseph's Technical Institute Kisubi, inclusive.

Availability or lack of appropriate equipment, materials and competent trainers directly affect the outcome, that is the quality of graduates in terms of required practical skills, knowledge and attitude for the Wood Work Technology trainees/learners.

The training outcomes are represented by graduates who have the necessary competences to meet job performances expectations of the employers and wood furniture consumers.

Therefore, further collaboration through participation in training needs assessment and subsequent curriculum development is also necessary in order to improve the quality of wood furniture training programs.

1.11 Definition of terms.

The terminologies applied in this study have been used according to my own understanding. They have been used to mean and refer to different things in relation to the context of this,

research-study, "factors affecting the quality of timber furniture production in wood work technology department at St. Joseph's Technical Institute, Kisubi".

Action Research; - A scientific study where societal members who actively participate in the study, together with the researcher, critically analyse the problem under study in order to establish and, give a concrete solution that is sustainable.

Future workshop; - this is a method suitable to support oppressed groups that are struggling for a better living and a better Society. Future workshop also seeks to support group creativity and to create group collaboration (concerted effort) for individuals that are in the same oppressed situation.

Hands-on-training; -A kind of training that is focused on that very premise –learn then try on your own. It moves beyond theory to the realm of learning by doing.

Competence; -Ability to perform to the required standard(s).

Quality; - the standard of something as measured against other things of a similar kind; the degree of excellence of something.

Carpenter; -a skilled craftsman who makes and repairs wooden objects and structures.

A literature review; - It is an evaluative report of information found in the literature related to someone's selected area of study. It should describe, summarize, evaluate and clarify that literature. It gives a theoretical base for the research and helps the author (researcher) determine the nature of his/her research.

Skill; - An ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carry out complex activities or job functions involving ideas (cognitive skills), things (technical skills), and/or people (interpersonal skills).

Training; -the action of teaching a person a particular skill or type of behavior.

Technical education; - is a type of education that prepares an individual for a specific skill in a particular trade.

Assessment; -is the ongoing, systematic process of collecting, analyzing/discussing the information in order to develop a deep understanding of what a student(s) know with a view to help him/her perform better or acquire a basis for promoting that student.

Vocationalisation of education; -the act that provides for diversification of educational opportunities which enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provides an alternative for those pursuing higher education. It is the integration of general education with vocational education.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE.

2.0 Introduction:

This chapter has been discussed after critical analysis of learning theories. Learning theories are organized set of Principles explaining how individuals acquire, retain, and recall knowledge. By studying and knowing the different learning theories, educationalists and learners can better understand how learning occurs. Basically, there are three theories of learning; behaviorism, cognitivism and constructivism.

Behaviorism; it is believed that, learning actually occurs when new behaviors or changes are acquired through associations between stimuli and responses. On the other hand, **cognitivism** is where learning occurs through internal processing of information and, **constructivism** has it that, we construct own knowledge of the world based on individual experiences.

Therefore, basing on particular individual learners'-level, the principles of theories of learning can be used by the educationalists as guidelines to help select instructional tools, techniques and strategies in order to help learners achieve their intended goals. Thus referring to **Constructivist** theorists who believe that learning is a process where individuals construct new ideas or concepts based on prior knowledge and/or experience, hence preparing people to problem solve. This gives a strong platform to a wood work learner who otherwise requires an experience for effective hands-on executions in order to achieve quality wood work furniture accomplishments thus, the researcher's concern on improving learners' skills for quality wood work furniture production achievements was based on constructivists theory of learning. This is in compliance with Youths/individuals who take up technical/vocational education and are obliged to acquire skills in their individual trades for self-sustenance and economic development.

Evan and Kumia (2017) stated that, Skill is an ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carry out complex activities or job

functions involving ideas (cognitive skills), things (technical skills) and/or people (interpersonal skills).

This is in line with the Government's strategic Plan on Business, Technical and Vocational Education and Training (BTVET) which addresses the skill shortages.

The plan (2012/3 to 2021/22) builds on considerable progress in the reform of the BTVET system achieved during the last decade, notably the BTVET act of 2008, which states, "Technical-vocational skills are essential for individuals, enterprises and the economy, skills enable individuals to increase productivity and raise incomes".

However, employers in Uganda often complain about skills shortages that constrain production and expansion. To this effect, the researcher is largely in support of Vocationalization of the education which means changing the curriculum into practical or vocational direction, which

help the students to use both their head and hand at the same time therefore, experience acquisition in practical work executions. This help to produce a country's skilled human power for the improvement of its economic and social conditions.

Regarding this point, Venn (1964) stated that, "students and their parents are impressed with the employment opportunity held out by vocational education then by the grand design of the traditionalist for a common culture"

Also as defined by UNESCO, Aggarwal (1997) explained that, Vocationalization embrace those aspect of the educational process involving, in education to general education, the study of sciences and the equation of practical skills, attitudes, undertaking knowledge relating to occupation in the various sector(s) of economic and social life.

However, in the struggle to achieve the aimed at targets by both trainers and trainees, there are challenges which are continually encountered.

During situation analysis, participants' contributions and researcher's observations, a lot was revealed and witnessed in relation to inadequate skills affecting quality wood work furniture production. Open joints that were observed in one of the finished articles indeed made the work appear unpleasant, making it fail to meet requirements of the world of work.

This type of displayed wood work furniture (table top) showing open joints (refer Fig.6 below), was as a result of using unseasoned(wet) timber, lacked an experience of choosing a right timber.



Fig.6: Showing Open Joints in Finished Furniture Due to Using Wet Timber. (Source: *Primary Data 2018*)

Steve (2017) stated that, working with wood that is too wet is like falling into a pit. By the time your plight is obvious, it's usually too late. Assembled parts warp, glue joints crack, and a rising sense of panic takes hold. I know because I've felt it. I also know it doesn't have to be this way. Therefore, using wet timber contributes a lot towards production of poor quality wood furniture works so should be discouraged by instructors during training. Seasoned(dry) timber to a wood worker has many advantages which include, Tools readily work on it and the production is faster since the wood surface shall not be tearing, therefore quality pleasant wood surface shall be ensured.

However, availability of adequate tools and equipment is also an important aspect during training of wood work trainees(learners) for quality wood work perfection, work comes out faster and

different features (moldings) are formed on the work thus work becomes more pleasant. To that respect, the department wood-work technology was equipped with a turning-lathe (in Fig.7) used for forming moldings on wood furniture, but reported to be with a mechanical fault.



Fig:7; Turning lathe(Source: *Primary Data, 2018*)

Effective training of wood work trainees can further also be achieved through effective supervision by instructors and allowing learners practice on their own, assessed and given feedback. Learners mentioned that supervision by instructors was still at a minimal, yet instructors' supervision and associated assessment is of a great value to a learner.

Race et al (2005) reaffirmed that, "nothing we do to, or for our students is more important than our assessment of their work and the feedback we give them on it. The results of our assessment influence students for the rest of their lives:".

Therefore, the effective supervision learners can receive on the wood works they practice on, initiates and motivates them to perform much better on their work.

In relation to that, Cowan (2005) emphasized that, Assessment is the engine which drives student learning. Therefore, instructors of wood work technology department required to give learners a

close supervision in order to stimulate a student's learning ability so that their consistence on practical works could equip them with competence that could enable them produce quality wood work furniture skillfully.

In addition, learners mentioned that, there was lack of skill of interpreting drawings and specifications, a factor that inhibited a learner from transferring right measurements from the drawing to producing the actual job item in its real required dimensions, hence un quality work.

Thompson, (2011) stated that, a drawing was one of the most effective tools we could use to communicate with. It held no barriers between people who do not understand each other's language. It was a method used to communicate and share ideas with people of different cultures and nationalities. Explaining to a person how to build/construct a cupboard would be near impossibility, whereas a drawing would take but a few minutes.

The same author, also revealed that, the ability to read and interpret construction drawings was of great value to any construction worker. He /she would be able to accurately construct an architect's architectural concept and design into a realistic building structure (Thompson, 2011).

Therefore, in order for the learner to master interpretation of drawings and specifications should be allowed to practice drawing on his/her own alone, thus preparing him/her for the world of work.

Coupled with that, Ericsson et al., (2006 and 2008) stress that, workplace simulations put emphasis on independent learning. What and how students learned seemed to deepen on their own ability to create learning opportunities independently and actively. They should be able to identify and formulate their learning needs.

Moreover, insight into their own learning processes was essential to plan, monitor, and evaluate their task performance, to choose an appropriate learning path and to focus on performance aspects that need improvement. However, practical skill acquisition training is not only focused on how best a particular learner can competently produce good quality wood furniture, but also how well he/she can communicate and relate with others.

Johnson (2012) stressed that, Employers need capable and creative people who know how to solve problems and communicate effectively. Successful competency-based educational models inherently foster the development of higher order critical thinking, problem solving, organization,

innovation, and communication skills. The nature of competency-based education requires that students demonstrate the ability to apply what they know and have learned.

Furthermore, the Inadequacy of tools and machines greatly affect the quality of wood works which is satisfied by the finish it receives, and it is the nature of finish that gives the appeal to the user or the employer, therefore the learner should be exposed to a variety of modern tools and machines, be conversant with their applicability.

Akinsanya (2010) asserted that, educational resources are important because the goal of any school depends on adequate supply and utilization of physical and material resources among others as they enhance proper teaching and learning in schools. Therefore, Educational resources are equally necessary for carpentry and joinery because the dwindling provision of educational resources, declining academic performance of students in technical colleges and absence of functional workshops, equipment, tools and laboratories, buildings and so on in any technical college/institution would create a problem as the teacher would not be able to teach the students practically. This would also negate the main objectives of technical/vocational education, which is the provision of technical knowledge and vocational skills.

This is the reason why this study on training of wood work carpenters is important.

In relation to that, Dan (2014) pointed out that, the other crucial thing I am concerned with is having tools that will allow me to work efficiently with rough cut or reclaimed lumber, because I need to save money on materials. Paying full price for many board feet of smooth, dimensioned stock is a fairly quick way to go broke – or at least lose your love of woodworking.

Therefore, a variety of woodworking tools greatly assist even to overcome poorly grained timber, can easily be worked upon by employing the appropriate type of a particular tool. Such kind of training to a learner also promotes his/her capability to care for the utilization of available materials and resources, therefore, creating high production of services and income to himself/herself or an organization.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

In this chapter, the researcher presents the methodology and the research- design that was employed in the study. In this context, the research –design means steps taken, that is, from chapter one up to chapter five, it was also composed of sources of data, and tools of data collection.

This chapter also contains description of data collection at all levels of the study, implementation of action production objective and evaluation at all levels, population, sample and size, sampling technique, instruments of data collection, procedure of data collection and finally data analysis.

3.1 Research Design

The research design involved the use of participatory and examined causes of poor quality wood work furniture products, and determined strategies to make furniture products as would be desired by consumers and employers/industrialists of the world of work. The research design used in this study was a descriptive type that engaged the future workshop framework and qualitative methods of data analysis and interpretation.

3.1.2 Location of the study

The study was conducted on 2nd year learners (2017-2018), of WWTD at St. Joseph's Technical Institute Kisubi, in Katabi Municipality –Entebbe, Wakiso District.

3.2 Future workshop

During situation analysis, it was collaboratively unearthed that, the most pressing problem was inability to produce quality wood work furniture pieces by trainees of wood work technology department. Therefore, an effort was made to establish causes of poor quality wood work furniture production, in a future workshop which was held on 1st/march/2018 as illustrated here below.

Future workshop

Critical Phase

Under critical phase the guiding question was, “What challenges do you face during the process of effecting quality woodwork furniture production?”.

Generated challenges were;

Unseasoned timber, Steve (2017) asserts that working with wood that is too wet is like falling into a pit. By the time your plight is obvious, it's usually too late. Indeed, when unseasoned/undried timber is used for furniture construction, later, on drying the finished article will lose shape.

Not cutting timber to standard sizes, this leads to producing furniture of less or more of the required measurements, therefore, work of poor quality.

Lack of appropriate tools, when a right tool is not used for a right job, the end results shall display poor quality work, for example, one cannot use a pang for cultivation.

Blunt tools, blunt tools produce rough surface finish which is not appealing.

Lack of skills in tool use, for example, when one is not experienced in using a portable sanding machine, depressions form on wood surface, therefore producing work of poor quality

Poor attitude towards woodwork, taking up work without interest does not give good results.

Lack of exposure to advanced furniture, exposure to a variety of wood working industries enhances a learner's creativity and good workmanship.

Poor quality timber, timber with defects produces inferior work.

Lack of supervision, Race (2005) contributes that, nothing we do to, or for our students is more important than our assessment of their work and the feedback we give them on it. The results of our assessment influence students for the rest of their lives. It is important for a teacher to be close to his/her learner during practical lesson so that he/she can put him/her right whenever performance does not go right.

More theory than practice, more time if not devoted for practical, this will lead to incompetence performance resulting into poor work productions.

Lack of appropriate tools and equipment, inappropriate tools and equipment will form features that are not intended on the work surfaces.

Low qualified staff, give disorganized work/instructions to learners due to lack of guidance on proper lesson/scheme of work preparations.

Use of hand tools of inferior quality, the available tools of poor quality shall also produce work that was not intended, therefore inequality work.

Lack of exposure to advanced furniture, this leads to learner becoming uncreative and quality work production remains low.

Poor quality timber, this gives furniture surfaces that are not of appealing finish.

However, the outlined challenges were themed as;

- higher qualifications (instructors), -industrial training and exposure, - quality timber, - advanced woodwork machines, - supervision and practice, -time, - motivation, -interpretation of drawings and specifications, -timber yard, -Tools and equipment, -Internet accessibility.

Table 3: Showing Challenges Under Themes

Short term	Long term
<ul style="list-style-type: none"> • Interpret drawings and specifications. • Motivation • -Inappropriate tools and equipment- • -Limited supervision and practical practice • -Time • -Poor quality timber 	<ul style="list-style-type: none"> • Internet accessibility. • High qualifications • Acquire woodwork machines. • Timber yard (seasoning timber). • Industrial training and exposure.

Source: Primary Data 2018

UTOPIA

- A. GOOD QUALITY TIMBER
- B. ADQUATE SUPERVISION AND PRACTICE
- C. APPROPRIATE TOOLS AND EQUIPMENT
- D. RIGHT /CORRECT INTERPRETATION OF DRAWINGS
- E. WELL MOTIVATED INSTRUCTORS AND STUDENTS
- F. ADQUATE TIME

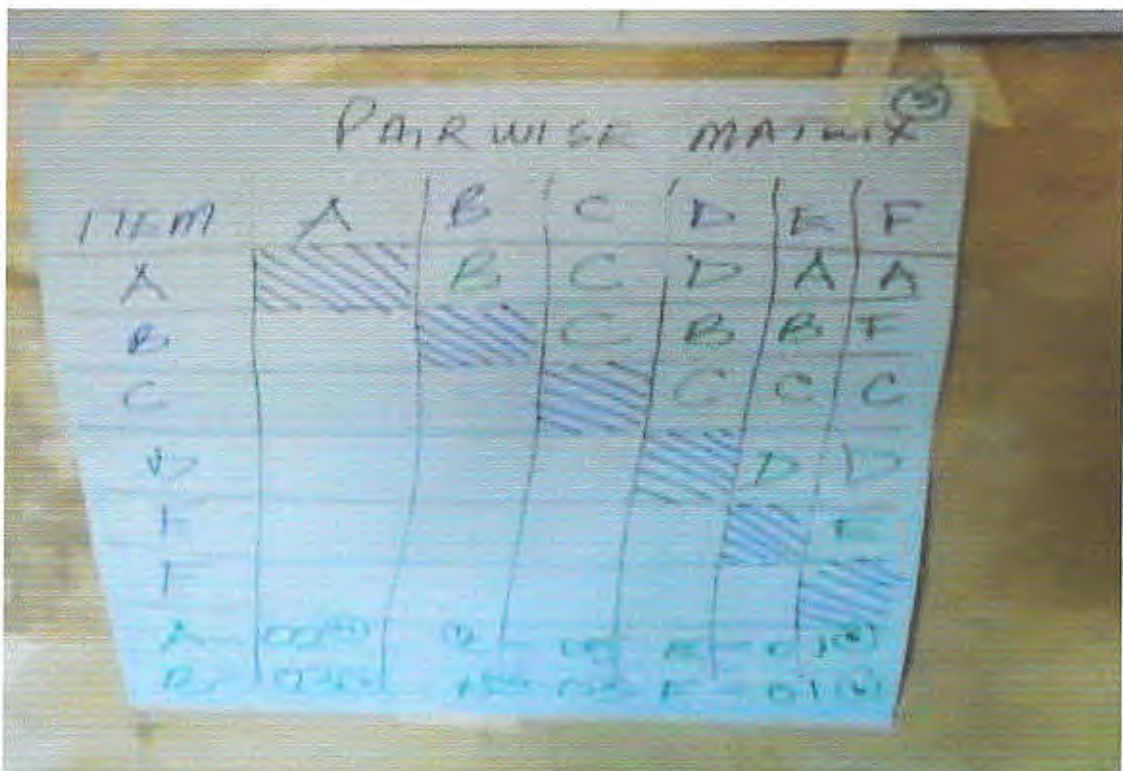


Fig. 8: Chart Showing Pairwise Scoring, To Display What to Implement in Order to Produce Quality Wood Work Furniture. (Source: Primary Data 2018)

Table :4 Showing Results from Pairwise matrix

	A	B	C	D	E	F
TALLY	2	3	5	3	1	1
RANK	4	2	1	2	6	6

Source: Primary Data 2018

IMPLEMENTATION PHASE.

- i. tools and equipment
- ii. supervision and practice
- iii. interpretation of drawings and specifications

The members agreed that if learners were availed with tools and equipment, supervised and allowed to do self-practical practice, interpret drawings and specifications on their own, then can be able to produce Quality wood work furniture during and after training. However, in order to ensure the achievement of the intended goals, the key players were assigned responsibilities as reflected in Table 5.

Table 5: Showing Implementation Process.

Item	Process/activity	Responsible person	Time Frame	Indicator
Churchpew construction	Each student prepares a drawing and specification for a church pew on laptops in institute computer lab	Instructor and learner	June	Church pew drawing
Time table	Increased by one hour (4:00pm-5:00pm) Monday and Tuesday	Head of department, instructor, Learner.	June-August	Drawn time-table with extended time.
Tools and equipment, and timber	Requisitions for identified tools and equipment, timber, prepared and forwarded to the administration	Head of department and researcher	June	Angle grinder and other associated tools purchased. Receipt acknowledgement
Oil stone, sharpening oil.	Sharpen, oiling	Instructor and learner	June-August	Purchase of oil stone, oil
Timber preparation (plaining) and construction	Practice and supervisory	Instructor and learner	June-August	Completed/finished church pew.(varnished)

Source: Primary Data 2018

Members to wood work technology department agreed that quality woodwork furniture production-skill wood be demonstrated through construction of church pew by each individual student.

3.3 Implementation of action production objective.

For the objectives' achievement, each learner prepared a working drawing of the intended piece furniture (church pew), selected good quality timber from purchased timber, planed and prepared a

cutting list, marked and worked on prepared timber pieces using appropriate tools, assembled pieces together, glued, nailed and sand papered the work, and finally applied only one coat of varnish though, these church pews were intended to receive three coats of varnish but time did not permit. All steps under instructors' supervision.

3.4 Population

The study involved wood work technology 10 department staff, 40 learners, 01 Principal, 02 Deputy Principals and 10 members in the world of work.

3.4.1 Sample and size

Table 6: Population Display

Sample	Population	Size
70% instructors	10	7
30% learners	40	12
50% administration	02	1
20% employers	10	2
Total	62	22

Source: Primary Data 2018

3.4.2 Sampling technique

Every member was considered important in this study, therefore all members had equal opportunities to participate, as such random sampling technique was preferred.

Second year learners were preferred because in consideration of study period that stretched from 2017-2018 starting with situation analysis and programed to end October 2018. Therefore research study progressively moved on with their study period since their study duration was to end November-December 2018.

3.5 Methods of Data collection

After being granted permission by NOMA Kyambogo university, the researcher proceeded to target groups at St. Joseph's Technical Institute Kisubi (his work place) where he was also granted permission.

The researcher designed an interview guide which was administered to Principal, instructors to wood work technology department, employers/industrialists and students. Other means of data collection were focus group, observation and future workshop. The collected data were recorded in a log book.

Interview guide was designed to match each category of target group in view to unearth the possible problems causing poor quality wood work furniture production at WWTD of St. Joseph's Technical Institute, Kisubi.

3.6 Tools of Data collection

The tools used in the study were; -future workshop, focus group, interview guide, observation and to some extent the log book where captured information could be recorded.

A hand –smart phone was also used, became useful in photo/picture taking and video recording.

3.6.1 Future workshop

The future workshop was conducted with stake holders, collaboratively identified the most pressing problem (Refer Table :11 under situation analysis, employing pairwise matrix) and sought out ways to achieve a sustainable solution. Future workshop was preferred because all participants systematically come out with concrete solutions in view of area of interest.

Future workshop was also used in order to critically analyse incompetence leading to production of quality wood work furniture by trainees of wood work technology department.

3.6.2 Focus-group

The focus-group was engaged by the researcher mostly to learners, to capture and store the realities, which included training materials, tools in use, interpretation of drawings and specifications, working environment conditions and participants in action.

3.6.3 Interview Guide

The interview guide was used by the interviewer to the interviewee for concrete and immediate information since it was to be face to face interaction. The interview guide was designed to investigate the extent to which trainees acquired practical work experience in relation to the world of work requirements.

3.6.4 Observation

Observations were carried out to discover training conditions learners experienced, how trainees interacted with instructors, facilitation conditions, and general attitude of the entire community towards training.

3.7. Procedure of Data collection

Researcher received an introductory letter from the coordinator master in vocational pedagogy (MVP) Kyambogo University which was delivered to the Principal St. Joseph's Technical Institute Kisubi. Permission to carry out action research study was granted. The purpose of the introductory letter was to enable the researcher interact officially and freely with the respondents.

Consent letter; - a consent letter was also received from Administration St. Joseph's Technical Institute Kisubi, which acknowledged the presence of the researcher at the institute, allowing him to use the resources as deemed right.

Interview guide was administered to wood work department instructors, Principal, two Deputy Principals, trainees and two industrialists. Participants were assured of confidentiality.

3.8 Limitations and delimitations to the study;

This part of the report presents the challenges faced by the researcher during the research period and how it was attempted to address these challenges. Government policies; the procurement policy that had just been enacted caused a lot of delay, training material facilitation from administration depended on supplier delivery. Materials were received late, therefore, the period schedules for project execution by learners was reduced, took one and half months instead of three months. However, this was improved by creating one extra hour for 2nd year learners on practical lessons from 4. 00p.m—5. 00p.m, every Monday and Tuesday. Another limitation to the study, was learners' attitude, most did not display readiness for practical practice, alleged that the course was strenuous kind of, implying that, it was like not an individual's choice. However, continual sensitization eventually caused a positive impact.

Tools and equipment; though as a result of future workshop the department realized/acquired some tools, still they were not enough, for instance, students had to wait and used the angle grinder in turns. An angle grinder was purchased to improve on smooth-finish quality of furniture pieces. National and Institute programs; second term 2018 had national games and sports competitions schedules, therefore the institute had to prepare its internal preparations prior to national

competitions whereby afternoon lessons had to be interrupted. Therefore, all those factors contributed to the failure for the researcher not to meet his goals as prior arranged. However, the created extension of one-hour extra from 4:00 p.m. -5: 00p.m made an impact.

3.9 Reliability and Validity

3.9.1 Reliability

Reliability refers to the consistence of a measure. Therefore, according to this context, if all learners each constructed a church pew (through which quality was to be demonstrated) according to the provided drawing (each learner drew one), then if this task was taken to another different institution of same class level. If that class-level came out with the same product, then church pew plan would be reliable. Again if the used research tools gave the same responses in relation to quality wood furniture, then the tool would be reliable.

3.9.2 Validity

This is the extent to which the scores from a measure represent the right variable they intend to. Therefore, if the furniture church pew constructed in two different institutions by same –level students (Refer 3.9.1), all reflected same quality, then the church pew drawing shall have been valid. However, the Validity as used in this study refers to the rationality and consistence of the methods used to yield the given results. Interestingly, there seems to be an argument among scholars regarding the degree of Validity of the data and the results of study, (Altrichter, 2008; Lisa, 2002; Martyn, 2007; Olsen, 2004). Some scholars have suggested that Validity of the results is dependent on methods used for data collection and trustworthiness of the researcher for example (Jonathan, et al., 2005) argues that Validity depends on the way participants were selected, how data was collected and analysed. Others assert that Validity determines whether an investigation yields the correct answer (Graham, 2007). In this study, care was made to validate the results by applying data triangulation. Data triangulation means using more than one method to collect data on the same topic. This is a way of assuring the validity of research through the use of a variety of methods to collect data on the same topic, which involves different types of samples as well as methods of data collections.

3.9.3 Methods and Data Triangulation as means of Validating Results.

Martyn argues that triangulation involves the use of different methods to view particular action in different ways and to test whether these methods could yield similar results (Martyn, 2007). The purpose of triangulation is to find detailed and vibrant picture of the phenomenon being investigated. Therefore, in this study, some methods were triangulated in order to ascertain the Validity of the results (Refer Fig.9 below).

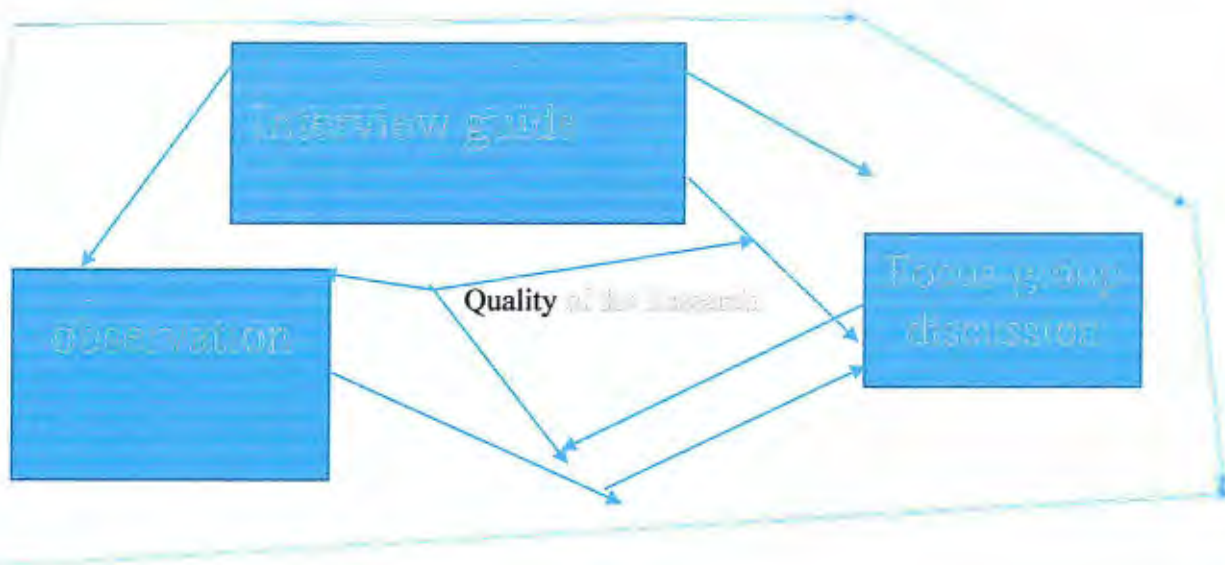


Fig:9 Showing Triangulation of Data Using Different Methods (Source: Primary Data 2018)

Focus-Group Discussion in particular, was used to share the views with participants in order to test if the data they had given in other methods was matching with the results of interview guide. Therefore, results of the observation were compared with data from focus-group discussion and interview guide and there was considerable similarity in the data from these methods, which in this report is regarded as Validation of the results. However, in triangulation of the data, observation was used as a crosscutting method to other methods employed in this research simply because every activity conducted during the data collection involved observation of participants whether through interview or during focus-group discussion session.

In my view, data triangulation using different methods is a remedy in validity of the results since it provides an opportunity to investigate the phenomenon/occurrence in different ways.

3.10 Data Analysis

Practical results (marks) were analysed according to each individual trainee's performance. The mean and standard deviation as a means of data analysis was applied as will be displayed in chapter four.

CHAPTER FOUR

ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS IN RELATION TO RESEARCH OBJECTIVES.

4.0 Introduction

This chapter represents findings from collective intervention recommended by the participants particularly during future workshop and throughout the whole research period. The purpose of the study was to improve on skills (practical- working experience/abilities) of 2nd year learners in wood work technology department, so that learners acquire competences, knowledge and positive attitude towards production of quality woodwork furniture. However, research objectives were formulated by the researcher collaboratively with wood work technology department stake holders, and analysed by the supervisors in view to forge a way forward towards solving a problem of poor quality wood work furniture production at St. Joseph's Technical Institute, Kisubi.

4.1 Analysis and Presentation of results.

The research tools were designed by the researcher collaboratively with stakeholders and analysed by supervisors in such a way to investigate whether trainees in the department of wood work technology at St. Joseph's Technical Institute Kisubi, received all the necessary work experience to qualify them compete favorably well in the world of work. However, the research process had guiding objectives to enable the researcher achieve the intended goals.

4.2 Research Objective One:

Was to Identify the causes of Poor quality wood- work furniture production at the Woodwork Technology Department (WWTD).

Therefore, in order to critically analyse the causes of poor quality wood work furniture production, a future workshop was held at WWTD with stake holders and learners.

The following factors were conclusively highlighted; Lack of enough tools and equipment, less supervision by instructors during practical periods and self-practical practice by learners, instructors and learners not motivated, and less time allocated for practical lessons. During future workshop session, one of the learners recorded the generated points. (Ref. Fig.10 Below)



Fig:10; 2nd Years Emphasizing on Factors Causing Poor Quality Wood Work Furniture Production (*Source; Primary Data,2018*)



Fig.11: At Some Instance, Prof.J.B. Matovu, The Mentor Closely Watched the Researcher Take Note of Identified Causes of Poor Furniture Production. (*Source; Primary Data,2018*)

4.3 Research Objective Two

Was to Establish Strategies for Intervention to Poor Quality Wood Work Furniture Production at Wood Work Technology Department.

To this effect in order for learners to train how to produce wood work furniture pieces of appealing surfaces, the department with facilitation funds from administration, acquired an angle grinder power hand tool which tool was to be used to sand paper wood surface for a smoother surface finish than mechanical hand sand papering.



Fig.12: An Angle Grinder Power Hand Machine Tool (Source: primary data,2018)

An angle grinder smoothens the wood surface efficiently and the work speeds up, therefore intending customers take their work when satisfied and since work shall be so appealing, more customers are attracted hence an improvement in economical status to wood work graduates.

It was also realized that there was need for both learners and instructors to be motivated in order to improve wood work skills into learners. At times salaries for instructor's delayed, as such they attended to learners with less interest, therefore learners remained less attended to. Conversely for learners to be motivated carry out church pew construction with vigor and since the project had been started towards end of term two examinations (late 2nd term, July 2018), the researcher had to initiate each learner with a 'bottle' of soda (in cash) in order to keep exercise running up to the closure of term two (6th.sept,2018). However, for confidentiality purposes, the undersigned list could not be displayed here.

On the other hand, an integration of extra four subjects, left Practicals with less hours (8hrs instead of 14hrs) per week, therefore, a one-hour extension from 4.00-5.00 p.m. on every Monday and Tuesday (days for 2nd year workshop practice) was created. That created time as well enabled the learners to have self-practical practice exercise. (Refer Fig.13 Below

The image shows a department time table for the 2nd term of 2018. The table is printed on a light blue background and is organized into columns for different days and times. It lists various subjects and practical sessions. A circular stamp is visible in the bottom right corner of the table.

Fig.13:2nd Term 2018, Department Time Table Before Extra One-Hour Extension (Source: Primary Data,2018

WOODWORK TECHNOLOGY DEPARTMENT			
GENERAL TIME TABLE TERM II 2018			
COURSES	10:30 a.m.	2:30 p.m.	4:30 p.m.
1 st Year	Computer Applications (D.C)	Applied Technology	Workshop
2 nd Year	Technical Production (D.C)	Workshop Practice (I.E)	Workshop Practice (I.E)
3 rd Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
4 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
5 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
6 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
7 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
8 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
9 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
10 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
11 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
12 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
13 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
14 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
15 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
16 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
17 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
18 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
19 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)
20 th Year	Workshop Practice (I.E)	Workshop Practice (I.E)	Workshop Practice (I.E)

Fig.14: Showing 2nd Term 2018 General WWT Time Table Displaying One-Hour Extension for 2nd Year Practical-Practice Periods. (Source: Primary Data,2018).

In order for learners to achieve interpretation of drawings and specifications, a one more two-hour lesson was added to them (2nd years) on their time table for AutoCAD practicing in the institute computer laboratory.



Fig.15: 2nd Year WWT D Learners in The Institute Computer Laboratory Practicing AutoCAD (Source: Primary Data,2018)

Throughout church pew construction activities, at least an instructor would keep around to ensure quality wood work furniture production.

4.4 Research Objective Three

Was to Implement strategies for intervention to poor quality wood work furniture production.

After acquiring an angle grinding power-hand machine, learners practiced and each started using it on his self-constructed church pew.



Fig.16: Implementation of Smooth Wood Surface-Finish Strategy by Application of Angle Grinder Machine. (Source: Primary Data,2018)

After machine sand papering, hand application varnishing was carried out by each individual learner on his own church pew constructed piece.



Fig.17: Each Individual Learner Applied Varnish On to His Constructed Church-Pew Wood Furniture Piece. (Source: Primary Data,2018)

4.5 Research Objective Four

Was to Evaluate the impact of the strategies to quality wood work furniture production at Woodwork Technology Department.



Fig. 18: An Instructor Commented On Some of the Finished Constructed Church Pews.

(Source: Primary Data, 2018)

The production of quality woodwork furniture was to be successfully achieved when trainees were provided with adequate tools and equipment, allowed self-practical practice, able to interpret drawings and specifications, and given improved supervision during practical practice sessions.

However, collaboratively the implementation was done with the participants who included, the lead researcher, instructors, and other direct stake holders in the department most especially the learners

who were key players in the construction of church pews from which quality woodwork production thesis was to be demonstrated.

Data was collected through interview guide, observation, focus group discussion and future workshop. (Refer; Appendix I, II &III). However, additional data was received and stored in log book and camera/smartphone.

4.6 Interview guide to Principal

Fruitful information was given by the Principal St. Joseph's Technical Institute Kisubi, a foundation upon which improvement of skills of learners on quality wood work furniture production could be easily achieved (. Refer Appendix. II)

The Principal revealed that St. Joseph's Technical Institute Kisubi was government aided and was over 100 years in existence, the institution was funded from two main sources; government and tuition by parents.

Facilitation for training materials and machine/tools' maintenance, drawn from students' tuition, was released every term, therefore, learners were expected to carry out all necessary practical practice for achievement of quality wood work furniture production or otherwise where was the problem lying.

Majority of instructors manning WWTD had minimum requirements to train learners despite lack of industrial exposure and the skills to overhaul, service and machines' maintenance expertise, likewise trainees entered when they qualified. However, according to the researcher, industrial exposure and expertise to instructors was necessary so that learners could be fully prepared for the world of work since it was a real experience required by employers.

The Principal further revealed that, on industrial studies/visits, learners had to contribute some money, if they did not, could not have one, therefore, because of such inadequacies in training, learners joined the world of work without required competences. Despite all that, the administration pledged to support the researcher within possible means.

4.7 Interview guide to instructors.

I.(a) what is the number of learners in the department.

Through interactions with wood work technology department instructors, it was found out that; the department was comprised of forty (40) learners, though, only eleven (11, 2nd years 2018, a

twelfth student run away after data collection) were sampled for research study (. Refer Table.6 Page. 35)

Table 7: comment about the number,

Responses	No.of instructors	%age
Normal	1	20%
Less than required No.	4	80%
Above required No.	0	00%
Total	5	100%

About the number of learners in the department,80% of the number of instructors mentioned that, forty learners were less than the required number,20% stated that, the number was normal (Refer table 7).

According to the researcher, indeed forty was a small number compared to most of the other courses at St. Joseph’s Technical Institute, Kisubi, therefore could be trained utmost.

2. What subjects are taught to these students?

Taught subjects; -Real life (project), Practicals (workshop practice), theory and drawing, material science, mathematics, entrepreneurship, auto CAD, and Kiswahili.

According to the researcher, the introduction of extra five subjects could have affected the rate of practical skills acquisition since the number of practical lessons was reduced.

3. (i)How is the students’ attitude towards these subjects?

Table 8: Students’ Attitude Towards Taught Subjects.

Responses	No.of instructors	%age
Good	3	60%
Fair(negative towards mathematics)	2	40%
Not liked	0	00%
Total	5	

In addition to Practicals, theory and drawing, and building science initially taught to students, other five more subjects were introduced, when instructors were asked to comment on students' attitude in relation to quality wood work furniture production, 60% mentioned that the attitude was good, 40% stated that it was fair but negative to mathematics (Refer table 8 above).

(ii) According to you, what is your position (comment) about these subjects?

Table 9: Instructors' Comment (Position) On Other Taught Subjects (Besides Practicals).

Responses	No.of instructors	%age
Relevant	5	100%
Not relevant	0	00%
Total	5	

In reference to table 9 above, instructors position on taught subjects (entrepreneurship, Kiswahili, material science, auto CAD), besides practicals, 100% said that they were relevant.

Indeed, according to the researcher, the taught subjects were relevant, for instance entrepreneurship learners/graduates could be equipped with wood furniture costing skills.

(iii) How comfortable are you with the time allocation for each subject?

Table 10: Time allocation

Responses	No.of instructors	%age
Enough	2	40%
Not enough	3	60%
Total	5	100%

In response, 40% of the instructors, mentioned that time (8 hrs.) allocated for Practicals per week was enough, 60% however said that time allocated was not enough, alleged that, practical-practice was the core subject implying that quality furniture would be produced when more time was allocated for practical (Refer Table 10)

(iv) Of the subjects being taught, which ones were the core?

Table 11: core subjects

Responses	No. of instructors	%age
. Practicals mentioned among core subjects	5	100%
Practicals not mentioned among core subjects	0	00%
Total	5	100%

As it was denoted in table 11, it was affirmed by 100% of the instructors, that practical-practice was the core subject implying that during training, quality wood work furniture production should be emphasized on.

iv. What is the importance of other subjects?

Table 12: Importance of other subjects.

Response	No.of instructors	%age
Gave them all round education	2	40%
Opened other opportunities to them.	3	60%
Wasted practical time	0	00%
Total	5	100%

Referring to table 12,40% of the instructors responded that, importance of other subjects gave learners all round education while 60% stated that other subjects opened opportunities to other occupations for learners after study and none mentioned that other taught subjects wasted learners time.

4. What are the modalities when training these learners? E.g. directed learning, discovery method etc.

Table 13: Modalities used during training learners.

Responses	No.of instructors	%age
Directed learning only	2	40%
Discovery method only	0	00%
Both discovery and directed method only	2	40%
Others	1	20%
Total	5	100%

As it was mentioned in table 13 above, on the methods/modalities used in training,40% of the instructors, used directed learning, another 40% employed both directed and discovery methods, while 20% used other methods of teaching. However, in the researcher’s view, WWTD instructors should come together and agree on common major methods they had to employ in order to forge a rightful way forward.

5.Is ICT integrated into the training of your learners? If so what impact has it on the training?

ICT is integrated into the training

Table 14: Impact of ICT integration into taught subjects.

Responses	No. of instructors	% age
Has no impact	0	00%
Learner exposed to Auto cad	4	80%
No. answer	1	20%
Total	5	100%

About impact of ICT integration into taught subjects,80% of the instructors stated that learner is exposed to Auto CAD drawing which is the basis to quality wood furniture production, however 20% had no comment. According to the researcher, ICT training gave a foundation to a learner to interpret drawings and specifications.

6.What is your comment about TVET policy, that is, hands- on training?

Table 15: Instructor’s comment on TVET Policy, hands –on training.

Responses	No. of instructors	%age
Enhances learners skill creativity .	1	40%
improves learners competence	1	20%
Acquisition of both skills and competence	3	40%
Total	5	100%

Comment on TVET Policy “hands-on training”,40% of instructors, said that hands-on training enhanced learners’ skill creativity,20% stated that “hands-on training improved learners’ competence and 40% mentioned that hands-on culture improved on acquisition of both skills and competence, as it was raised according to table 15.

7. (i) How many female students do you have in your department? What is your comment on that status?

Number of ladies in the department.

ZERO ladies WWT department

(ii) What is your comment on that status?

Table 16: Comment on number of ladies in WWT department.

Responses	No. of instructors	%age
Advise and encourage ladies to take on the course	4	80%
leave ladies out completely.	0	00%
Be sponsored by government	1	20%
Total	5	100%

It was also reported that WWTD did not have female students, however, 80% of instructors opted that, there should be continual advisory and encouragement of ladies to take on the course, 20% stated that ladies be sponsored on the course (Refer table 16 above)

8.(a) Does the institution / this department in particular has a retooling mechanism for its staff?

Table 17: A retooling mechanism for WWT department staff.

Responses	No. of instructors	%age
Yes	1	20%
No.	3	60%
No idea	1	20%
Total	5	100%

As mentioned in table 17 above, 60% stated that, the institution did not have a retooling mechanism, 20% mentioned that the institution had a retooling mechanism, whereas 20% did not have any idea. However, according to the researcher, the department teaching staff needed to be re-trained periodically in order to match with changing technology in industries.

(b) What type of practical training do you offer to your learners? E.g. trained to produce new products only, repair works etc. Account for verification.

Table 18: Type of practical training offered

Responses	No. of instructors	%age
To produce new products only	1	20%
Repair work only	-	00%
Produce both new and repair works	4	80%
Total	5	100%

In reference to table 18 above, on type of practical training,20% of instructors mentioned that learners were trained to produce new products only and 80% stated that learners were trained to produce both new wood work furniture products and repair works.

9. (a)What type of assessment do you carry out on your students.

Table 19: Type of assessment.

Responses	No. of instructors	%age
Summative	1	20%
Continuous	4	80%
Both summative and continuous	0	00%
Total	5	100%

As it was raised in table 19 above,80% of the instructors mentioned that, continuous type of assessment was most used on learners, and 20% said summative was the employed type of assessment.

(b) Why did you decide on that type of assessment?

Table 20: Why that type of assessment.

Responses	No .of instructors	%age
Gives immediate feedback	5	100%
Easily adopted by learners	0	00%
No answer	0	00%
Total	5	100%

However,100% confirmed that, continuous assessment was most used because it gave immediate feedback (Refer table 20 above).

(c) how often is it carried out? (e.g. at the end of every lesson etc.)

Table 21: Assessment Frequency

Responses	No. of instructors	%age
At the end of every week and term	3	60%
End of lesson and term	2	40%
Total	5	100%

As mentioned in table 21 above, on frequency of the assessment,60% stated that was done at the end of every week and term,40% at the end of every lesson and term.

10. (a) Are your learners taken for industrial study/tour? if so, are they supported (to and fro transport) and the general welfare, and how often?

Table 22: Are learners taken for industrial study/tour?

Responses	No. of instructors	%age
Yes	1	20%
No.	4	80%
No idea	0	00%
Total	5	100%

According to table 22 above,80% of instructors mentioned that learners were not taken for industrial study/tour during study term, though 20% said learners periodically were taken out on industrial study/tour during study term. However, from focus –group discussion, learners mentioned that, during study industrial visits/study was dependent on learners’ contributions towards to its deflection. Therefore, what was most experienced was industrial training at the end of the year.

(b) How do you ascertain that learners actually acquired what they were supposed to obtain.

Table 23: Confirmation that learners acquired what they were supposed to acquire.

Responses	No. of instructors	% age
Practical performance above 70% average at the end of every term schedule period.	3	60%
Follow –up at their secured work places after study	2	40%
Not sure	0	00%
Total	5	100%

Referring to table 23 above, it was revealed by 60% of instructors, that a learner acquired what he was supposed to acquire (in practical –practice experience) if his performance was 70% average at the end of every term schedule period.40% said that a follow-up at their work places after study is made, and a comparison in performance made.

11. Is there any verification that learners from this department acquire adequate skills to enable them compete favorably well in the world of work?

Table 24: Verification that WWT graduates obtained adequate skills.

Responses	No.of instructors	% age
Immediate self-employment	1	20%
Employed immediately	3	60%
Not sure	1	20%
Total	5	100%

According to table 24 above, it was mentioned that, on verification that WWTD graduates obtained adequate skills,20% staff, mentioned that it was evidenced by immediate self-employment achievement by learners/graduates,60% stated that graduates were employed immediately, however 20% of instructors were not sure. However, the researcher’s view was that, a tracer-study file/book should be opened with the department so that their learners after study could be effectively followed up in order to establish their perfection on work.

Finally,100% of the community was willing to support the researcher in his endeavor.

4.8 Interview guide to trainees.

In collaboration with trainees, the researcher received the following information.

1.(a) How do you find this course?

Table 25: Responses to how course found

Response	No.of learners	%age
Good	9	81.8%
Fair	1	9.1%
Tedious	1	9.1%
Total	11	100%

Of the eleven trainees,81.1% said that the course was good to them, 9.1% said that the course was just fair, also 9.1% stated that the course was tedious (Refer table 25 above)

(b) was it your choice or someone's influence?

Table 26: Responses to choice

Response	No. of learners	%age
My choice	8	72.7%
Influenced	3	27.3%
Total	11	100%

In reference to table 26 above ,72.7% of eleven of those trainees asserted that, wood work technology was the course of their choice, however 27.3% were influenced to join that course. Therefore, according to the researcher, the majority of trainees were expected to be producing wood furniture of the good quality since they joined the course with interest

2.(a)what were your expectations on this course?

Table 27: Expectations on this course.

Responses	No. of learners	%age
Practicals	8	72.7
Leading to other directions.	3	27.3
Total	11	100%

Whereas 27.3% expected to take other directions after the training, 72.3 % expected to concentrate on practical only, both during and after training (Refer table 27 above).

(b) what subjects do you study on this course?

Learners mentioned the following seven subjects.

Theory and drawing, Practicals, mathematics, AutoCAD, building science, ICT and project work.

(c) of the taught subjects, one that is most valued; -

Table 28: Most valued subjects according to learners

Responses	No. of learners	%age
Practicals(workshop)	4	36.4
Mentioned other subjects	6	54.5
No suggestion	1	9.1
Total	11	100%

According to table 28 above, when learners were asked the most valued subjects of the seven taught subjects, 54.5% mentioned other subjects of which Practicals was not inclusive,36.4% said that they valued Practicals and 9.1% did not have any suggestion.

3.How much work in practical lessons have you covered so far, and what other areas do you expect to cover?

Table 29: covered areas as far as their syllabus was concerned.

Responses	No. of learners	%age
Mentioned above average .	7	63.6
Mentioned below average	4	36.4
Total	11	100%

This data was compiled in mid –June 2018 after several interactions with trainees, therefore when asked how much work had been covered,63.6% mentioned that above average according to their syllabus had been covered, and 36.4% mentioned that were still below average. However, the class teacher said that most of the work had been covered. Therefore, basing on the revealed information,

those learners were expected to join the world of work when able to produce quality wood work furniture (Refer table 29 above).

4. (a) In what ways are you taught? e.g. _ asked to design and construct your own approved work or a teacher designs and instructs you to do that work?

Table 30: Ways learners were taught

Responses	No. of learners	%age
Learner instructed to design and construct own approved work.	4	36.4
Teacher designs and instructs learner(s) to do work	7	63.4
Total	11	100%

During practical projects, when trainees were asked whether they were tasked to design themselves and do the work or instructors did the designing and trainee do the work, 63.4% of trainees mentioned that instructors carried out the architecture of the intended piece of work and trainees constructed. 36.6% mentioned that, they are asked to design and do the work, stated information is reflected in table 30 above.

Though, learners gave contradicting information, however, through group discussion the researcher discovered that learners that had a bit of knowledge on designing could be given an opportunity to design and construct, a practice which was contrary to training because such instructors were training category of learners alone. A teacher is expected to treat all learners the same.

(b) In your opinion, how do you think could you be best trained as far as practical training is concerned? (e.g. design and construct your own work or teacher designs and instructs you to do)

Table 31: learners' opinion that how could be best trained.

Responses	No. of learner	%age
Asked to design and construct own approved work	9	81.8
Teacher designs and instructs learner(s) to do work	2	18.2
Total	11	100%

However, when asked what could be the best way for them to be trained in Practicals, in reference to table 31 above, 81.2% opted that, could be asked to design and construct, only 18.8% opted that instructors could design and trainees construct.

5. Have you had any industrial study, if so, what do you think was beneficial to you

Table 32: Industrial exposure

Responses	No. of learners	%age
Learners already had industrial exposure	11	100
Did not have industrial exposure	00	00
Total	11	100%

According to table 32, it was also reported that 100% of the trainees already had industrial exposure, therefore that rose confidence to the researcher that trainees were to acquire skills in wood works most easily.

Table 33: Benefited or did not benefit

Responses	No. of learners	%age
Benefited	10	90.9
Did not benefit	1	9.1
Total	11	100%

Referring to table 33 above, 90.9% of the trainees mentioned that benefited from industrial exposure, though 9.1% stated that they realized less impact.

6. As far as this training is concerned, do you think it is better for someone to work alone or in a group? choose only one by ticking on it.

(a) work alone (b) in group and (c) undecided

Table 34: Better to work alone or in groups.

Responses	No. of learners	%age
Work alone	4	36.4
In groups	5	45.5
Undecided	2	18.1
Total	11	100%

Whereas, 45.5% thought it better to work in groups,36.4% proposed it was better to work /study independently, and 18.1% remained undecided, that was in reference to table 34 above. However, the researcher’s opinion was that; it was better for trainees to work in groups so that they could share ideas on particularly complicated areas thus gain a wider knowledge on skill applications.

7.what do you intend to do after this course?

Table 35: What to do after the course

Responses	No. of learners	%age
Open own workshop	6	54.5
Further studies	4	36.4
Other businesses	1	9.1
Total	11	100%

Since the purpose of the study was the achievement of quality wood work furniture production by learners, therefore, the researcher was also interested in capturing the learners’ intensions after course completion. Hence referring to table 35 above, the data expressed that 54.5% wished to open own workshops,36.4% to further with studies and 9.1% to open other businesses apart from wood work technology works.

Therefore, a cross –section of learners that intended to open own workshops immediately after study were expected to concentrate more on quality wood furniture construction.

8.Do you think there could be any problems/irregularities in this department as far as your trade (quality wood work furniture production) is concerned? If any, mention them.

Table 36: Possible problems thought to be inhibiting quality wood work furniture production.

Responses	No. of learners	%age
Some practical teachers are rough	1	9.1%
Inadequate, delayed training materials and tools	5	45.5%
Uncooperative learners	3	27.2%
Need for motivation	2	18.2%
Total	11	100%

Referring to table 36 above, when asked what was thought not to be allowing production of quality wood work furniture pieces in WWTD, 9.1% of the learners revealed that, some instructors during practical lessons were rough, 45.5% said that it was due to inadequate delayed training materials and tools, 27.2% said it was due to learners who were uncooperative to instructors and, 18.2% felt there was need for motivation. However, all mentioned factors needed serious attention, for instance un cooperative instructors could not assist the since there was a gap between the, therefore such instructors needed counselling by high authority and a suggestion box could be put in place through which learners could channel their concerns to the relevant authorities.

4.9 Collected data through observation

Data collected through observation also expressed some impact on later desired quality timber furniture production. Observations were made inclined largely towards practical training culture, learners of wood work technology department experienced, and these were the findings;

Time management; it was observed that most of the instructors and learners did not keep time, arrived late for lessons. Some instructors arrived even past an our late, therefore for a period of two hours an hour was lost.

Training material facilitation; ideally training materials were released late, learners took one and half months without practical practice. Even when finally, materials were released, instructors did not compensate for the lost time, time-table kept running normally.

Hand tools; it was also noted with concern that the most basic tools and equipment are not enough, the few that are shared among learners during the lesson, are not adequately maintained, very few learners/trainees new how to sharpen a plane cutter or a hand saw. In conformity to this, even throughout the period the researcher spent on his situation analysis, there was no instructor witnessed sharpening a hand saw.

Motivation; most learners themselves did not have a self- motivation culture, even escaped from the workshop once an instructor faced a different direction. Most of the time instructors had to make an extra effort calling learners for workshop /practical lessons especially.

Introduction of entrepreneurship among other subjects since NCDC had revised the curriculum raising subjects from three to seven; also caused misinterpretation among the learners. From psychological point of view, learners expected payment from every practical activity executed since according to entrepreneurship, every service rendered should be paid for, forgetting that they were still just trainees. However, instructors started doing their duty sensitizing them on that issue. However, where need arose, it would be necessary to motivate them.

Machines; the department was well equipped with fairly heavy machines on which learners were trained to operate and carried out general wood work furniture construction activities, though according to the curriculum, machines' -practice operations activities were scheduled for third- term second year of study.

4.10 Collected Data through Focus- group discussion.

Also revealed good information towards quality wood work furniture production.

From learners, they commented that instructors loved to occupy them with individual works for which they were not paid, though periodically some gave meagre payments, and for themselves (instructors)pocketed more, therefore seldom performed(learners) workshop practice with less interest.

However, the researcher endeavored to compare notes with the neighboring department to wood work technology which was department of plumbing because ideally, those learners from plumbing department were seen executing their practical work with enthusiasm. Surprisingly one of the learners stated that, male learners worked harder in order to perform better so that female learners could not criticize them.

Therefore, the researcher's opinion was that if wood work technology department had female learners, could be, male learners would work harder and be able to produce wood work furniture of good quality.

4.11 Contradictions and Complexities.

One of the complexities encountered during the implementation process was the delay of materials that were meant to be used for construction of church pews upon which quality wood work production was to be demonstrated by learners as agreed during future workshop. The procurement policy dictated, but suppliers could not effect immediately until 13th July 2018, yet the 2nd term was programed to end on 5th sept. 2018. Therefore, organising learners already in end of term II examinations mood was not easy since workshop practical practice sessions were designated only for Mondays and Tuesdays. Nevertheless, the addition of one hour (4.00 p.m. -5.00 p.m Monday and Tuesday.) in view to increasing on practical practice time, still rose its own contradictions especially among leaners. (Refer Fig.13&14).

Another complexity was that, the institution being church Founded, that also had its own programs, not allowing study take place, therefore also causing some delays, definitely not forgetting government public holidays.

4.12 Implementation process

Late 2nd term 2018, through procurement policy process, timber and other training materials were received by wood work technology department from the administration St. Joseph's Technical Institute, Kisubi. However, the Principal stressed to the researcher that when releasing facilitation to wood work technology department, training material and machines 's maintenance was mostly, the area of focus. Training material facilitation frequency was once per term to each and every department. The established strategies for intervention to poor quality wood work furniture production, were self- practical practice, close supervision by instructors on learners during practical lessons and availability of tools and equipment in view to acquire adequate experience qualifying them for world of work.



Fig.19: Part of Received Pieces of Timber from Administration for Church Pews Construction, After Procurement Process. (Source: Primary Data 2018)

The pieces of timber were dressed/planed by 2nd year learners who were to demonstrate quality wood work furniture production through church pews construction.

The planed pieces of timber were prepared according to the required sizes as was indicated on individual own self-drawn working drawings.



Fig.20: Timber Pieces Under Planing, Researcher (In A Hat) Observing The Planing Process
(Source: Primary Data 2018)



Fig.21: Timber Preparation Continues (Source: Primary Data 2018)

After planning, the pieces were marked and cut to required sizes, continued onto morticing process using the morticing machine in the department. During future workshop it was also emphasized that learners should acquire machine operations' exposure. Before future workshop, instructors alone could work using a morticing machine and a few learners that had some knowledge, such situation could leave most learners without machine operation experience exposure.



Fig.22: Learner Morticing Timber Piece Members for Construction of the Church Pew (*Source: Primary Data, 2018*)

However, during situation analysis, the principal also revealed that, was not satisfied with the instructors' services since none could overhaul the woodwork machine, because they lacked industrial exposure too and the skills to overhaul, service and maintenance of machines. The department had to hire an expert in case a mechanical fault developed/occurred. Indeed, some component on a church pew that required some curvature, had to be formed mechanically by

students since the right- machine had a mechanical fault and, administration was unable to release facilitation to have such component worked upon from outside, therefore learners could not have such experience hence raising a contradiction on what was agreed upon during future workshop, that is, to facilitate learners for quality wood-work furniture production.



Fig.23: A Band Saw Machine Lying Idle, Could Not Cut Curves in Some Timber Piece Component to A Church Pew, Lacked A Blade (Source: *Primary Data 2018*).

Despite whatever case, the exercise continued smoothly, the learners cleaned/smoothened and framed up the church pew each individually, self –motivation could be realized among most learners.

Self-motivation is an important drive to a learner especially WWTD at St. Joseph’s Technical Institute Kisubi because all the world-class achievers whether in business, sports, or the arts – are committed to continual improvement and self-motivation. They understand that in order to succeed in an ever-changing world, they must always be learning and evolving.

They did not wait until external influences – such as a teacher, manager or boss, or new developments within an industry – force them to gain new skills or knowledge. They are self-

motivated learners who are constantly looking for new ways to improve their performance and deepen their understanding of the world around them, in that way their working experience is widened, a characteristic yearned for in the world of work. (www.FreeSuccessStrategies.com)

Quality wood work furniture production was also demonstrated by each learner constructing a church pew while interpreting the working drawing plan he drew him-self.



Fig.24: Learner Framing up a church pew, a tape measure to ensure correct measurements as per from the working plan (Source: Primary Data 2018)

Working drawings are a guide to producing quality wood work furniture items. Intended furniture piece is realized according to the set work-standards, therefore, it was in conjunction.

with objective number two, establishing strategies for intervention to poor quality wood work furniture production.

Kabouridis. (2010) stated that, Technical Drawings have been used to communicate ideas from ancient times to the modern era. As the vernacular of industry, technical design, drafting and drawing are essential to the curriculum of all technology engineering and design program.

Therefore, the learners of WWTD were able to interpret and transfer the ideas from their working plans and produced the intended type of church pew. The working drawing was a guide to enable and maintain the work-standards, thus quality wood work furniture production.



Fig:25. learners Preparing and fixing kneelers onto their church pews.

Kneelers improve on authentic property of the furniture piece (*Source: Primary Data 2018*)



Fig.26: Preparing and Fixing Kneelers onto Main Furniture Piece, Process Continues (*Source: Primary Data 2018*)

However, throughout the process of assembling, learners were advised to be critical about their work so that quality work could be realized, therefore all possible precautions had to be undertaken. Furniture piece members to be joined had to be firmly held together by appropriate tools for correct nailing in order to avoid nails penetrating through off wood surface.



Fig.28: Two pieces of timber due for nailing held together with an F. clamp for firmness. Learner did not need a helper (Source: *Primary Data 2018*)

In continuation to respect strategies for intervention to poor quality wood work furniture production, there was acquisition of tools and equipment by WWTD/administration. Indeed, the administration released liquid cash for the purchase of an angle grinder machine meant to effect sandpapering of wood work furniture pieces so that quality/outlook of that furniture becomes appealing to the wood work furniture consumers.



Fig.29: Institute clerical officer acknowledging receipt of acquired angle grinder at her office (*Source: Primary Data ,2018*)



Fig.30: Purchased Grinder

As public funds' accountability act demands, all purchased items, using public monies have to be accounted for, in this respect presenting them to the relevant authorities for verification (Ref.Fig.20&21 above)

One of the self-motivated learners excitedly testing the angle grinder on some wood furniture piece before other learners could start use it.



Fig. 31: A Trainee Practicing to Use an Angle Grinder Shortly After Its Verification at The Institute's Clerical Officer (Source: Primary Data 2018)

Traditional manual-hand sand papering process on wood work furniture works by WWTD learners was made history by action research. Learners started applying hand power-driven tools as agreed upon during future workshop in order to improve the quality of wood work furniture pieces (Refer Table .4 showing results from Pairwise matrix)

However, the researcher observed that, during most of the workshop lessons, learners could not put on workshop wear, claimed that were stolen, thus being exposed to accidents, therefore, the researcher suggested that learners not in workshop wear should always not allowed for practical periods.



Fig. 32: A Trainee Applying a Purchased Angle Grinder On Work Piece for Quality Work Achievement (Source: *Primary Data 2018*)

Employers in the world of work also complained of trainees and graduates of WWTD, who had to be subjected to another training on how to use such sophisticated power hand tools for a period of close to six months or so in order to improve on their skills (Refer. Appendix V). Therefore, this phenomenon had to wake up WWTD staff and Administration to pull out a router plane which was safely under custody and learners started use it to form moldings(features) on their constructed church pews furniture pieces.



Fig. 33: Trainee Applying a Router Plane On His Work for Molding Formation, For Skill's Improvement (Source: *Primary Data 2018*)

At wood work furniture –manufacturing industries, wood work furniture pieces undergo through a series of activities before delivery so that the authentic of wood could be maintained, noted by the researcher at an old student's wood furniture workshop in Entebbe Municipality. An old student to St. Joseph's Technical Institute, Kisubi (completed 1978, craft one), further said that all needed patience and commitment. However, after application of a grinder on furniture pieces (church

pews}, learners had to finish sandpapering their furniture pieces with a finer waterproof sandpaper as it is the case with the employers in the world of work in order to overcome poor quality wood work furniture production syndrome.



Fig.34: Trainee Giving His Church-Pew a Last Sandpapering- Finish, Using a Waterproof Sand Paper (Source: Primary Data 2018)

The purpose of sandpapering wood furniture before varnish application was to create a smooth finish so that wood surface could easily accept varnish and glitter.

After thorough sandpapering each student had to varnish his own piece furniture.



Fig.35: Trainee Applying First Coat of Varnish to His Furniture Piece. (Source: *Primary Data 2018*)

4.13 A follow-up, on laid out research objectives.

In respect to research objectives, the researcher together with department instructors designed an assessment scoring sheet to critically follow up learners throughout implementation process in view to accomplishment of quality wood furniture piece by each individual learner. However, for confidentiality purposes, the names of learners were recorded in alphabetical order using capital

letters as they followed each other in the class register. A learner that scored 65% and above, met the research study objectives. (Refer Table.37 Below)

Table 37 : Marking scheme for Church Pews construction by 2nd years;2nd term 2018

Area of interest	Drawn plan to scale	Select timber, cut, plain, rip to right size	Mark correctly	Mortice using a morticer	Mark and Tenon	Smooth pieces and fit. Using correct tools.	Sand paper Using angle grinder finish with water proof sand paper	General finish and varnishing	Total
	12	14	10	14	10	15	7	10	100%
<u>Names</u>									
<u>1.A</u>	9	12	8	10	8	6	2	5	60
<u>2.B</u>	10	12	9	11	9	12	5	7	75
<u>3.C</u>	10	13	9	12	9	14	6	8	81
<u>4.D</u>	8	12	9	9	8	12	5	7	70
<u>5.E</u>	8	12	9	10	9	11	4	5	68
<u>6.F</u>	10	13	9	12	9	14	6	8	81
<u>7.G</u>	9	12	8	9	9	11	4	5	67
<u>8.H</u>	11	13	10	12	10	14	6	8	84
<u>9.I</u>	9	12	9	10	9	14	7	5	73
<u>10.J</u>	9	12	10	11	9	13	6	7	79
<u>11.K</u>	11	13	9	12	9	6	3	6	69

Source: Primary Data, 2018

4.14: Evaluative Actions.

Introduction.

This section presents the reflections on the progress and challenges encountered in the research process. The aim of these actions was to establish whether the research had been successfully done or not. One of the challenges was that, since the institute was entering examination period, associated with other personal individual learning differences, all learners could not stop at the same finish stage, out of eleven learners, only seven managed to apply the 1st coat of varnish.



Fig.36: Seven Church -Pew pieces, received 1st coat of varnish. (Source: Primary Data 2018)

Three trainees did not sandpaper(prepare) their furniture pieces for varnishing, time was not on their side.



Fig. 37: Furniture Pieces Still Lacked Some Components, Was Not Cleaned, Fixed and Sandpapered, Could Not Be Varnished (*Source: Primary Data 2018*)



Fig.38: Church-Pew piece members were not cleaned, fixed and sandpapered (*Source: Primary Data 2018*)

At the peak of construction exercise, it was not easy to have WWTD staff at once to give comments, since it was already examination period. Some even had left for their homes.

Therefore, the researcher had to have evaluation views /comments from one by one.



Fig.39: Deputy Principal Administration Gave His Comments (*Source: Primary Data 2018*)



Fig.40. Class Teacher 2nd Years (WWTd) Commented (*Source: Primary Data 2018*)



Fig.41: Instructor WWTd, Commented (*Source: Primary Data, 2018*)

The evaluation comments from Deputy Principal administration, Instructors including those whose faces were not captured in camera, were recorded and illustrated as below;

The evaluations and reflections made on the research project (constructed church-pews) and the general action research progress was done based on the following;

- i learners' attitude towards work.
- ii instructors' supervision
- iii working plan interpretation
- iv facilitation (training material, tools and equipment)

quality of the work

Comments from instructors; -considering the period materials were released and work able to be brought at that stage, most of the learners' attitude towards practical –practice was above average. Instructors 'supervision; - it was observed that learners worked more seriously when an instructor kept close, giving frequent guidance.

Working plan interpretation; - the interpretation of work plan was encouraging, at least out of eleven learners, eight trainees had their work pieces displaying all the features.

Facilitation (training material, tools and equipment); -though enough training materials were released, it was a bit late. Learners could not work at ease for more accurate work production. An equipment tool for improvement on timber surface smooth finish was at least purchased by the department.

Quality of the work. -in this context, quality referred to something produced within the acceptable standards. Therefore, about church pews, there were not of the same height, smoothing recommendable, length of furniture was uniform, more equipment to be bought.

Deputy Principal administration also noted that, furniture was stable and an improvement was realized (a bit of uniformity).

4.15 Evaluation from learners;

After the application of the 1st coat, the researcher called the participants (learners) to share how the progress of the project was, and the learners had the following to comment:

During the work progress, there were: -limited tools and equipment, inadequacy of equipment inhibited efficiency of work. However, researcher's opinion was that, at least at the end of every academic year, department/administration would sort out old tools and equipment and be replaced in order to keep the training flow appetizing to the learners.

Delays of material supply, work could not be moved as programed, therefore working at a hurrying speed almost ended up with poor quality work since there was a tendency to use wet timber.

Impressed(learners) by the availability of an Angle Grinder, timber smoothening was effected.

Researcher's observation was that, the availability of an angle grinder, motivated learners into timber grinding(smoothening) action, therefore effecting quality work purpose.

However, some few challenges were encountered; inconsistent power supply, unrepaired machines, some machine/equipment to form certain features on the work were idle, therefore such features could be formed mechanically, thus time consuming and not well coming out.

However, the learners said, had gained experience as a result of using angle grinder and felt could produce good quality furniture work.



Fig:42. Learners Commented on Their Work as The Researcher Recorded. (Source: Primary Data,2018)

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.

5.0 Introduction

This chapter is presented based on findings displayed by research tools and the researcher's own experience witnessed throughout the research progress.

5.1 Discussion

Referring to the future workshop held with stakeholders and participants(learners), learners were to improve on their skills and be able to produce quality wood work furniture if they were availed with appropriate tools and equipment, able to interpret drawings and specifications, and most importantly, be adequately supervised and do self-practical practice.

Consequently, quality wood work was displayed through construction of church-pews and to that respect an angle grinder was purchased by the department of WWT in order to effect smoothness of timber furniture by learners, smoothness-quality finish is one of the most requirements(achievement) for which employers in the world of work yearn from an employee. However, according to the researcher's findings based on the construction of church-pews, learners acquired the necessary requirements to enable them compete favorably in the world of work. This was justified by the assessment administered to them(learners) throughout the period of church-pew construction in the implementation process (Refer Table 6).

However, there is need for acquisition of more tools and equipment by the department since the already existing ones are not enough to enable learners acquire adequate work experience-skill.

There should also be early purchase of material so that learners do not take long without practical-practice because employers entertain experienced workforce, from Focus-group discussion it was reported that 2nd term 2018 training materials were released after one and half months which is a long period.

Constructivism theory of learning asserts that learning is a process where individuals construct new ideas or concepts based on prior knowledge and/or experience.

Indeed, the researcher is optimistic that this study exposed 2018 2nd years of WWTD to work-experience fitting world of work. They will be able to be innovative and more creative in wood work furniture constructions in their endeavors. They will be able to design/draw and construct a church-pew of a greater quality than that one produced in this project based on expertise acquired from this project carried out. This is stressed by one of the constructivist theorists /scholar;

Jerome. B (2018.March) asserts that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge (experience).

There was need for more cooperation among staff, this was stressed by one of the department instructors. Coupled with that, it was also observed that, time management by both instructors and learners contributed a lot towards poor quality wood work furniture production because since this instructor comes late for his class, shall have little time to attend/supervise the learner as he executes the work. Therefore, instructors need to improve on their time management. On side of learners, it remains the duty of instructors to ensure that the learner keeps time, that is if he also observed time.

5.2 CONCLUSIONS

Out of eleven participants (learners), eight learners were able to apply the first coat of varnish on their church-pews because had an experience to use tools and equipment available. Therefore, learners should be encouraged to acquire their own tools and equipment. Also their self-practical practice shall be enhanced thus improvement on skills/competence acquisition.

There should be regular feedback to learners, regular feedback promotes good working relationship among learners and instructors, therefore free consultations of learners to instructors enhances their skill's acquisitions.

Training material purchase delays, results into failure to complete the intended syllabus, a situation that compels instructors to train learners on wet timber because no time to dry it. Therefore, learners likely to take it normal, yet the end results depict poor quality wood furniture products. Therefore, administration should release facilitation early enough so that training materials are acquired on time.

During implementation process, it was also noted that learners worked with zeal and more concern when the researcher availed them each with a bottle of soda-drink, therefore when carrying out

practical-practice there is need to motivate learners, though motivation does not necessarily means giving out money. Some other forms of motivation could be organized, for instance giving prizes to the best learners that produced good furniture pieces. Through observation process it was also noted that some learners carried out practical work with negative attitude, therefore the department should periodically organize counseling sessions for learners by a counselor from outside the institute since their instructors could appear monotonous to them.

5.3 RECOMMENDATIONS

Learners should draw and interpret specifications themselves; this enhances the learner's acquisition of skill/competence in executing his/her work. Mistakes shall be eliminated/minimized, therefore, quality wood work furniture production.

Department should continue to encourage learners to do self- practical practice; a learner's competence shall be improved. In relation to that, learners should be allowed to do self-critique both to their own work and their friends 'work, this was observed during student's evaluation exercise, individual learners did not wish to hear challenging comments from their classmates. Therefore, in that way an individual learner could work to his best in order to overcome such challenging comments.

Industrial exposure should be improved and maintained for both instructors and learners, technology is changing every day. Therefore, even instructors shall remain informed, helps them to train learners in relation to the world of work requirements.

Practical time-table for 2nd years to be increased by two hours a week, the introduction of new subjects (according to new curriculum) reduced on practical hour-contact period.

Department increases on portable power hand tools for a variety of features required to be performed on wood furniture works, therefore, Foundation Body laisse with government to acquire tools and equipment for this skills- improvement.

The researcher feels that a lot more still needed to be established on causes of poor quality wood furniture, therefore encourages that further research could be carried out

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APPENDICES

APPENDIX: 1

KYAMBOGO UNIVERSITY

FACULTY: Art and industrial Design

DEPARTMENT: Vocational Studies

STUDY Master in Vocational Pedagogy

Sept/oct..2017

Questionnaire guide for -H.O. D and staff, wood work technology department at St. Joseph's Technical institute Kisubi. All the provided information shall be treated confidential

I am a master student (2nd year) at Kyambogo University pursuing a master's program in VOCATIONAL PEDAGOGY. I am here to carry out a situational analysis study prior to my intended research. Therefore, the purpose of this information is to build a key foundation for the eventual action research PROJECT.

All the information shall be treated confidential.

.

1.(a) what is the number of learners in this department (wood work technology)

.....

(b) what is your comment about that number?.....

.....

2. What subjects are taught to these students?.....

.....

3. (i)How is the students' attitude towards these subjects?.....

.....

(ii) According to you, what is your position (comment) about these subjects?.....

.....

(iii) How comfortable are you with the time allocation for each subject?.....

.....

(iv)Of the subjects being taught, which ones are the core?.....

.....

(v) What is the importance of the other subjects?.....

.....

4. What are the modalities when training these learners? E.g. directed learning, discovery method etc.....

5.Is ICT integrated into the training of your learners? If so what impact has it on the training?

.....

6.What is your comment about TVET policy, that is, hands- on training?.

.....

7.How many female students do you have in your department? What is your comment on that status?.....

.....

8.(a) Does the institution / this department in particular has a retooling mechanism for its staff?

.....

(b) What type of practical training do you offer to your learners? E.g. trained to produce new products only, repair works etc. Account for verification.....

.....

9.(a)What type of assessment do you carry out on your students.....

.....
(b) why did you decide on that type of assessment?
.....

.....
(c) how often is it carried out? (e.g at the end of every lesson etc).....
.....

10. (a) Are your learners taken for industrial study/tour? if so, are they supported (to and fro transport) and the general welfare, and how often?.....
.....

Account for verification.....

(b)How do you ascertain that learners actually acquire what they are supposed to obtain?
.....

11. Is there any verification that learners from this department acquire adequate skills to enable them compete favorably well in the world of work.....
.....

12.Finally, the researcher intends to carry out his action research in this institution but in wood work technology department in particular. The research is meant to bring about a positive sustainable change in the institute. Therefore, will you support the researcher in terms of corporation, material and finance since the end product shall remain for the department and institute at large.....

Thank you

APPENDIX. II

KYAMBOGO UNIVERSITY

Faculty: Art and Design

Department: vocational studies

STUDY : Master in Vocational Pedagogy

Sept/oct..2017

Questionnaire –Administration/Principal, St. Joseph’s Technical Institute, Kisubi.

I am a second year student from Kyambogo University pursuing a master’s in vocational Pedagogy program. The purpose of being here is to conduct a research on training of learners on competence-based training in relation to the world of work required standards.

All the information shall be treated confidential.

1.Is this institution government aided or private aided, and how old is it.?

2.How is the funding of this institution?

3.By who and how are the scholastic materials provided?

4.How often are the departments facilitated?

5. What areas of concern are majorly looked at when releasing the facilitation especially in the department of wood work technology?

6.(a) What are minimum and highest qualifications of the training staff employed in this institution?

(b) i) are all the instructors trained.? If no, why?

(ii) are you satisfied with their services as far as hands – on training is concerned?

Give your justification.

(c) Do you facilitate learners while on industrial studies /visits ,wood work technology department in particular ?

7. In your opinion, do you think learners from St. Joseph's Technical Institute Kisubi most especially in wood work technology department join the world of work when they are fully prepared? Account for Justification.

8. Finally, the researcher intends to carry out his action research in this institution but in wood work technology department in particular. The research is meant to bring about a positive sustainable change in the institute. Therefore, will you support the researcher in terms of corporation, material and finance since the end product shall remain for the department and institute at large?

Thank you

APPENDEIX: III

KYAMBOGO UNIVERSITY

FACULTY: Art and Design

Department: Vocational Studies

Study : Masters in Vocational Pedagogy

Sep/Oct./2017

Interview guide for situational analysis

Students; St Joseph’s Technical Institute Kisubi: The purpose of this information is to build a foundation for the sub sequential action research project.

However, all the information shall be treated confidential.

1.(a) How do you find this course?

.....

(b) was it your choice or someone’s influence?

.....

2.(a)what were your expectations on this course?

.....

(b) what subjects do you study on this course?

.....

(c) which one of these do you value most?.....

3. what areas in practical lessons have you covered so far, and what other areas do you expect to cover?.....

.....
.....

4. (a) In what ways are you taught? e.g. _ asked to design and construct your own approved work or a teacher designs and instructs you to do that work?.....

(b) In your opinion, how do you think could you be best trained as far as practical training is concerned? (e.g design and construct your own work or teacher designs and instructs you to do)

.....

5. Have you had any industrial study, if so, what do you think was beneficial to you?

.....

6. As far as this training is concerned, do you think it is better for someone to work alone or in a group? choose only one by ticking on it.

(a) work alone. (c) undecided

(b) in group.

7. what do you intend to do after this course ?.....

.....

8. Do you think there could be any problems/irregularities in this department as far as your trade (quality wood work furniture production) is concerned? If any, mention them.....

.....

.....

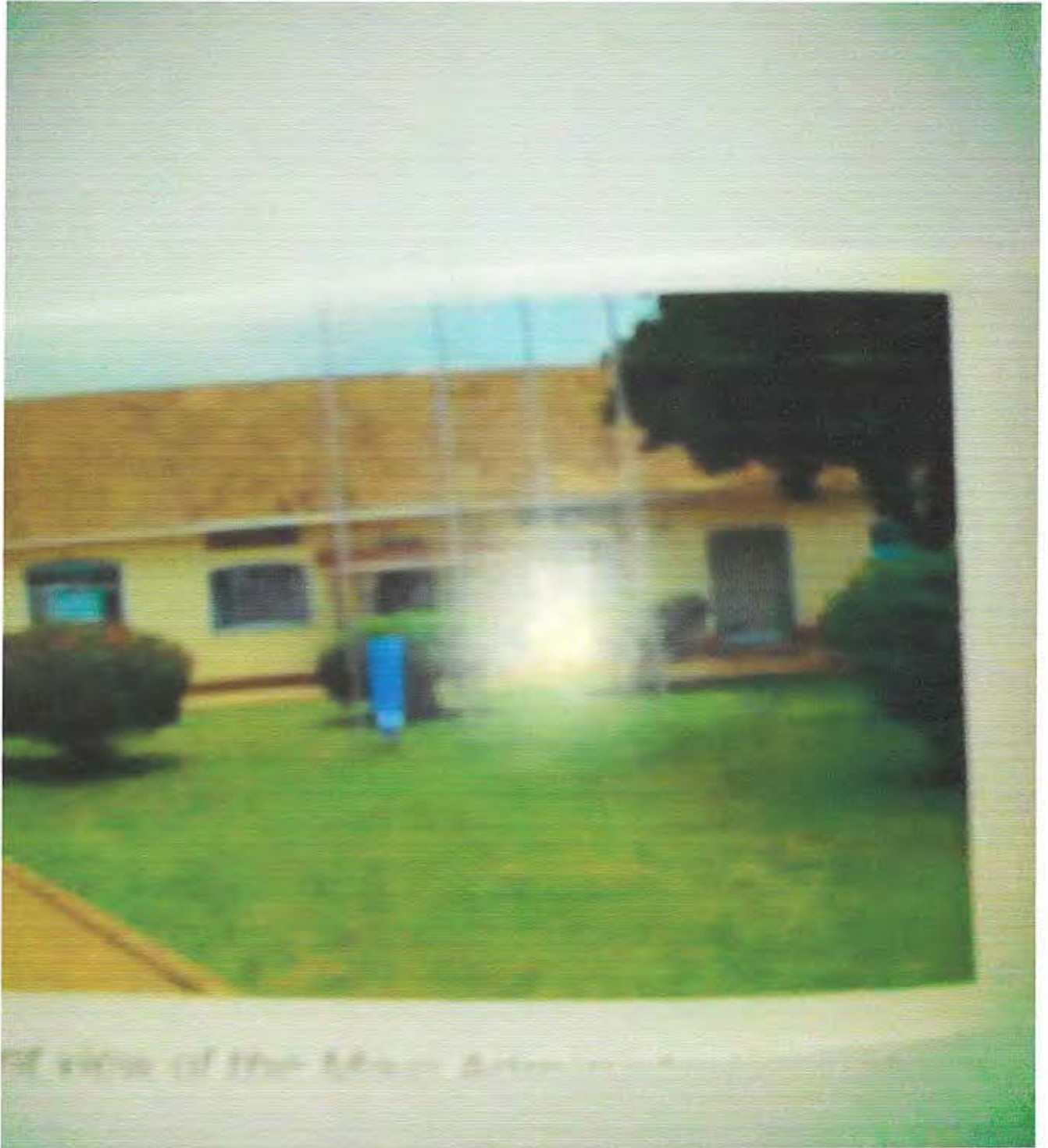
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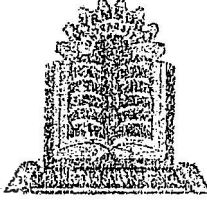
.....

Thank you

APPENDIX. IV

A Front View of Administration Block, St. Joseph's Technical Institute, Kisubi.





KYAMBOGO UNIVERSITY

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FACULTY OF VOCATIONAL STUDIES

DEPARTMENT OF ART & INDUSTRIAL DESIGN

MASTERS IN VOCATIONAL PEDAGOGY PROGRAMME

3rd October, 2017

The Principal
St. Joseph's Technical Institute Kisubi


RE: INTRODUCTION OF BARYAKIRA PARK.

This comes to introduce to you BARYAKIRA Park a student of Masters in Vocational Pedagogy (MVP) Programme at Kyambogo University. This student bears registration no. 16/U/14004GMVP/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 Project
Masters in Vocational Pedagogy Program

ST. JOSEPH'S TECHNICAL INSTITUTE, KISUBI

WOOD WORK TECHNOLOGY DEPARTMENT

Evaluation questionnaire guide to instructors on constructed church pews by learners.

Date.....*6/10/018*.....

- 1.What is your comment on constructed church pews as far as quality wood work furniture is concerned?
- 2.what is your comment on students' attitude towards that work?
- 3.what do you have to say about the facilitation modes, based on the promises made (by the department, administration and learners) during future workshop?
- 4.if the work not performed to the expectations of the department, what should have been done in order to achieve the expected goals?
- 5.what could be the overall average score of this work for the whole class? (i) 40% and below (ii) 41%-49% (iii) 50%-60% (iv) 61%-70% (v) 70% above.

End

WOODWORK TECHNOLOGY DEPARTMENT

GEURICH-PEW CONSTRUCTION, 2ND YEAR 2018

