

**USING PROJECT BASED LEARNING METHOD TO IMPROVE
TEACHING AND LEARNING IN MULTIMEDIA CRAFTS:
A CASE OF YMCA COMPREHENSIVE INSTITUTE, KAMPALA-UGANDA**

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DECLARATION

I, **Kajjora Kenneth**, declare that this work is entirely my own original work. It has never been submitted to any other University or Institution of higher learning for the award of a degree, diploma or any academic qualifications.

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LIST OF ACRONYMS/ABBREVIATION

PBL	Project Based Learning
YMCA	Young Men's Christian Association
FGD	Focus Group Discussion
MVP	Master's degree in Vocational Pedagogy
FW	Future Workshop
ICT	Information Communication Technology
VET	Vocational Education and Training
TVET	Technical Vocational Education and Training
CBA	Competence Based Assessment
HoD	Head of Department
R & P	Research and Pedagogy
NCHE	National Council for Higher Education

ABSTRACT

This study aimed at using Project Based Learning (PBL) as a teaching method towards improving students' learning of multimedia crafts at YMCA Comprehensive Institute. This was guided by three research objectives: exploring PBL method as a strategy in multimedia crafts; implementing PBL method and evaluating its impact in teaching and learning of multimedia crafts. To realize these objectives, a Participatory Action Research (PAR) design using situation analysis and future workshop approaches was employed. This approach was qualitative in nature and it involved twenty-five (25) stakeholders who were purposively selected. Data was collected using Focus Group Discussions (FGD), future workshop, observation checklist as well as the interview guides. The interventions consisted of training art teachers on the use of PBL method, monitoring the teaching and learning, and providing a course outline to students in time to plan the material requirements needed for the discipline. Findings of the study revealed that students worked in groups which gave them a responsibility for their learning through self-directed learning and centred the teacher as a facilitator. Although PBL method requires a lot of time for preparation, art teachers adopted the method and managed their time well during teaching and learning. Based on these findings, vocational teachers are recommended to employ PBL method in other vocational disciplines.

CHAPTER ONE

1.0 Introduction

1.1 Background to the study

This chapter gives the background to Vocational training as a field of study, multimedia craft as a discipline at YMCA Comprehensive Institute and an in-depth analysis of teaching and learning in multimedia crafts. As well, a statement of motivation that leads to the situation analysis, problem statement, purpose and significance of the study, research objectives, research questions and scope of the study are explicated.

1.1.1 Vocational training and vocational pedagogy

Vocational training focuses on training practical applications of skills, and is generally unconcerned with theory or traditional academic skills (Brunetti, I., & Corsini, L, 2019). Vocational training thus provides a link between education and the working world. As Bennell (1999, p.38) observes, “One of the most important features of Vocational Education and Training (VET) is its orientation towards the world of work and the emphasis of the curriculum on the acquisition of employable skills”. This means that the training equips learners with skills that are in line with the world of work while inherent workshop learning enables the teacher to relate his/her teaching with real-life experiences. VET is usually provided either at the high school level or in a post-secondary trade school. In vocational training, an individual acquires knowledge and skills of work, develops attitudes and competencies for executing tasks for personal, community and national development (Arinaitwe, 2011). This means that VET institutions can respond to the different training needs of learners from different socio-economic and academic backgrounds and prepare them for gainful employment and sustainable livelihoods (UNESCO-UNEVOC, 2007). There is need to prepare students for the needs of the society who, in turn, will employ appropriate approaches that meet and match the needs of learners. Training teachers in vocational

pedagogy therefore translates into the total sum of the many decisions which vocational teachers take as they teach, adjusting their approaches to meet the needs of learners and to match the work place contexts (Kelly D. , 2014).

The researcher sees vocational teachers as facilitators who guide learning as learners construct meaning out of the teaching/learning process. Since teaching in vocational education involves hands-on approach, the need to understand how to deliver the content to students is crucial and determines the effectiveness of the teaching and learning process. This means that as a teacher, one needs to have the ability to transfer knowledge to students in a possible convenient way that would make learners construct meaning out of it (Dewey, 1997). Lucas, Spencer, and Claxton, (2012, p.13) point out that “the effectiveness of all education systems depends critically on the quality of teaching and learning in classrooms, workshops, labs and other spaces in which education takes place”.

The above reflections explain teaching and learning in vocational education and training as facilitated through sharing and interacting experiences between the teacher and the learner when constructing meaning out of this reciprocated relationship. This constructivism approach aids knowledge construction and sustainable lifelong learning among students (Amaechi et al, 2016).The real answers to improving outcomes from vocational education lie in understanding the many decisions teachers take as they interact with students.

1.1.2 Multimedia crafts as a learning arena at YMCA

Multimedia crafts involve the use of a variety of indigenous and found tools and materials based on experiments, creativity and professional practices that hone artistic skills (Foster, 2018). The term multimedia can be separated into two words: “Multi” as a combining form meaning many, much, or more than one, and “media” refers to materials that enhance the production of art works. Therefore, multimedia crafts involve combining a collection of artistic insights, tools and resources which are creatively achieved to produce art forms (Lockwood, 2018).

The teaching and learning process in multimedia crafts at YMCA, exposes students to various techniques and methods of craftsmanship in the production of jewellery, ornamented mirrors, lamp sheds, flower vases, candle stands, among other crafts. Such crafts are made from local materials like gourds, bark cloth, seeds, stones, sisal, bamboo and found materials like plastics, copper and aluminium wire, glass, are combined to make finished products. In production procedures emphasis is placed on the use of indigenous and found tools and materials. The design ideas are developed using design processes; from a source of inspiration to the final design, which is actualized by [manipulating](#) some of the aforementioned materials.

[When planning and teaching Art](#), consideration of cultural backgrounds of the learners has informed much recent discussions in making teaching more learner-centred (Abah, Mashebe, & Denuga 2015). In many institutions today, formal education continues to be Euro-centric in outlook and academic in orientation, reflecting Western scientific cultures rather than the cultures of learners and the teachers (Abah, Mashebe, & Denuga 2015). This phenomenon is a major concern at YMCA, where formal education does not put into consideration [how](#) a number of art and design students communicate, think and learn. Learners' underachievement in the institution has been attributed to the 'cultural gaps' between the expectations of the institute curriculum and those of the environment in which the learners are socialized. In this case, the researcher raises the question of whose and what knowledge is considered worthwhile?

In an informal discussion with [YMCA](#) art teachers during a lunch time break, the researcher noted that the mode of delivering multimedia crafts to students is still wanting. Art teachers still employ passive approaches to teaching, namely lecture, discussion, and individual studio expression as teaching methods¹. Such methods render students' passive during teaching and learning process. Arinaitwe (2011, p.20) relates "... teaching to counseling or mentoring,

¹The information was collected from the reviewed YMCA Art and Design programme (2018).

where further guidance is offered to learners as they work through set tasks”. On the other hand, Arinaitwe (2011, p.20) also relates “learning to acquiring knowledge and skills through personal interaction with the environment so as to construct meaning out of it. In this way, students work with the known as they get to the unknown. However, Belgian Development Agency - BTC (2015) in Active Teaching and Learning Guide book identifies Project Based Learning, [Learning Contracts](#) and [Learning Stations](#) as vocational teaching methods that call for active teaching and learning whereas demonstration, presentation, group work, brainstorming and simulation as techniques that support teaching methods.

Inspired by Project Based Learning (PBL), as an active teaching method acquired through the MVP course, this approach to teaching and learning made the researcher to understand the importance of active teaching and learning where the learners own their learning process and can relate what they have learned to real life situations.

Dongfeng (2013, p.35-38) points out that “It is very essential to explore and reform teaching methods according to features and requirements of design majors and flexibly apply them to improve teaching”. The researcher was therefore encouraged to undertake this project with stakeholders at YMCA as a way of addressing challenges in multimedia crafts through situation analysis and future workshops. Both activities are dealt with in section 1.3 and 1.4.

1.2 Statement of motivation

The researcher is an artist and a teacher in the field of art and design. This field comprises different areas of study including multimedia crafts. The researcher thrives in unfolding his creativity in all forms such as inventions, and identifying new ideas that bring unexpected solutions into existence. As a result, the researcher [strives](#) to improve his understanding of learning processes and the process of exchanging experiences and knowledge with his stakeholders in order to collectively maximize the learning outcomes. During the four years of teaching, the researcher has noted the struggle students undergo when accessing materials

for the multimedia crafts. This involves a lot of tools and materials in order to produce a craft. In the long run, students cannot afford to buy each material that is required for the project. This therefore made him to continuously reflect upon how to achieve sustainable teaching in a way that his students would benefit from using a variety of materials and tools to produce different products. This motivated him to approach his students and propose to meet and discuss issues regarding teaching and learning multimedia crafts. The vocational pedagogy course provided the researcher with a systematic approach to initially carry out a situation analysis at departmental level.

1.3 Situation Analysis at YMCA Comprehensive Institute

Situation Analysis is a a new approach to qualitative data analysis with deep roots in the grounded theory method, that researchers use to analyze and design tools for research projects (Albert J. et al, 2010). The Situation Analysis was conducted at YMCA Comprehensive Institute, in the department of Art and Design. The exercise was aimed at collecting data that would enable the stakeholders identify an area of concern that needed an improvement. To proceed with the situation analysis, a Focus Group Discussion (FGD) was put in place. The researcher used a work process analysis tool to collect data through a work process of analysing the tasks and competences required for preparing students who are proficient in multimedia crafts at the end of art and design course (Appendix 6). Stakeholders explored the process students undergo and the challenges they face from the time of admission into the institution, during orientation, through the teaching and learning, assessment and final evaluation. In the whole process, students are expected to have acquired competence in the use ICT, effective communication, willingness to learn, tolerance, being observant and interpersonal skills.

A number of challenges faced by students during teaching and learning process were identified and grouped according to short term, medium term and long-term categories.

Under short term challenges, combining art students with students of other courses, use of passive approaches to teaching by teachers, inadequate materials for practical and lack of career guidance to students were analyzed. In addition, unclear course outline (which does not include materials needed for learning) was considered as a medium-term challenge. Issues like inadequate computer knowledge, high costs of materials, unfavorable learning environment and limited time to do practicals were analyzed as long-term challenges.

Table 1: Summary of the grouped challenges generated by stakeholders during teaching and learning process

Short term	Medium term	Long term
<ul style="list-style-type: none"> • Combining art students with students of other courses. • Passive approaches to teaching used by teachers. • Inadequate materials for practical • Lack of career guidance to students 	<ul style="list-style-type: none"> • Unclear course outline which does not include materials 	<ul style="list-style-type: none"> • Inadequate computer knowledge • High costs of materials • Unfavorable learning environment • Limited time to do practical

This research was budgeted for four months. Stakeholders agreed to consider short term challenges, which were subjected to a pair wise matrix. Muata, (2006) states that pair wise ranking matrix is an effective tool for supporting the researcher in facilitating participants to systematically compare different issues within the study. Pairwise is a process of comparing entities in pairs to judge which of each entity is preferred, or has a greater amount of some quantitative property, or whether or not the two entities are identical (Rabinovitch, 2000). Stakeholders consistently ranked inadequate materials for the practical work in multimedia craft discipline as the biggest concern. Therefore, inadequate material was identified as a gap and was subjected to the Future Workshop (FW) for further critique.

1.4 Future workshop at YMCA Comprehensive Institute

Future workshop is a tool used to enable participants to develop new ideas and solutions in a collaborative effort towards addressing existing problems (Jungk 1970). The tool was introduced to help stakeholders gain an in-depth analysis of the existing area of concern. Jungk and Mullert, cited in Chauncey, (2011) describe future workshop as an involvement of stakeholders in democratic decisions about public projects or social problems.

The future workshop was organized to develop new ideas and solutions in a collaborative effort towards addressing a positive change in the teaching and learning. Stakeholders participated in four phases of FW, that is; preparation phase, critical phase, fantasy/utopia phase and reality phase and these were critically followed in their logical sequence.

1.4.1 Preparation Phase

Prior to the FW, necessary tools and materials to use such as flip charts, pens, paper, marker pens, masking tape were bought, the venue was prepared, and the participants were invited. An agenda was drafted to include: the introduction where the researcher introduced and explained the future work method, ground rules and [the procedure](#) of the future workshop.

1.4.2 Critical Phase

This is the starting point of the future workshop where formulation of a general and critical question of the problem is developed. At the meeting held on 11th December, 2017 at 11:00am in the Art room, YMCA Comprehensive Institute, Kampala, the researcher introduced a prompting question to the participants, which [brought about](#) the existing situation: “Why are art students of YMCA experiencing challenges in acquiring materials for their projects?” The participants came up with various reasons for the existing situation, which [culminated into](#) a collection of points for the critique. The points collected for critique were grouped according to short, medium and long-term challenges. The related statements were grouped and condensed into single statements which were then prioritized.



Plate 1: Stakeholders in a discussion during the future workshop on 11th December, 2017

Source: Primary data



Plate 2: Stakeholders in a discussion during the future workshop

Source: Primary data

1.4.3 Fantasy Phase

Stakeholders started with an imaginative introduction, where all ideas were collected and put in an “idea store”, regardless of their possibility. Participants envisioned an ideal situation and changed all the critiqued points into what should be the ideal. Stakeholders suggested that a list of art material requirements should be included in the fees structure, finished products exhibited, and teachers acquire teaching skills and students experiment with various materials as well as improvise materials for use. The phase was realized as a point of departure towards active teaching and learning methods.

1.4.4 Reality Phase

Based on the above findings, all ideas were classified using pairwise matrix and the research participants agreed to handle the best ranked challenge ascribed. (Appendix 4) Participants ranked passive approaches to teaching as the most pressing challenge and it needed to be addressed promptly by stakeholders at YMCA Comprehensive Institute. The ranked challenge signified a gap within teaching and learning - showing passive approaches²to teaching such as lecture, take home assignments, copying notes among others employed in teaching multimedia crafts.

1.4.5 Implementation Phase

The researcher and the stakeholders worked out a work plan to implement the selected idea using guiding questions: Who does what, where, when and how? In this case therefore, the role of each stakeholder was clearly assigned as presented in Appendix 3. Participants suggested [conducting a]to follow up on the implementation work plan, which would find out if there was any change and improvement exhibited within the action research process from December, 2017 to August, 20 18. Accordingly the purpose of this phase was to provide feedback on the evaluation of the intervention strategies that were agreed upon by the key stakeholders.

²Passive approaches to teaching refer to teaching methods which are verbal and expository. The teacher directive exposes information to the students not giving students a chance to think and construct their own learning.

1.5 Statement of the problem

Preparing students for the demands of the 21st century requires committed, versatile and innovative teachers willing to break existing barriers in the teaching-learning process. Whereas an art teacher at YMCA Comprehensive Institute can ably train students for the world of work, the mode of [imparting knowledge and skills in](#) multimedia crafts to students is still wanting. Art teachers employ passive approaches to teaching as opposed to the active approaches that give room for learners to construct their own learning. In order to bridge the existing gap of passive approaches to teaching and learning, the researcher explored Project Based Learning (PBL) method as an intervention strategy to improve teaching and learning multimedia crafts.

1.6 Purpose of the study

The purpose of this study was to explore Project Based Learning method as a strategy to improve the teaching and learning of multimedia crafts at YMCA Comprehensive Institute, Kampala district.

1.7 Objectives of the study

- (i) To explore PBL method as a strategy for improving teaching in multimedia crafts at YMCA Comprehensive Institute.
- (ii) To implement PBL as a method in teaching and learning multimedia crafts at YMCA Comprehensive Institute.
- (iii) To evaluate the impact of PBL method in teaching and learning of multimedia crafts at YMCA Comprehensive Institute.

1.7.1 Research questions

- (i) What is PBL method, its characteristics and challenges in relation to teaching multimedia crafts at YMCA Comprehensive Institute?
- (ii) Can PBL method improve teaching and learning in multimedia crafts at YMCA Comprehensive Institute?
- (iii) What is the impact of using PBL method in teaching and learning of multimedia crafts at YMCA?

1.8 Justification of the Study

Elliot as quoted in (Hiim, 2011) asserts that the purpose of educational action research conducted by teachers is to develop knowledge for future reference, which is of importance to the individual teacher, participants in the project, and for the teaching profession. Learners in the 21st century need to be actively involved in the learning process. This means that the teacher should employ vocational teaching methods such as project-based learning that make learners active participants in the learning process. On the contrary, art teachers have not been creative in devising various modes of imparting knowledge and skills to students. This is due to the limited exposure to innovative instructional methods during the hands-on teaching and learning process specifically in multimedia crafts. The identified challenge of passive approaches to teaching is likely to hinder students' acquisition of competences demanded in the world of work. It was against this background that the researcher engaged the stakeholders in the process of identifying gaps in teaching multimedia crafts at YMCA and laid strategies for improving the existing situation.

1.9 Significance of the study

The study was of significance as follows:

Art students and art teachers of YMCA Comprehensive Institute, Wandegeya benefited from the increased involvement in the discipline and improved learning outcomes through constructive learning.

This action research helped art teachers improve their practice as vocational teachers. They were able to reflect on and evaluate their methods of instruction in their respective practices like graphics, and weaving. Knowledge and skills in these practices were incorporated in advertising multimedia products and varying production techniques respectively.

The YMCA administrators at the institute met to discuss the way forward for improving on their practices in conducting curriculum review and research.

Knowledge about teaching multimedia crafts using PBL was shared by other vocational disciplines...and vocational education and training institutions by equipping teachers with active teaching methods for effective teaching and learning.

The research serves as a reference point for future scholars and researchers in universities and other vocational training institutions on the improvement of teaching and learning.

1.10 Scope of the study

1.10.1 Geographical Scope

The study was conducted at YMCA Comprehensive Institute, Wandegeya in the city centre of Kampala district in Uganda. The area of the study was chosen because it is one of the vocational practicing institutions in Uganda; and in close proximity with the researcher's study institution and residence.

1.10.2 Content Scope

The content scope of this research was based on the three objectives of the study focusing mainly on exploring Project Based Learning method for improving the teaching of vocational multimedia craft at YMCA Comprehensive Institute. The researcher trained art teachers on PBL method ,lesson preparation, improvising project materials, teaching and learning as well as how tasks and assessment are conducted during the practical sessions.

The study was limited to involving of all stakeholders in the improvement of teaching and learning through Project Based Learning (PBL) as a teaching method that could be employed in multimedia crafts.

1.10.3 Time Scope

The Action Research process at YMCA Comprehensive Institute started on 7th December, 2017 and ended in August 2018, a period of nine (9) months. This was because the stakeholders (students) were to complete their programme in August 2018 and it was the same period when the evaluation process took place. During this period, the researcher and stakeholders participated in situation analysis, future workshops, focus group discussions, project implementation, project evaluation, and follow up.

1.11 Definitions of Key Terms

The following terms were used in the context of this study as follows:

Project Based Learning method: This is a teaching method which allows students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex task, problem, or challenge in real life situation.

Improve: The term relates to the act of enhancing or making situation better in terms of quality, value or usefulness.

Multimedia crafts: involves combining a collection of artistic insights, tools and resources which are creatively used to produce art forms.

Teaching: Teaching relates to counseling or mentoring. Throughout the report, teaching is employed to mean; guiding somebody to develop his/her own knowledge as s/he learns from their actions and experiences through sharing opinions and reflections.

Learning: refers to actual acquisition of knowledge and skills through personal interaction with the environment so as to construct meaning out of it.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents views, theories and concepts from different scholarly articles that are related to the subject under study. The theories that inform this study include the theory of constructivism, and the theory of PBL as a teaching method. The researcher introduces the Project Based Learning (PBL) as a teaching method and how it can be employed in the teaching and learning process.

2.2 Theoretical frame work

2.2.1 Theory of constructivism and Teachers' role

Learner-centred pedagogy derives from an alternative theory of knowledge known as constructivism (UNESCO, 2011). While not opposed to the use of scientific methods to create knowledge, constructivism assumes that knowledge emerges through reflection on one's experiences, ideas and interactions regardless of how one is taught (BTC, 2015). In other words, knowledge is created through a process of new information linking with prior knowledge and experiences of learners. The learner is an information constructor. Teachers should not tell learners anything directly but, instead, should always allow them to construct knowledge for themselves. Constructivist learning theory informs this study because it involves pragmatism which in the long run PBL does. Learning is driven by challenging, open-ended problems with no one "right" answer.

Several prominent education scholars demonstrate the relevance of constructivism to pedagogy. They show how knowledge is relevant when it is 'in use' and linked to previous experience rather than when it is 'delivered'. Terry Anderson in Null, (2004, p.182) defines constructivism as an interactive process during which teachers and learners work together to create new ideas in their mutual attempt to connect previous understandings to new knowledge. Null (2004, p.181) adds that knowledge construction occurs in the process of

teaching and learning and that teachers should strive to understand students' points of view. He adds that the need for teachers to pose to students' questions that are relevant to their daily lives and experiences is important.

Constructivism suggests that teachers should create the conditions for learners to discover and actively construct knowledge -to 'learn to learn'- and to develop the higher order thinking skills of analysis and synthesis through inquiry-oriented activities (Dowling 1995, p. 2). Learners do not come to school as empty slates; they come with their past experiences and these may improve the teaching-learning processes. Dolmans, et al (2005, p. 732) clarify that the constructive learning principle emphasizes that learning is an active process in which students actively construct or reconstruct their knowledge networks.

Learning is a process of creating meaning and building personal interpretations of the world based on individual experiences and interactions. It is important to note that the teacher should provide a conducive environment that enables this knowledge construction to proceed well. Students' personal interpretations of can be based on project work that they engage in and the reflections that they come up with during the project. Clements and Battista (1990, p.35) also argue that "the role of the constructivist teacher is to guide and support students' invention of viable ideas rather than transmit "correct" adult ways of doing things". Thus, constructivist teachers must be able to pose tasks that bring about appropriate conceptual reorganizations in students.

Piaget, (2013) identify collaboration as a very vital aspect in constructivism. They add that it is not a matter of division of tasks among learners, but involves mutual interaction and a shared understanding of a problem. Piaget complements that engaged learning is often collaborative either with peers or even with the teacher as a co-learner. Sometimes the learner becomes the teacher. It is therefore vital for the teacher to ensure that meaningful

collaborations are made by the students. These collaborations should aim at finishing the task at hand and building new knowledge.

2.2.2 Tasks in a constructivist class

Dowling (1995, p. 2) mentions the characteristics of tasks given to students in constructivist class; which are challenging, complex and require real growth. The tasks given must seek for the students' sense of maturity so that innovation is achieved through deep thought. Simple tasks may imply to the learner that the learning is still traditional and school – like. Tasks are authentic; that is, students can see a correlation to the "real world." In researcher's understanding, students should see meaning in the tasks they do, otherwise the project will become boring to them. Tasks can be chosen from the learners' surroundings so that it is easy to attach meaning to them. Tasks are often multidisciplinary. In the real world - authentic problems are complex and rarely involve a single discipline. Researcher's view of this is that tasks given to students in PBL should be able to relate to more than one subject area on the curriculum. This will help students to achieve more competences unnoticed during the teaching and learning process.

Another indicator of engaged learning is the nature of social interaction (Jennifer & Yeonjeong, 2008). Work is often cooperative rather than competitive. Hence there should be evidence of cooperative learning within the group during the execution of the project. Group work often draws on the strength of each member. The researcher looks at every group member becoming important due to their shared roles. In this context, every group member works on his strength and learners draw upon, connect, and analyse their prior knowledge and experiences through self-discovery and interaction with each other and with the teacher.

The main goal of teaching in vocational education is to prepare students for the world of work through the acquisition of theoretical and practical skills (Ali & Muhammad, 2012). This implies that vocational institutions are expected to train and produce graduates who are equipped with the practical essentials of their selected trades. These trades are taught using

appropriate teaching methods that stimulate construction of knowledge and the ability to participate in the learning (Amaechi et al, 2016). The methods employed in vocational training direct and guide the teacher and the students in undertaking any lesson or activity (BTC, 2015). In the same way they are integrated focusing on students' different capacities, needs and learning conditions.

Consequently, the approach creates independent students who are given responsibility and self-direction in their learning. Yinusa, (2014) suggests of teaching methods in vocational training as those which can motivate students and sustain their interest in the course of instruction. Methods like project-based learning, allow students to engage their previous knowledge, experience and work through the project in their own way. This consequently supports students' knowledge construction and expertise development processes (Windschitl, 2002), and relate to project-based learning dealt with in this study.

2.3 Project Based Learning Method (PBL)

PBL is grounded on projects. Jones, Rasmussen, and Moffitt in Thomas, (2000, p.1) define projects as complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities.

Duch, et al (2001) comment that in the problem-based approach, complex, real-world problems are used to motivate students to identify and research the concepts and principles they need to know to work through those problems. Okumus and Wong (2004) note that when the problem is presented to the students, it is made clear that they need to gain new knowledge before they can solve the problem.

Additionally, Behizadeh (2014, p. 99) points out that PBL allows students to learn by constructing their own understandings in collaboration with peers. The difficult tasks given to students help them to think. This can be a very good chance for students to create knowledge in the small groups where such tasks are done. Dolmans et al. (2005) also add that problems

are the driving force behind students' learning in PBL and are used to engage students actively in their own learning. Whenever someone is faced with a problem, they are more emphasized to think for a solution. Okumus and Wong (2004) also mention that in PBL, the learning process takes place when students work on solving the problem. This means that teachers should set prompting tasks to learners that explore for in-depth analysis.

2.3.1 Characteristics of Project Based Learning

Thomas (2000) mentions five characteristics of projects that qualify to be used in PBL. These are explained as follows: PBL projects are central, not peripheral to the vocational curriculum. In PBL, the project is the central teaching strategy; students encounter and learn the central concepts of the discipline via the project. The PBL considers students to actually achieve more than just the central concepts of the discipline. Skills such as communication, crisis management, decision making among others, may not be indicated on the curriculum. This implies that PBL actually helps the teacher and learner achieve much more than what the curriculum stipulates.

PBL projects are focused on questions or problems that "drive" students to encounter (and struggle with) the central concepts and principles of a multimedia craft discipline. The PBL also indicates that a good project should be able to combine two or more subjects or topics. Projects in multimedia crafts should therefore be multidisciplinary so that the learner is able to integrate knowledge from different fields while handling one task or problem. This can help the art student to realize the importance of other subjects.

PBL involve students in a constructive investigation. An investigation is a goal directed process that involves inquiry, knowledge building, and resolution. The project in multimedia craft discipline should stimulate the learner to be able to construct knowledge through their various group discussions. It is also important that projects should give learners some degree of difficulty.

Projects in PBL are student-driven to some significant degree. The teacher should play his role as a facilitator and not as an authority of knowledge. The learners should be left ample time to consult their group members in order to discover more knowledge and negotiate their sides of view. During their crafts development, the learner should be able to discover himself and his peers in the process of inquiry and this must be with less teacher interference.

PBL projects are realistic, not school-like. The students must feel the originality of the project. Projects embody characteristics that give students a feeling of authenticity. The project should reflect the real world where the learner is aware of; not like the usual classes at school but rather a reflection of issues in society. [Both teachers and learners needed exposure to PBL and by experiencing it, to understand its characteristics, significance, and respective roles within the teaching/learning process.](#)

2.3.2 Art teachers' role in PBL

Haith- Cooper in Okumus and Wong, (2004) comment that in PBL, the teacher acts as a facilitator and students are expected to be active collectors and processors of information rather than passive recipients of knowledge. The facilitation in this sense means less teacher's interference into the students learning activities. This is supported by Okumus and Wong (2004) who suggest that the teacher should be careful not to intervene too much in the problem-solving processes of the students. Dolmans et al. (2005) mention that teachers are facilitators who stimulate students towards self-directed learning. The teacher's task is to keep the learning process going, to probe the students' knowledge deeply, to ensure that all students are involved in the process, to monitor educational progress of each student in the group and to modulate the challenge of the problem.

Dolmans et al. (2005) observe that dominant teachers in the group hinder the learning process, but the quiet or passive teacher who is probably trying not to teach also hinders the learning process. In both situations, PBL cannot be characterized as self-directed. The teacher

must find a middle ground, so that he/she facilitates the learning process through guiding rather than spearheading it.

Knight and Yorke (2003) suggest that the teacher can encourage learning by giving learners new tools and materials with which to work, making it easier for them to share problems, brainstorm answers and talk. Solomon (2003) complements that in PBL; an art teacher's role no longer includes demonstrating to learners. Instead, it is to facilitate learning that help students investigate and develop learning purposefully and creatively. Okumus and Wong (2004) also note that the institution should provide good IT and library resources for art students. The students always use it as a reference point and view the teacher as a facilitator in guiding learning.

According to Hmelo-Silver (2004, p.239) “the teacher guides the learning process through open-ended questioning designed to get students make their thinking visible and to keep all the students involved in the group process”. Questioning is a critical characteristic of a teacher that helps him to travel through the students’ mind and thoughts. Kyriacou, (1997, p.80) also clarifies that a good teacher is one that makes good use of a variety of questioning techniques.

2.3.3 Why use Project Based Learning?

Blumenfeld et al. (1991, p. 372) note that projects can serve to build bridges between phenomena in the classroom and real-life experiences. They add that “the questions and answers that arise in their daily enterprise are given value and are shown to be open to systematic inquiry”. The gap between the classroom and real life can seem to be enormous during traditional teaching yet in PBL, students go to art studios to experience the real world and later during the exhibition, the public comments about their work. This can be a source of inspiration and greater creativity.

Okumus and Wong, (2004) mention that students find PBL method interesting and stimulating because students will be working on real life problems and scenarios. Okumus and Wong adds that this method can help students use their previous knowledge as well as to gain new knowledge in new areas and, finally, to put this knowledge into practice. Students also integrate various concepts from the other subjects as they work on one project.

2.3.4 Challenges of Project Based Learning

Okumus and Wong, (2004) argue that the most problematic issue in PBL is the maintenance of art studio order especially for activities that allow art students mobility and choice, include group and out of studio work, and culminate in procedurally complex tasks. The researcher agrees that in PBL, studio management can be a problem because students work most of the time without the teacher. Some indisciplined art students may take advantage of the student-centered studio by stealing their fellow practical materials as well as disturbing them.

Similarly, Ayas and Zeniuk (2001) suggest that the challenge with project-based learning is developing the capability of continually enhancing the collective capacity to reflect, to unlearn and to 'learn to learn' over time. This challenge is about dropping our old way of working in art which we are already used to. But also, it has another dimension of consistence in conducting PBL activities. This means that the teachers together with the administration should try their best to see that PBL continues to thrive at the institution.

According to Okumus and Wong, (2004) PBL may be time-consuming for the teacher in terms of the amount of preparation involved. PBL tends to consume a lot of preparation time for an art teacher especially if he decides to look for practical specimens for the students to follow. This may also turn out to be expensive for the institution since some are bought. In some cases, the teacher's time will also be needed to attend to individual learner's needs. These may include but not limited to reassuring the student, building their confidence levels and showing them their good side that they might not have seen themselves.

Baptiste in Okumus and Wong, (2004) mention that assessing the students' learning may also be problematic since much of the assessment is done by the students; it is difficult to tell the objectivity of students' judgement in evaluating themselves or their peers. During critiques, some students tend to take advantage of the activity and give good comments to their friends instead of being objective. It would be a good idea for teachers to get involved at this stage and ask students to write their peer assessment on paper without indicating their names to avoid bias and later submit their reports for comments.

2.3.5 Summary of Chapter Two

In this chapter, the researcher described the theories that inform this research. Outstanding among them is the theory related to Project Based Learning; where the roles of teachers and challenges encountered have been mentioned among other things. The theory of constructivism emphasizes that learners should be given time to generate their own knowledge in groups for sustainable improvement and change.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In this chapter the methodology employed in the study, the research design; including qualitative research design and the participatory action research are described. The area and population of the study, sampling technique and how it was used to select participants, the sample size and how it was distributed, the methods and tools used to collect data, how validity and reliability of the research was ensured, and the ethical issues that were considered during the whole process, are detailed in the subsequent sections.

3.2 Descriptive Research Design

A descriptive research design using a participatory action research approach was used for this study. Polland, (2005) explains that descriptive research design is a systematic way of asking people to volunteer information about their attitudes, behaviors, opinions and beliefs. This therefore enabled the researcher to collect written descriptions of his experiences and for the participants that would support the data collected.

3.2.1 Qualitative research

Strauss and Corbin (1990) define qualitative research as a type of research that produces findings not arrived at by statistical procedures or other means of quantification. As well, it refers to research about persons' lives, lived experiences, behaviors, emotions, and feelings as well as about organizational functioning. Some of the data may be quantified but the bulky of the analysis is interpretative.

The researcher chose to use the qualitative research because the research problem was more bearing to his experience as a researcher in as far as improving his practice was concerned. Qualitative research includes collecting information from participants, verifying them and contemplating what they meant (Patton, 2015). While in the field, the researcher collected

qualitative information using focus groups, participant observation, interviews and log. These involved processes such as training stakeholders, carrying out projects in the field and these could best be analyzed by qualitative methods such as Focus Group Discussions, interviews, observations among others. The researcher chose qualitative research because it was a more valid and valuable approach to this study (Snape & Spencer, 2003).

3.2.2 Participatory Action Research (PAR)

Participatory Action Research approach was adopted. This research approach was adopted because participants have control over the research agenda, the process and actions. Participants inquire, and also participate in the process. They may not only discuss their problems, they also think about possible solutions to them and actions which need to be taken. Stringer (2013) defines action research as systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives. Wadsworth in Berg (2001) mentions that action research, is also referred to as *participatory action research*, which is highly reflective, experiential, and participatory mode of research in which all individuals involved in the study, researcher and subjects alike, are deliberate and contributing factors in the research enterprise. In this study, the researcher collaborated with several participants in FGDs and future workshops including art students, the administrator and his colleagues who were willing to improve their various practices. He decided to use PAR because it involves all concerned and provides direct access to the area of investigation Holter and Schwartz-Barcott in (Coghlan & Casey, 2001).

3.3 Population of the study

According to the departmental report, (2017) the population size of art and design department at YMCA comprehensive Institute is 489 art students with 295 (60.3%) female and 194 (39.7%) male as well as 06 teachers, 05 (83.3%) male and 01 females (16.7%). Within the teachers, there is an administrator who is the head of department. However, in this study, the

target population comprises 25 participants: art students in their final year 2016, administrator and art teachers of YMCA comprehensive institute.

The researcher used a purposive sampling during study analysis and future workshops to get the optimal number of participants for the study. Wimmer & Dominick (1997) suggests that purposive sampling helps the researcher to select the best judgments in order to decide which elements are most representative of the population and include them in the sample. The sample selection enabled the researcher to collect valid information related to the study and follow up the implementation processes with key participants.

3.4 Sample Size

The study had a sample size of twenty-five (25) respondents: twenty (20) art students; four (4)-degree art students, five (5) diploma art students and eleven (11) certificate students of 2016, purposively selected from the department of art and design. Among the teaching staff participants, the researcher worked with five (5) art teachers including one (1) administrator who was the Head of Department (HoD) industrial art and design. The respondents participated in both interviews and Focus Group Discussions (FDGs). The art teachers have 4 -10 years teaching experience in vocational institutions. The degree and diploma students came directly from senior six with work experiences while certificate students came from senior four.

3.5 Methods of data collection

The researcher employed five methods of data collection namely: Interviews, focus group discussions, future workshops, observation, and documentary analysis.

3.5.1 Interviews

An interview is a conversation that has a structure, involving careful questioning and listening approach, with the purpose of obtaining thoroughly tested knowledge. Creswell, (2007) points out that interviews stimulate the respondent and give an increasingly complete

and valid set of responses that a foundation for the discussion. The researcher therefore employed an interview guide that enabled him collect data from the participants and later triangulate it with the existing situation and related literature to confirm the information collected.

3.5.2 Focus Group Discussion (FGD)

Wilkinson (2006) states that focus group discussion can be used in action research projects. This was why the researcher opted to use FGD because they helped the researcher to gather participants from similar backgrounds or experiences to discuss a specific topic of interest. Focus group discussion was used as a method of collecting information from participants in order to analyze circumstances during data collection, validation and report writing. The method helped the researcher to recognize participant's responsibilities, benefits, desires and plan for improvement. This is supported by Mikkelsen, (2005) who upholds that the problems within an institution should be based on group discussions. Wilkinson, (1998) asserts that discussions between group participants are directed and guided by the group moderator. This is also supported by Berg L, (2001) who mentions that FGD procedures include a trained and practiced facilitator who asks a small group of individuals a series of open-ended questions, about a specific topic. For this study, the research questions were the guide as the researcher was the facilitator.

3.5.3 Future Workshop

The FW method was used to enable participants to develop new ideas and solutions in a collaborative manner towards existing problems. The method helped the researcher to generate solutions to the identified challenges within the institution and decide on the course of action as reflected by Jungk and Mullert, cited in (Tofteng et al, 2015).

3.5.4 Observation

To collect data under observation was basically to reinforce the interview method as a means of validating the quality of data gathered. The researcher monitored and participated in the research activities at all times since the study was action oriented. The method was supplemented by a voice recorder and digital camera to bridge the gaps between the information noted in the process of observation and what actually occurred at a particular time. Observations enabled the researcher to describe existing situations using the five senses, hence providing a "written photograph" of the situation under study (Erlandson, et al , 1993).

3.5.5 Documentary analysis

Documentary analysis is also referred to as archival survey/library research. Documentary analysis is concerned with all kinds of information hard and soft copies of various categories and artifacts. Creswell, (1994) enlightens that documents are any written information or physical objects that are analyzed for study to obtain data such as manuals, books, journals, registers, newspapers, letters and minutes. This therefore helped the researcher to adopt a documentary analysis from the very beginning of the study as a means of enriching related literature.

For the effective use of the mentioned methods, a voice recorder, and digital camera, as research tools were employed. The researcher developed and used the research instruments such as interview guide, observation checklist, FGD guide and evaluation forms to monitor the learning and actions of the participants in order to influence change as pointed out by Whitehead and McNiff, (2006)

3.6 Data collection

Data was collected using the work process analysis and future workshop model in order to identify potential obstacles that needed a successful implementation of the study. The aim of

the work process analysis was to identify factors that were likely to either positively/negatively impact the teaching and learning of multimedia crafts.

3.7 Validity and Reliability of Instruments

The researcher ensured that there was consultation and collaboration with supervisors for the purpose of developing items on the instruments which were used to collect accurate and desired data. The researcher pre-tested focus group discussion guide and interview guide with different individuals to see whether the key questions could easily be understood and yield useful answers. Several sets of data collection tools on work process analysis were designed. The tools were later presented to the supervisors and key stakeholders, who provided guidance in relation to data collection.

3.8 Data Analysis

This research being qualitative in nature, the researcher employed qualitative data analysis techniques. The researcher transcribed data from the field, coded, validated, presented, reflected and discussed the findings of the study. This approach to data analysis is supported by Creswell, (1994) who states that qualitative data analysis primarily entails classifying things, persons, and events and the properties which characterize them. The qualitative data obtained with the emerging ideas, opinions and beliefs were critically analyzed and synthesized with what other writers had said in the literature review in order to make them more comprehensive (Lipton, 2014).

3.9 Ethical Considerations

The researcher presented an introductory letter (Appendix 2) to the Principal of YMCA Comprehensive Institute Kampala district asking for permission to carry out an action research in the department of art and design. Permission was granted and the researcher also presented a letter to the stakeholders asking them to participate in the situation analysis/work process analysis and the future workshop. The researcher also ensured that the

information got from participants was kept personal to avoid the stakeholders from being in oppression. Recording responses and photography during the interviews and focus group discussions were also done under the permission of the participants [who signed consent forms](#) to avoid fear and doubts. Participants were taken through the benefits of the study and were assured that there were not at risk at any step of the research process.

CHAPTER FOUR

ACTION IMPLEMENTATION, AND EVALUATION

4.1 Introduction

This chapter presents the findings transcribed from observations, interviews and focus group discussions that were relevant to employ PBL method for improving the teaching of multimedia crafts at YMCA Comprehensive Institute, Kampala district. The key participants during the course of data collection were art students, art teachers and an administrator who was the head of the art and design department. The data collected was interpreted and described based on the researcher's reflection, art students', art teachers' and administrator's responses as well as observations carried out during the course of the research project. The collected data was presented following the based on the study objectives which were:

- (i) To explore PBL method as a strategy in multimedia crafts at YMCA Comprehensive Institute.
- (ii) To implement PBL method so as to improve teaching and learning in multimedia crafts at YMCA Comprehensive Institute.
- (iii) To evaluate the impact of PBL method in teaching and learning of multimedia crafts at YMCA Comprehensive Institute.

Evaluation of action implementation results was conducted with the help of an interview guide and a focus group discussion guide. Data collected from art students, art teachers and the administrator and are presented under themes.

4.2 Explore PBL method as a strategy in multimedia crafts at YMCA Comprehensive Institute

Under this theme, the researcher presents and interprets data that he considered relevant to Project Based Learning method as a strategy in multimedia crafts at YMCA. The researcher employed focus group discussions, interview guides and observation checklists that sought to

find out the art students', art teachers' and the administrator's experiences regarding the theme at hand.

In a focus group discussion, the facilitator (researcher) asked art teachers to note down methods and techniques they employ in multimedia crafts. Art teachers identified discussion, critiques, exhibition, demonstration, brainstorming and lecturing as methods they employ when teaching the multimedia craft discipline. The researcher noted that the art teachers could not differentiate between teaching methods and techniques. This was also expressed by one of the art teachers that...*he could not understand what teaching techniques are?* The art teacher asked the researcher whether there was a difference between methods and techniques which in this case showed a gap in understanding the approaches to teaching vocational disciplines. The H.O.D of art and design also expressed that... *they were not teachers to know the differences but rather lecturers. (12th April 2018)* This encouraged the researcher to organize a training workshop for the art teachers in order to sensitize them on PBL method and how it could be employed in the teaching of multimedia craft as well as other art disciplines.

Stakeholders noted that PBL method was unknown to them and because of the training workshop that was conducted on 8th June 2018, art teachers sought to employ it during teaching and learning. Findings from individual interviews revealed that art teachers use lecturing, group learning, discussion, brainstorming, critiques, exhibition, project and demonstration as teaching methods in multimedia crafts. They prefer to use lecture, discussion and demonstration methods because they are dependable and make teaching easy. A respondent from art teachers expressed that: *lecture, discussion and demonstration methods are easy to handle by the teacher. The teacher comes in class and talks on a particular topic in combination of another method for instance demonstration which*

simplifies the teacher's delivery. This makes the teacher's delivery easy and able to manage time. (12th April 2018)

Another respondent revealed that PBL method is not known to him as a teaching method: He mostly uses demonstration as a practical method, since he demonstrates to learners what he wants them to do. *"I make sure every student is attentive and is standing or sitting in a prominent position where he or she can see clearly. Students are given ample time to ask questions if they have not understood". (12th April 2018)*

Table 2: Responses on teaching methods employed by art teachers in multimedia crafts at YMCA

Teaching method	Teachers who employ it	Teachers who do not employ it
Lecture	3	2
Demonstration	4	1
Discussion	3	2
Critique	1	4
Brainstorming	1	4
Project method	1	4
Exhibition	1	4
Group learning	1	4

Source: primary data

The researcher observed that the reviewed YMCA Art programme syllabus (2018), stresses that an art teacher of multimedia craft discipline at YMCA should employ lecture, discussion, critiques and individual studio expression as teaching methods. In a discussion with the H.O.D of art and design on the methods documented in the syllabus, he revealed that multimedia craft discipline is a practical subject that needs the teacher to employ the fore mentioned methods for effective skill acquisition. He added that as a lecturer, he lectures, debates with the students and later gives them an assignment for individual studio expression. However, with the PBL method learning goes beyond lecturing, debating, and students attempting tasks given to them. Learning in multimedia crafts using PBL method involves

designing, planning, and carrying out an extended project that produces a publicly exhibited output such as a product, or presentation. It is related to inquiry-based learning, and problem-based learning. The distinctive feature of project-based learning is the publicly exhibited final product.

Findings from a focus group discussion with art students also revealed that art teachers come to class and talk about a topic (jewellery making), discuss a bit, demonstrate how to make paper bead jewellery and later give students an assignment of making necklaces and bangles, with a deadline of submission. This approach used by art teachers is good because it involves the students in the learning process. However, in multimedia craft lessons while using PBL method, students use their past experiences and work with others in teams to create innovations which lead to competence acquisition. Competences such as.....assist students to prepare for the world of work, more especially as job creators or entrepreneurs.



Plate 3: The researcher conducts a focus group discussion with art students

Source: Primary data

4.3 Implement PBL method so as to improve teaching and learning in multimedia crafts at YMCA Comprehensive Institute

Under this theme, the researcher presents and interprets data that he considered relevant to Project Based Learning (PBL) method as a strategy for improving teaching and learning in multimedia crafts at YMCA. The researcher employed focus group discussions, interview guides as well accompanied observation checklists that sought to find out the art students', art teachers' and the administrator's experiences regarding the above theme.

In this regard the researcher conducted a training workshop on 8th June, 2018 at YMCA, training art teachers on how to employ PBL method for improving teaching and learning in multimedia crafts at YMCA. During the training, the researcher introduced the concept of Project Based Learning (PBL) method as a teaching method that can engage learners in real life situations. He pointed out that PBL is learner-centered and makes a fundamental shift from a focus on teaching to a focus on learning. The emphasis was laid on the process of using the power of authentic problem solving to engage learners and enhance their learning and motivation.

He advised art teachers that the art teacher should relate everything taught to real life situations in order for students to gain competences needed in the world of work. In addition, art teachers were asked to use the PBL method as an active teaching method that reveals what learners can do and emphasize their strengths.

One of the art teachers asked the facilitator how PBL method could be employed in multimedia craft discipline and at same time relates to real life situations. The researcher guided art teachers on how to facilitate the learners in searching or presenting the problem, pose questions for critical thinking, and guide to support the learners. This gave learners opportunities to express and integrate ideas from real life to classroom learning. For instance; learners searched for materials around their communities that could be used for making

jewellery and materials like gourds (a gourd is a fleshy, typically large fruit with a hard skin, some varieties of which are edible), seeds and bottle tops were identified. Students explored how to use these gourds to produce jewellery from various sources, brought the gourds and other tools and performed in groups through discussing, evaluating, organising tools and materials into jewellery. The finished jewellery was later presented in form of a display for critique. From the above elaboration, art teachers integrated the active teaching method of PBL during teaching and learning using the following sample project. However, this sample project was done after several trials and errors that were done by art teachers during a couple of lessons. This is what was achieved during the project implementation stage.

PBL Lesson preparation

The researcher had introduced an activity plan that could help art teachers to plan their lesson activities for effective lesson delivery. All art teachers were guided on how to develop activity plans before going to classes. The activity plan specified the period, detailed course unit content as well as the duration. It was designed to describe what learners were to be taught in a term and organized into sub units that could be managed on a weekly basis as seen in Plate 4.

YMCA COMPREHENSIVE INSTITUTE
INDUSTRIAL ART & DESIGN DEPARTMENT
ACTIVITY PLAN

LECTURER'S NAME: _____

COURSE UNIT: MULTIMEDIA CRAFTS COURSE UNIT CODE: 1AD 124

COURSE LEVEL: DIPLOMA CONTACT HOURS: 60 HOURS

QUARTER/YEAR: 2/I

Period	Detailed course unit content	Duration
WEEK 1	• Introduction to concepts in multimedia crafts Such as: Media, Crafts, Multimedia • Tools and Materials used in multimedia crafts	2 hrs.
WEEK 2-4	Jewellery Art work and its concept development • Paper Bead Jewellery (Course work) • Gourd Jewellery - Assignment given. • Wire Jewellery	6 hrs.
WEEK 5-7	Embracing local materials to produce artworks Such as Lampshades, Mirrors, flower vessels among others. - Assignment given. (TEST) 20%	6 hrs.

WEEK 8-10	Embracing Found materials to produce Artworks such as toys, candle stands, and other aesthetics - Assignments given	6 hrs
WEEK 11-12	Mixed Media Art work Use of locally available materials, Found materials and bought materials.	4 hrs
WEEK 13	Students projects in multimedia craft I	2 hrs
WEEK 14	Students projects in multimedia craft II	2 hrs
WEEK 14	• Self and peer assessment / Critique • Display projects for Critique.	
WEEK 15	Examination marked out of 70%	2 hrs.

Working methods:

Approved By: _____

NB: Course unit plan must be calculated for 15 weeks; 13 weeks for lessons, courseworks & tests and 2 weeks for Examinations.

Plate 4: Activity plan for multimedia craft discipline used at YMCA

Source: Primary data

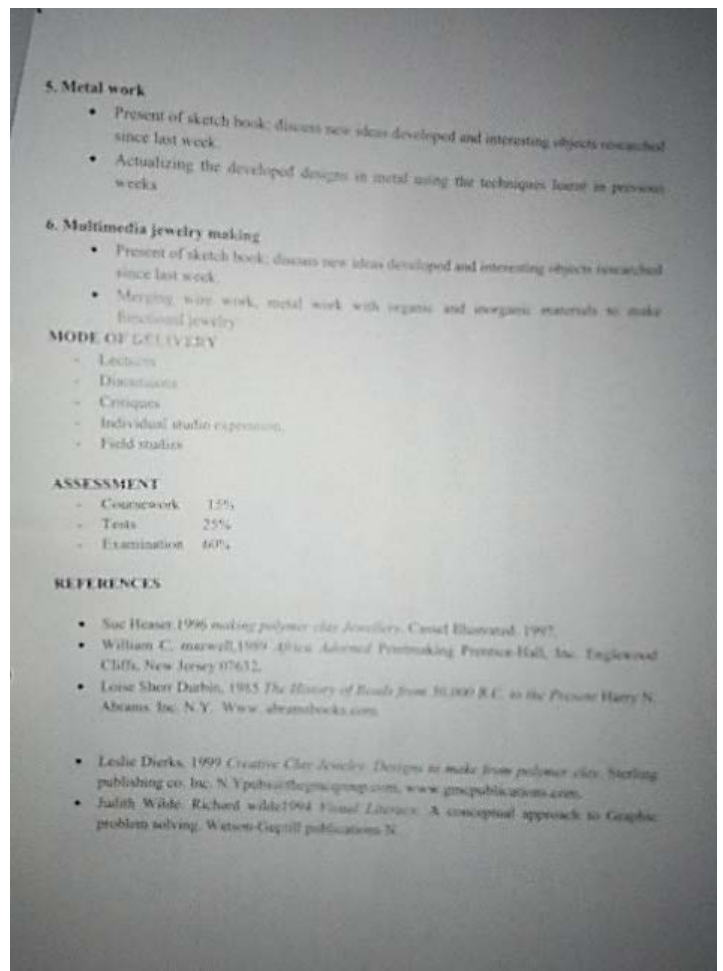
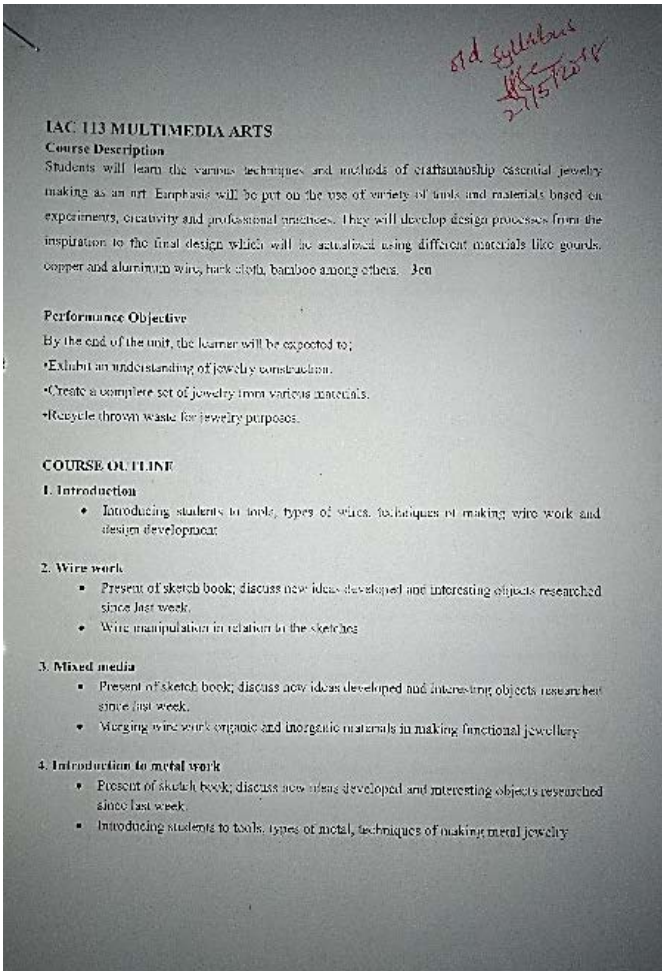


Plate 5: Old syllabus for multimedia craft discipline used at YMCA

Source: Secondary data

New developed syllabus for multimedia craft
Ms. 27/5/2018

COURSE UNIT: MULTIMEDIA CRAFTS
 COURSE UNIT CODE: IAC 113
 COURSE LEVEL: YEAR I
 CREDIT UNITS: 4 CU
 CONTACT HOURS: 60 HOURS

Course unit overview
 Students will learn various techniques and methods of craftsmanship associated jewelry making as an art. Emphasis will be put on the use of variety of tools and materials based on experiments, creativity and professional practices. They will develop design processes from the inspiration to the final design which will be realized using different materials like granite, paper, copper and aluminum wire, beak cloth, bubble among others. 3cu

Performance Objective
 During the lesson, the learner will

- Collect various local and foreign materials from the environment.
- Practice how to make jewelry from the identified materials.
- Create jewelry from the various local and found materials
- Exhibit and critique a set of jewelry project.

Period	Themed course unit content	Duration (in Hours)
WEEK 1	Introduction <ul style="list-style-type: none"> Introducing students to tools and materials used in jewelry making. Different terms used in jewelry making Safety precautions in making jewelry. 	5 hours
WEEK 2-3	Paper bead jewellery <ul style="list-style-type: none"> Present a sketch book; collect ideas of inspirations. Implement new ideas developed and interesting objects researched. Develop paper bead jewellery. 	10 hours
WEEK 4	Course work (marked out of 15%)	2 hours
WEEK 5-6	Gold jewellery <ul style="list-style-type: none"> Present a sketch book; discuss new ideas developed and interesting objects researched since last week. Develop gold jewellery. 	10 hours
WEEK 7	Test (marked out of 25%)	

WEEK 8	Introduction to metal work <ul style="list-style-type: none"> Present a sketch book; discuss new ideas developed and interesting objects researched since last week. Introducing students to tools, types of metal, techniques of making metal jewellery. 	5 hours
WEEK 9-10	Wire jewellery <ul style="list-style-type: none"> Actualizing the developed designs in metal using the techniques learnt in previous weeks Develop wire jewellery. 	10 hours
WEEK 11-13	Multimedia jewelry making <ul style="list-style-type: none"> Present a sketch book; discuss new ideas developed and interesting objects researched since last week. Merging organic and inorganic materials to make functional jewellery. 	15 hours
WEEK 14-15	Final Examination (marked out 60%)	3 hours

Working methods

- Project based learning method
- Problem based learning method
- Learning contracts

Assessment

- Coursework 15%
- Tests 25%
- Examination 60%

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- Leslie Dierks, 1999 *Creative Clay Jewellery. Designs to make from polymer clay*. Sterling publishing co, Inc. N.Y. pubs@thegmcgroup.com, www.gmcpublications.com.
- Judith Wilde, Richard wilde 1994 *Visual Literacy. A conceptual approach to Graphic problem solving*. Watson-Guptill publications N.

Plate 6: New developed Syllabus for multimedia craft discipline used at YMCA

Source: Primary data

Instructional material preparation

Before going to class, the art teacher planned and prepared the necessary tools and materials needed during the lesson. In this case, he prepared the gourd cutter, pair of compass, pencil, needle, threads, sand paper in preparation for jewellery making lesson.

YMCA COMPREHENSIVE INSTITUTE

DEPARTMENT... INDUSTRIAL ART & DESIGN
 NAME OF LECTURER... KITINGI JOEL (KJ) SEBAGUZI GEORGE (SG) SENNENGO MUGI (SM)
 NUMBER OF HOURS FOR THE WEEK... N/A AUGUST 2018

TIME TABLE FOR LECTURERS' WORK LOAD

SESSION	MORNING						AFTERNOON				EVENING				
	8:00-9:00	9:00-10:00	10:00-10:30	10:30-11:30	11:30-12:30	12:30-1:00	1:00-2:00	2:00-3:00	3:00-4:00	4:00-5:00	5:00-5:30	5:30-6:30	6:30-7:00	7:00-8:00	8:00-8:30
MONDAY															
TUESDAY		Multimedia Craft C1						Multimedia Craft D2							
WEDNESDAY								Multimedia Craft B6							
THURSDAY								Multimedia Craft C3							
FRIDAY		Multimedia Craft C7													
SATURDAY															

Plate 7: Time table for multimedia craft discipline used in art and design at YMCA

Teaching and learning

During teaching and learning, the teacher organized the class and engaged the students to sit in pairs. This was meant to build team work among students whenever they are working. In this case, the teacher was not to teach but to facilitate learning, thus positioning himself as a facilitator, co-ordinator, adviser or a guide but not teacher or lecturer.

The lesson was introduced through a visualized brainstorming. The teacher asked prompting questions whether students had ever come across jewellery from local resources and besides

gourds which other local materials are used to produce the jewellery. This called for learners to think for ideas as they brainstormed and all ideas raised were visualized on the black board. Students had generated a number of experiences from jewellery makers. The teacher welcomed all ideas and built on what he was to demonstrate to students.

During demonstration, the teacher made sure that every student was attentive and was standing in a prominent position where he/she could see clearly. The teacher took the students in the whole process of making jewellery work from paper and gourd which were locally available materials that could be accessed by students. The process was explained in a logic flow; step by step process to the finished product.



Plate 8: Art students participating in their projects as their teacher guides them

Source: Primary data

The teacher and the students had ample time to ask each other questions and engage in a fruitful discussion. Satisfactory answers to students' questions and a thorough discussion of reflections on the problems that emerged from the demonstration saved the teacher unnecessary repetitions.

The teacher asked the students to sit and describe the whole process-step by step in their books. This gave students to think critically and reflect on the prior knowledge and construct meaning out of it.

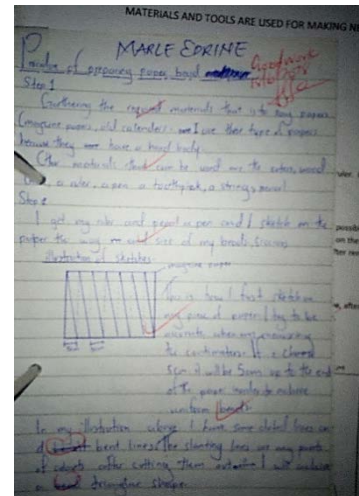
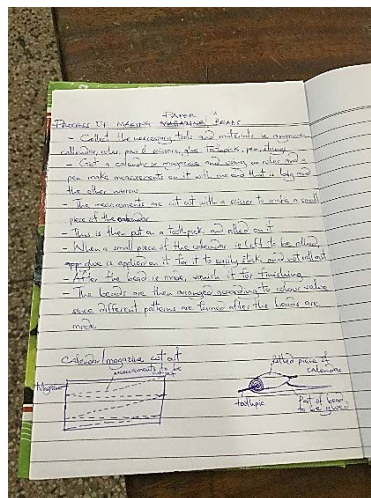
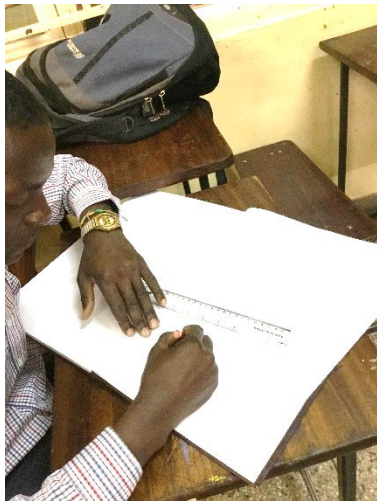


Plate 9: New knowledge constructed using prior knowledge

Source: Primary data

PBL task

Each pair was assigned a task of making a finished earring from gourd material. Each partner was to learn and unlearn from each other so that their defects and good ideas are revealed to their colleagues and to their teacher.



Plate 10: Team work exhibited as art students participate in their projects

Source: Primary data

The teacher asked the students to suggest the time frame for completing the project and they agreed on 5 days. The finished products were exhibited in the art room to help students learn as well critique each other.



Plate 11: Some of the art students' finished products

Source:

The students simultaneously exposed many styles and modes of expression which they evaluated in terms of their own experiences. The process motivated learners as they enjoyed seeing, not only their work but also that of their classmates.



Plate 12: Art students as they exhibit their finished products

Source: Primary data

Exhibition and Evaluation

The final stage of the project was evaluation and this was achieved by organizing an exhibition. Students displayed their works for the rest of the students to view, appreciate and possibly buy. The products of the project had to be displayed in the art room for the security purposes. During exhibition, evaluation was done by the students and the teacher. Evaluation concerns itself with measurement of outcome from teaching learning process (Ertmer 2015). Throughout this project, the teacher considered himself as a learner too because he was using PBL for the first time to see how best he could improve on his vocational practice as a teacher. “.....Class, each person is going to share how you came up with your project and we are learning from each other....”



Plate 13: Students and their teachers assess themselves as the researcher observes



Plate 14: Art students and their teachers as they assess themselves

Therefore, the students were tasked to evaluate the teacher in as far as achieving their goals was concerned. The teacher stressed that he was used to evaluating subject matter only in the form of giving exams or tests. However, Luszczynska, (2011) emphasizes that self-assessment is a more natural and favourable system in evaluating active learning. She suggests 50% self-assessment 30% assessment by peer 20% assessment by the teacher. In line with this, the researcher had to ensure that teachers try this mode of assessment.

According to Ertmer (2015) “self and peer evaluation should be carried out at the completion of each problem and at the end of every curricular unit”. The study involved a continuous assessment that gave a final evaluation at the end. This indicated that project-based learning method had an influence on the teaching and learning in multimedia craft discipline at YMCA. The students had to evaluate themselves and also evaluate their peers in order to

appreciate and improve the notable aspects. Students were also assessed through the process but not the finished product. However, teachers used to assess students by looking at the finished product. The researcher developed a guide that would assist teachers to look at the process of making jewellery art work using an assessment guide as seen below; describing step by step criteria of producing the art work rather than a finished product.

MAJOR WORK ASSESSMENT FORM

YMCA COMPREHENSIVE INSTITUTE
EXAMINATION MARK SHEET

DEPARTMENT: ART & DESIGN
HOU 505
COURSE TITLE: ART & DESIGN
COURSE CODE: 224 CREDIT UNITS: 10 10 10 10

ACADEMIC YEAR: 2
DATE OF EXAM: _____
YEAR OF STUDY: 2
QUARTER: 5

NAME	REGISTRATION NO	PREPARATIONS	CREATIVITY	PRODUCTION	PRESENTATION	TOTAL	AGREED MARKS	REMARKS	KEY
1. KAPALI RICHARD B.	1AD1M/0431M/2016	7	5	4	8	24			PREPARATION (15) Sketch books / Scrap book Models / Marguettes Preliminary Studies
2. KATONGOLE JULIA	1AD1M/021M/2016	5	7	5	4	21			
3. KYOMUHAYIGI EVAS	1AD1M/015M/2016	7	7	5	3	22			CREATIVITY (40)
4. LUYIMA ANTONY	1AD1M/0031M/16	5	5	4	3	17			
5. LUZE LAWRENCE	1AD1M/0421M/16	10	5	3	7	25			Originality / Innovation
6. MAJIDU MBOSGU	1AD1M/0431M/16	3	5	7	8	23			Interpretation
7. MIRO HENRY	1AD1M/0551M/16	10	10	7	3	30			Style and Sensitivity Composition
8. MUGAYEHWENKI SUSAN	1AD1M/0251M/16	10	13	4	5	32			
9. NABUUMA BARBARA	1AD1M/050								PRODUCTION (30)
10. NATHURIA DILEEN	1AD1M/006	7	7	3	2	19			Use of materials
11. NABUUMA MARGARET	1AD1M/031	3	5	5	4	17			Craftsmanship/Finish
12. NANSANGA SHARON	1AD1M/015	5	5	4	7	21			Function
13. NALUBESHA FATUMAH	1AD1M/011	5	5	9	4	23			Completion of set
14. NALUGO BRIDGET	1AD1M/044	4	4	7	3	18			Work / project
15. NAYECHE WYNNE	1AD1M/049	7	3	4	10	24			Volume of work
16. NSUBUGA FERDINAND	1AD1M/023	8	4	5	5	22			PRESENTATION (15)
17. OGENY DANIEL	1AD1M/016	8	7	5	4	24			Framing
18. ANDAMA ADROLE B.	1AD1M/090	5	5	10	7	27			Mounting / matting Folio Display / exhibition

Bwambale Ivan Allan
26/OCT/2017

Plate 15: Old assessment form used by art teachers

Source: Secondary data

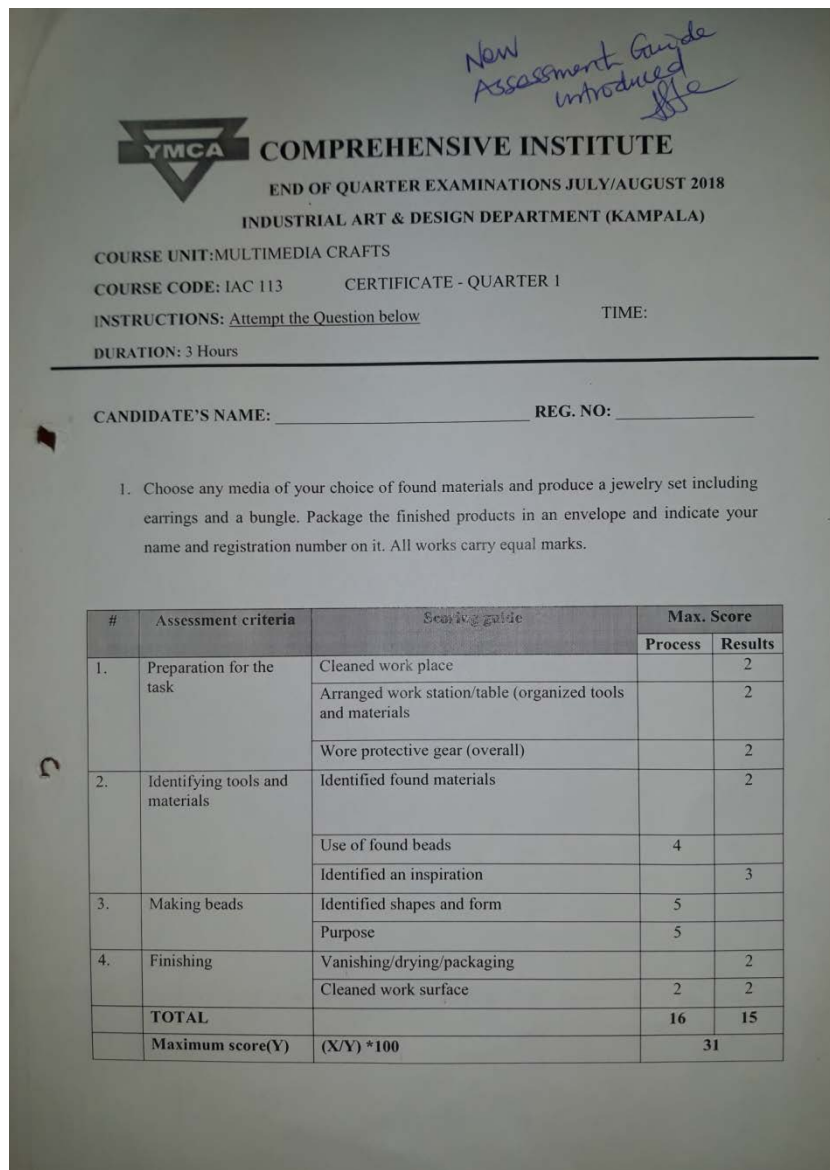


Plate 16: New assessment tool used for assessing students

Source: Primary data

4.4 Evaluate the impact of PBL method in teaching and learning of multimedia crafts at YMCA Comprehensive Institute

Under this section, the researcher presents and interprets data that he considered relevant to evaluating Project Based Learning (PBL) method as a strategy in multimedia crafts at YMCA. During the evaluation of the impact of PBL method, interviews, monitoring, observations and reflection were recorded as per the progress of the interventions that were agreed upon with the key participants as shown in Plate 13.



Plate 17: Stakeholders during the evaluation process of the project

Source: Primary data

During the project evaluation, the researcher and the stakeholders evaluated what worked, what did not work and why it did not work? The stakeholders also looked at how each aspect of intervention was achieved or not achieved. Looking at what worked during the interventions, the trained art teachers employed PBL method in multimedia crafts and learners expressed their appreciation that they were able to exercise their own tools and materials such as paint, vanish using the past experiences in a way of exercising creativity. This yielded good finished products and signified innovativeness among students.

Responses from art teachers revealed that previously they did not know PBL as one of the active teaching methods. Teachers were used to passive teaching methods such as lecturing, when teaching vocational disciplines. The training of PBL method was an eye opener to integrate the PBL method in other disciplines such as drawing, painting, and sculpture among others.

During a focus discussion, one of the art teachers revealed that he used to assess finished products but when the researcher introduced the PBL method, they have now devoted to continuous process assessment because it focuses more on the process of the entire project not the end product. This helped the teachers to learn from students since they were following step by step assessing the whole process of the project.

An art student expressed a concern that they used to participate class assignments at home as an individual but when teachers employed team work in learning, this encouraged them to work from school and learn from each other as well as develop competences such as commitment, tolerance, among others. He added that they would have freedom to select material in order to experiment with different media from locally available resources without incurring expenses.

However, the researcher noted that some activities worked but were not fully embraced by art teachers. These were the activity plans which were introduced to help teachers get to class prepared. The HoD of art and design requested all art teachers to prepare activity plans before going to classes for effective delivery. Since many of them were not used to preparing them and they were not flexible with it, this gave them a challenge and they were reluctant to change. The researcher also revealed that even the administrator (HoD) looked at preparing these activity plans as a burden. This was solved by introducing course outline designed in a weekly subunit.

CHAPTER FIVE:

RESULTS AND DISCUSSION

5.1 Introduction

The researcher discusses the results of the findings presented in chapter four of this report. The discussions of the results depended on the interpretation and description of the processes based on the researcher's experience, observation and reflection upon the situation as it unfolded in the process of the study and also on the perceptions and views from the participants of this research. In this discussion, the researcher incorporated related views, theories and concepts from various scholars where it was thought necessary to back up the analysis of results.

5.2 Discussion

The study sought to answer the three objectives, each handled independently in an ascending order.

5.2.1 Explore PBL method as a strategy in multimedia crafts at YMCA

Comprehensive Institute.

The researcher organizes data that he considered relevant to Project Based Learning method as a strategy in multimedia crafts at YMCA. The researcher employed focus group discussions, informal conversation interviews, interview guides as well accompanied observation checklists that sought to find out the art students, art teachers and the administrator's experiences regarding the theme at hand.

In a focus group discussion, the researcher noted that art teachers do not employ vocational teaching methods which call for active teaching and learning. Methods such as lecturing render students' passive during teaching and learning process. According to Null (2004), teachers should reject "traditional" modes of teaching and learning and, instead, embrace "new" ideas that are based on current constructivist principles. There was no differentiation between methods and techniques of teaching used by teachers. However, BTC, (2015)

identifies Project Based Learning, learning contracts and learning stations as vocational teaching methods that call for active teaching and learning whereas demonstration, presentation, group work, brainstorming and simulation as techniques that support teaching methods in order to achieve the aims of instruction.

In addition, Nickerson, (2007) suggests that methods are aimed at facilitating and enhancing students' learning whereas techniques such as demonstration, presentation, role play and storytelling enable teachers and learners to put the chosen method of teaching into practice.

In this regard the stakeholders and the researcher considered reducing teaching methods such as lecture, discussion, among others so that they can adopt experiential methods of teaching.

These methods put the learner at the center and they include but not limited to PBL.

Changing from such kind of teaching to PBL could take long because usually people do not want to leave their old ways of doing things. Ayas and Zeniuk (2001) also note that enhancing the collective capacity to reflect, to unlearn and to 'learn to learn' over time is a big challenge in PBL. They advised that we must unlearn what we originally thought was right.

Yinusa, (2014) suggests of teaching methods in vocational training as those which can motivate students and sustain their interest in the course of instruction. Methods like project-based learning, which allows students to engage their previous knowledge, experience and work through the project in their own way. This consequently supports students' knowledge construction and expertise development processes (Windschitl, 2002).

The researcher observed that the reviewed YMCA Art programme syllabus book (2018), stresses that an art teacher of multimedia craft discipline at YMCA during teaching and learning should employ lecture, discussion, critiques and individual studio expression as teaching methods. Knight and Yorke (2003) comment that the syllabus should be designed to encourage learning by giving people new tools with which to work, creating new rules or

codes, and making it easier for people to share problems, brainstorm answers and talk. He adds that emerges from the construction of meanings in the flux of using tools and rules, and the contributions of other people when tackling tasks. Solomon (2003) adds that in PBL, the teacher's role no longer includes just delivering instruction or expecting students to repeat facts on tests. Instead, it is to offer resources that help students investigate and develop content purposefully and creatively. Okumus and Wong (2004) suggest that the institution should provide good Information Technology and library resources for students.

Findings from a focus group discussion with art students also reveal that art teachers give students assignments to perform with a deadline of submission. However, Behizadeh (2014) notes that it's not about attempting to do the task but rather in PBL students perform tasks to learn by constructing their own understandings in collaboration with peers which takes a process. In the same way, Dowling (1995) adds that PBL method gives students the freedom to experiment with different media and express decisions they wish to take in the learning process.

5.2.2 Implement PBL method to improve teaching and learning in multimedia crafts at YMCA Comprehensive Institute

The researcher employed focus group discussions, which sought to plan how to improve teaching and learning in multimedia crafts at YMCA according to the second objective. In the action implementation work plan for PBL method as a strategy we designed and agreed on different responsibilities among participants. McNiff and Whitehead (2010) emphasize that your practice is not important to you alone but with others who are involved in the study. In this case stakeholders were to work together as the beneficially of the study. Kyriacou (2007) notes that working with other teachers as part of a learning community is increasingly recognized as being a powerful and effective way of enabling teachers to reflect upon and develop their classroom practice. This may imply that without collaboration there may be little or no teacher reflection, and thus no improvement in practice.

Improving the teaching through PBL

Duch et al, (2001) note that we simply teach as we were taught. According to Null (2004), teachers should reject "traditional" modes of teaching and learning and, instead, embrace "new" ideas that are based on current constructivist principles. In this regard the researcher conducted a workshop on 24th April, 2018 at YMCA, training art teachers on how to employ PBL method for improving teaching and learning in multimedia crafts at YMCA. Art teachers should embrace the 21st century teaching and learning that equips students with competences needed in the world of work. In addition, the researcher asked teachers to consider enhancing existing teaching methods that render students passive and **in addition** adopt experiential methods of teaching which put the learner at the centre, **which** include but not limited to PBL method.

Art teacher preparation before PBL

The researcher had introduced an activity plan that could help art teachers to plan their lesson activities for effective lesson delivery. **The art teachers were guided on how to develop the activity plans before going to classes.** This preparation included instructional materials, activity plans, classroom organization among others. The teacher must think through the project and find out which tools and materials might be needed and are not available at the moment, which competences do the teachers need students to achieve? How about student materials? Will the materials be able to accommodate every student?

Some of these questions and more relate to lesson planning. During such periods, the teacher thinks through his lesson and prepares the teaching tools, equipment and materials. In case it is practical lesson, it would also be a good idea to do the practical first before the learners embark on it. This would help the teacher to gain greater insight into the lesson before it actually begins. The teacher would also identify the difficult areas of the practical lesson so that if learners encounter the same problem, the teacher will be better prepared to scaffold it for the learners (Okumus and Wong, 2004).

PBL classroom management

It is a common phenomenon for learners to lose direction and take advantage of the PBL activities in the classroom or studio area. This is practiced by naughty students who engage in personal works instead of working with the group. Usually, the art teacher leaves learners to discover knowledge by themselves and write notes in their logs. [The approach is](#) also emphasized by (Dahlgren et al., 1998, p.438) who note that learning in PBL is self-directed and that the students themselves take responsibility for their learning. This means that whenever students take responsibility for their learning, [this may come along with other unintended](#) learning outcomes [that could be generated as well](#).

Doyle in Thomas and Mergendoller (2000, p.2) mention that teachers will have to assert more control and direct management of classroom transactions. This is important especially in PBL where students are left to take care of their learning processes. The researcher believes that in future PBL activities might be better equipped to manage the studio activities. However, the researcher also understood that the control of the class must be exercised in acceptable democratic ways, without being authoritarian. Stronge (2007, p.47) notes that “...effective teachers create warm and cooperative classroom climates by developing rules”. This may be of help to the teacher in mitigating indiscipline cases.

Improvising materials for learning

Through active teaching and learning which encourages PBL method, the aim is to create autonomous learners who are given responsibility and self-direction. Therefore, students should be given opportunities for decision making in learning. The students who have previous experience from the world of work seemed to have more autonomy at work and few tasks undermined their sense of independence. Such students are able to think fast and locate possible local resources even without the teacher. Duch et al. (2001) comment that students in PBL can be able to find, evaluate and use appropriate learning materials. Students were able to improvise materials such as paper, gourds, stones, seeds among others to participate in

making jewellery. Students used these improvised materials and came up with necklaces, earrings, bangles, bags and other jewellery accessories. Dei (2000) emphasizes that indigenous knowledge can be a basis for contributing to a universal knowledge system.

Integration of multiple subject areas

The projects done by the students involved the use of knowledge they had acquired in other domains of the curriculum. As already noted, they integrated other disciplines such as painting, and weaving among others into their projects. Blumenfeld et al. (1991) observe that PBL also promotes links among subject matter disciplines and presents an expanded rather than narrow view of subject matter. It is therefore clear that classes conducted on the theory of constructivism involve tasks that are often multidisciplinary (Dowling, 1995). This means that they relate to various subject disciplines and the end result, more competences are achieved.

Students managing tasks assigned

During the assignments, learners should be encouraged to work in groups. This is a fundamental principle of constructivism as suggested by Dowling (1995). In the same way, Land and Greene in Grant (2002) note that project-based learning attempts to capitalize on the successes of cooperative or collaborative learning in some manner. From the researcher's point of view, PBL builds on cooperative learning that is learning from one another. This may imply that a cooperative group is most likely to benefit from PBL activities. It therefore follows that teachers who engage in PBL should try their best to see that all students in their groups learn cooperatively. Johnson and Johnson in Grant (2002), argue that students who are inexperienced with working in groups may have difficulties negotiating compromise. If these methods have not been used before, then it may be necessary to teach learners how to interact within groups and manage conflict. Such activities therefore should be in collaboration than

competition in a group that learns cooperatively. This means they will be more prepared to share their successes and failures as a group but not as individuals.

Group dynamics

During the learning process, learners were paired in groups of three. They were able to share ideas and implement them. However, as they are working, there were misunderstandings among students when grouped especially concerning varying innovative opinions. Some students seemed to have less negotiating power while others dominated discussions. According to Hendry, et al (2003) the art teacher's role in PBL includes creating a supportive group climate, encouraging the involvement of all students and addressing group problems when they arise. Learners can be informed of what to expect in the group, how to schedule work, how to handle emergencies, among others. Koschmann *et al* in Hmelo-Silver (2004) also note that teachers in PBL should monitor the group process so that all students are involved and encouraged to externalize their own thinking and comment on each other's thinking.

Exhibition and evaluation of students

The finished products were exhibited in the art room to help students learn as well critique each other. During the project phase there was Competence Based Assessment (CBA)³. Stakeholders were all engaged in the evaluation process. It was a big challenge because in the old method they were using the assessment to assess the end product or project. However, the researcher's assessment techniques focused more on the process and less on the end product. Burbank (2003) emphasizes that when teaching is reflective, judgments become skilled and thoughtful. In my understanding, we had to judge the whole process of PBL that learners had undergone in more reflective, thoughtful and skillful way. It was a not easy.

³Competence based assessment is a process where an assessor works with a trainee to collect evidence of competence, using the benchmarks provided by the unit standards that comprise the national qualifications. It is not about passing or failing a candidate and evidence collection is more than just setting a test.

However, as already noted we considered making the evaluation process democratic, just like all the other stages of the project. The students evaluated themselves and their peers; teachers evaluated the students and also considered the comments from the audience during the exhibition. The results from the evaluation were in agreement with Barron and Darling-Hammond, (2008) who observe that students who may struggle in traditional instructional settings have often been found to excel when they have the opportunity to work in a PBL context.

5.2.3 Evaluate the impact of PBL method in teaching and learning of multimedia crafts at YMCA Comprehensive Institute.

Under this theme, the researcher presents and interprets data that he considered relevant to Project Based Learning (PBL) method as a strategy in multimedia crafts at YMCA. The researcher employed focus group discussions that sought to find out the art students, art teachers and the administrator experiences regarding the theme at hand.

During the evaluation of the impact of PBL method, interviews, monitoring, observations and reflections were recorded as per the progress of the interventions that were agreed upon with the key participants.

Evaluation of the process

Teaching using PBL was not a common thing at YMCA. Therefore, an evaluation is important for checks and balances. The project was implemented successfully. However, some interventions like activity plans were not fully embraced by all the art teachers. This could have probably caused some negative attitude towards the project implementation since they saw it as a burdensome and tiresome. However, the researcher thought of the best idea to replace activity plans and he ended up introducing course outlines designed in a weekly subunit. Therefore, the art teachers were able to adapt to the new intervention which simplified lesson preparation. In addition, art teachers also found the competence-based

assessment as a better technique of assessing learners that identifies the acquired competences. The whole process gave teachers gainful learning.

Kyriacou (2007) notes that one interesting development in schools has been an increase in the sharing of ideas and data about one's own teaching with colleagues, as part of a collaborative scheme in which teachers try to explore aspects of their own practice. It was so energizing to collaborate with colleagues because the researcher shared ideas and assisted each other in all possible ways.

The teacher needs to put a mechanism of roll call to monitor students' presence in group activities and to ensure that students achieve from their learning. There are students who tend to take advantage of the whole process of group work by moving under the shoulders of the more experienced students. They therefore tend to absent themselves. If the given task is not so challenging, even the experienced learners feel bored and may miss consecutive lessons where he or she expects less achievements. In the same vein, it is vital for the teacher to ensure that in every PBL activity, roles and responsibilities of group members are clearly defined. Learners achieve more when they are left to work alone. However, there are those that tend to dominate the group activity while others remain inactive. PBL teachers need to check on this.

At the start of PBL activities, it would be a good idea to give learners your expectations as their teacher and they also give you their expectations as students. This can help because at the end of the project there will be a parameter for measuring output. Stronge (2007) affirms that effective teachers create warm and cooperative classroom climates by developing rules. During such meeting, the rules for that particular project can be agreed upon by both the students and the teachers. This strategy can help a great deal in controlling discipline because students will be obliged to follow the rules they set. In case of any indiscipline the teacher will use the same rules to take corrective measures.

In PBL, it is very possible for the teacher to consider the group and ignore learners' individual differences. Some students tend to dominate over the others. This implies that teachers may not also consider the individual needs of learners. If they do, they are most likely to be tempted to refer such cases to other students who seem to dominate the groups due to their previous learning experiences.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the researcher presents the conclusions, and recommendations accruing from the discussion of the findings under the four objectives that were a foundation of this study.

6.2 Conclusion

PBL is a student-centered approach to teaching. Students work in small groups while the teacher becomes more of a facilitator. Students are responsible for their learning through collaboration, cooperative learning, and discussions, among others. Most of the learning is self-directed.

Despite the fact that we chose to move away from the old methods of teaching, PBL is not sufficient enough on its own. Therefore, PBL should be combined with some teacher-centred approaches in order for it to be fully beneficial to the students. For example, if a problem is identified, the teacher could give an introductory lecture to the problem before the students actually embark on their group research about the problem. Such a lecture can help to provide a general overview of the problem. This can be very important in our settings where some of the learning facilities are limited.

The action research project was conducted appropriately. The art teachers participated in a multimedia crafts and students produced various jewelry art pieces from locally available and found resources. This helped the teachers to improve their practice by reflecting on the areas that needed improvement, as they were identified by stakeholders. Most interesting among the areas of improvement included material acquisition, lesson preparation, mode of content delivery, organization n of materials, project assessment, among others. Research questions were answered and discussed to address the following;

- (i) What is PBL method, its characteristics and challenges in relation to teaching multimedia crafts at YMCA Comprehensive Institute?
- (ii) Can PBL method improve teaching and learning in multimedia crafts at YMCA Comprehensive Institute?
- (iii) What is the impact of using PBL method in teaching and learning of multimedia crafts at YMCA?

Art students need their teachers' help before, during and after the multimedia craft practical session. It is true that they work in groups but it is also true that students never cease to need help from their teachers. In addition, the use of PBL method will continue to involve team work, individual discoveries, resource experimentation, research, self and peer assessments, among others. Students gained several learning outcomes from Project Based Learning. The researcher observed that students gained more negotiating power in addition to leadership and communication skills. Students also confirmed acquisition of patience skills through activities of PBL. Other learning outcomes gained include time management skills, skills of cooperative learning and collaboration, creativity and innovation, improvisation skills, skills of reflection. Through PBL, students are better placed to link the different knowledge gained from other curriculum areas by engaging in one project.

The challenges of PBL were discovered. These included PBL being time consuming and extravagant in terms of materials. Art teachers confirmed difficulty in transiting from their old modes of teaching to PBL method. Preparing lesson plans before going to classes was found essential but difficult for some art teachers to implement. In addition, evaluation and assessment of learners in PBL was recognized as challenging on the part of the art teachers since it is a process.

6.3 Recommendations

If all practical disciplines are taught using PBL method, then probably, all teachers would need extra in-service training about how to implement PBL. The training should cover specific areas customized for YMCA. Such areas can include but not limited to the historic challenges of PBL, benefits of PBL, the teachers' role in PBL, and characteristics of PBL.

6.3.1 Recommendations to the institute (YMCA)

Establishment of Research and Pedagogy (R&P) department at the institute is highly recommended to monitor teachers' professional growth and quality of teaching. Such a department would roll out several programs aimed at improving the teacher as a person. In order to solve the issue of double quality vocational teachers, YMCA should consider offering in-service training for their teachers. Such programs should be in-service, targeting people who have proof of being in the industry for at least three years. The pedagogical bar course would take one year and students would undergo a vocational teaching practice of one semester. This would ensure continued supply of double quality vocational teachers. The students would also benefit from the teachers' continuous improvement.

There should be deliberate efforts from the institute's administration to encourage all teachers of YMCA to consider improving their various practices. This can be done through action research. Bell and Aldridge (2014) note that the use of action research has proved to be an attractive option for teacher development because it can occur over a period of time, within a school context and can be driven by the teachers themselves. This improvement may first consider teaching using student centered methods. This could make learners to own their learning process and be responsible for it. One of such methods includes but is not limited to Project Based Learning.

The institute should increase funding for the practical subjects. This funding can be used partly to facilitate the teachers who work extra hours during supervision of students' projects,

to buy instructional materials so that students may reduce on the improvisation to produce more attractive products and may be to construct a spacious art studio where more experimentation and project-based learning can occur without any interference. Such funding can be sourced from collaborating with similar willing partners around the world.

YMCA should lobby for partnerships and collaborations to encourage teacher development. Bell and Aldridge (2014) argue that accessing meaningful professional development is often difficult. Through the department of R&P, such partnerships can help to increase the research facilities at the institute and may cause teacher development from within the institute.

According to Kyriacou, (2007) suggests that schools should create a positive climate which facilitates staff developing their teaching skills. The policy of lesson observations can be adopted by the institute through the department of R&P. In this arrangement, teachers would observe the lessons of another teacher in a bid to correct them or learn from them. According to Kyriacou, (2007) increasing numbers of experienced teachers now spend some time observing colleagues as part of their own or their colleagues' program of professional development. Such observation can be immensely valuable; seeing how another teacher performs can stimulate your own ideas about your teaching.

6.3.2 Recommendations to Art teachers

The researcher recommends that art teachers should become reflective practitioners for improvement of their practices and benefit of the students. Experience alone makes us to become static Art teacher should continue to experiment with other active teaching methods of learning like PBL. Gradually, they should leave the old styles of which seem to put the learner on the periphery of the teaching and learning process (Mitchell et al. 2006, p.23). The new practitioner looks outwards at market needs and seeks to meet those needs. This will ensure that there is a collective effort to send out students who will be relevant in the job market where they are sent.

Consider learners' individual differences during learning by Projects. The most experienced students should be encouraged to concretize knowledge to those who are less experienced. The PBL teacher should make every effort to ensure that much as PBL occurs in group dynamics, the individual differences of learners should be considered in order for each of them to achieve individual goals in addition to group goals.

6.3.3 Areas for further research

As a person who has gone through the traditional system of teaching and also experienced student-centered teaching which prepares learners in the 21st century, the researcher feels that the need for more research in the area of experiential methods of teaching. As for PBL, the researcher expects to continue doing further research in this area in order to investigate some unanswered questions that arose during the process of the study. Such question included;

- What teaching techniques employed in multimedia crafts?
- How should PBL be assessed?

Such questions may remain unclear and can be pursued at higher levels such as doctoral studies. These questions can also be taken up by other researchers who will be interested in PBL activities especially in the area of multimedia craft discipline.

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APPENDICES

Appendix 1: The map of Uganda showing the district of Research study



Research Area

Appendix 2: Letters

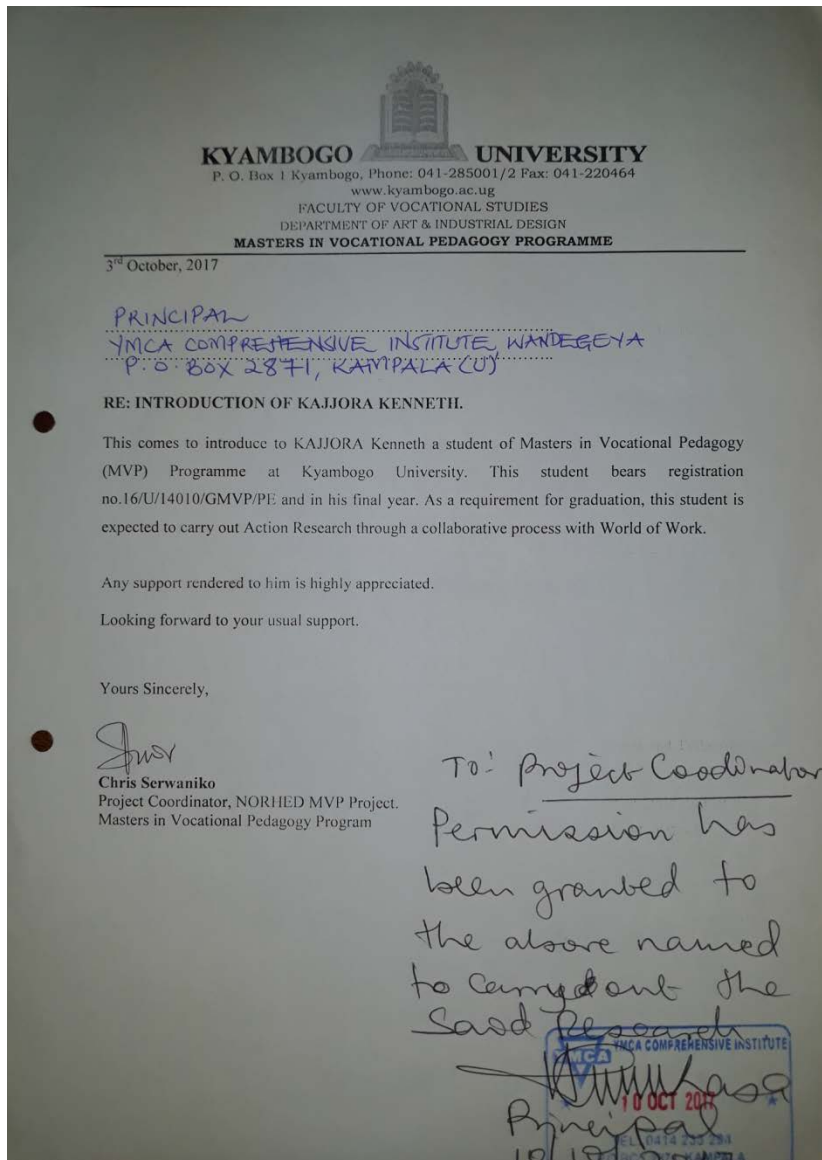


Plate 18: Introductory letter to the work place

KAJJORA Kenneth
+256775883312/+256702223985
KYAMBOGO UNIVERSITY

Attn:
THE HEAD OF DEPARTMENT
INDUSTRIAL ART & DESIGN
YMCA Comprehensive Institute,
P.O BOX 2871,
Wandegeya – Kampala

Dear Sir,

I appreciate your contribution to the development of Vocational Education and Training(VET) program in Uganda. As participants of my Action research project, I request you to participate in a one-day workshop scheduled on Friday 8th June 2018 at 2:00 pm in Art and design department office. Below is the programme for the workshop.

1. Arrival of participants (Art teachers)
2. Registration of attendance
3. Opening of the workshop with an opening prayer
4. Opening key remarks from the researcher
5. Questionnaire attempts
6. Induction of pedagogical methods to teachers
7. Participants ask questions
8. Closing remarks
9. Way forward

YOURS;

Kenneth kajjora
Researcher



Plate 19: Letter inviting art teachers for a workshop

**GUIDING QUESTIONS FOR SITUATIONAL ANALYSIS ON CHALLENGES FACING
THE TEACHING AND LEARNING PROCESS IN ART AND DESIGN LESSONS AT
YMCA COMPREHENSIVE INSTITUTE, WANDEGEYA.**

Dear Sir/ Madam,

I appreciate your contribution to the development of Vocational Education and Training(VET) program in Uganda. In the Masters of Vocational Pedagogy Program, I am required to study and carry out research as requirement for the award. The purpose of this letter is to request you to briefly participate to the following interview guiding questions for situation analysis.

Situation analysis serves to identify potential obstacles and factors that are needed for successful implementation of a project/ institution.

The aim of the situation analysis is to identify factors that are likely to either positively/negatively affect the project/institution.

share with me on the following questions.

Section A: Industrial Art and design second year students

1. What challenges are facing Industrial Art and design second year students of YMCA Comprehensive Institute, Wandegeya?
2. Suggest possible measures we can employ to bridge the existing gaps in Art and design.

Section B: industrial Art and design lecturers

- what is your expectation when you joined this program?*
1. What challenges are facing lecturers and students of YMCA Comprehensive Institute, Wandegeya?
 2. Suggest possible solutions to the challenges
 3. Among the identified challenges facing lecturers and students of YMCA Comprehensive Institute, Wandegeya, which ones are hindrances to your teaching and learning process that we can tackle as lecturers?

Plate 20: Letter inviting stakeholder for situational analysis

Appendix 3: Work plan.

	Activity	Process	Responsible person	Duration	Indicators	Remarks
1	Organizing a workshop to facilitate Art teachers on how to employ project-based learning method works.	✓ Conducting a 1-day workshop.	✓ HOD ✓ Art teachers	24 th April 2018	✓ Attendance sheets	DONE
		✓ Getting feedback of the workshop from stakeholders	✓ Researcher		✓ Photographs ✓ Implementing acquired information	DONE
2	Lesson preparation	✓ Developing lesson plans	✓ HOD ✓ Art teachers	Starts from 30 th April to 7 th May 2018	✓ Lesson activity plans	DONE
		✓ Using lesson plans in the teaching process				DONE
3	Teaching students	✓ Facilitating discipline. ✓ Employing project-based learning method. ✓ Guiding projects	✓ Art teachers ✓ Diploma Art students(finalists) ✓ Researcher	Starts from 7 th May to 28 th June 2018	✓ Students attendance lists ✓ Students project work done ✓ photographs	DONE
4	Exhibition/evaluation	✓ Displaying multimedia craft work. ✓ Critiquing. ✓ Evaluating the project process	✓ Diploma Art students(finalists) ✓ Art teachers ✓ HOD ✓ Researcher	Starts from 4 th June to 11 th June 2018	✓ Photographs ✓ Assessment forms	DONE

		✓ Feedback from stakeholders	✓ ALL stakeholders	30 th July 2018	Attendance Photographs	
5	Documentation of the research work		✓ Researcher	Starts from 4 th July 2018		
6	Finalizing and submission of Dissertation		✓ Researcher ✓ supervisors	23 th August 2018		
7	Defending the Dissertation		✓ Researcher	September 2018		

Source: developed by the researcher and stakeholders.

Appendix 4: Pairwise matrix method.

PAIR WISE MATRIX – during situational analysis

(Ranking the challenges that participants face to get the most pressing challenge.)

	1	2	3	4	5	Total	Ranking
1		1	1	4	1	3	2 nd
2	1		2	4	2	2	3 rd
3	1	2		4	3	1	4 th
4	4	4	4		4	4	1 st
5	1	2	3	4		0	5 th

KEY:

1. Lack of career guidance
2. Time management
3. Poor teaching methods
4. **Lack of materials – (ranked the highest)**
5. Limited internship placements

PAIR WISE MATRIX – during Future work

(Ranking the challenges that participants face to get the most pressing challenge.)

	Inaccessibility of materials	Limited knowledge on materials	Limited support	TOTAL	RANK
1		2	2	0	2 nd
2	2		2	3	1 st
3	2	2		0	2 nd

KEY:

1. Inaccessibility of materials
2. **Limited knowledge on materials - (ranked the highest)**
3. Limited support

Appendix 5: Future workshop

- 1. Preparation phase:** Organizing the venue, tools and materials to use such as flip charts, pens, paper, marker pens, sole tape.
- 2. Critique phase:** From the work process analysis, the challenge is brought to the participants to have an in depth understanding why it is happening that way. The researcher asks a prompting question to the participants which calls for brainstorming.

“Why are Art students of YMCA having challenges in accessing materials for their projects?”

Following the question above, the participants identify all kinds of causes to the challenge.

- Location of some materials
- Materials are expensive
- Inadequate knowledge about specific materials
- Scarcity of the materials
- Duration period for accessing the materials
- Transportation costs of some materials
- Time factor for completing the projects
- Lack of enough finance
- Limited Knowledge of materials by the suppliers
- Attitude towards the knowledge
- Materials structure not included on fees structure
- Finished goods not exhibited
- Limited Knowledge to improvise materials for use
- Lack of guidance from lecturers
- Flexibility to experiment with various materials
- Improper planning
- Lack of enough support from lecturers
- Too much material required
- Location of the institution
- Unlimited research
- Thinking of students (mind-set)
- inability to repurpose

- poor planning by students
- Lack of creativity by the students

This was done through a visualized brainstorming of the problems which at the end provided a collection of points for the critique. Many critical points generated were clustered / grouped accordingly and given names at the same time as follows;

I. *Inaccessibility of materials*

- Location of some materials
- Scarcity of the materials
- Transportation costs of some materials
- Location of institution social construction

II. *Limited knowledge on materials*

- Lack of knowledge about specific material
- Knowledge of material by the suppliers
- Attitude towards the knowledge
- Knowledge to improvise materials for use
- Lack of guidance from lecturers
- Flexibility to experiment with various materials
- Limited exposure to market places
- Limited research
- Thinking of students
- Ability to repurpose
- Lack of creativity

III. *Limited support*

- Lack of enough support from lecturers
- Too much material required

IV. *Time factor*

- Lack of Proper planning
- Duration period for accessing the materials
- Time frame for completing the projects
- Poor planning by the students

V. *Financial constraints*

- Proper planning
- Duration period for accessing the materials

Raised clustered challenges

- A. Inaccessibility of materials
- B. Limited knowledge on materials
- C. Limited support
- D. Time factor
- E. Financial constraints

Fantasy phase: From the critical phase, the critical points were changed from bad to good. All the ideas were collected and put in an “idea store”, regardless of their possibility. This phase is an ideal situation where the researcher and the stakeholders together-imagine an ideal situation. The changed critical points are;

- Accessibility of materials
- Adequate knowledge on materials
- Adequate support
- Adequate time
- Enough finances

These were followed with ideas and solutions of how to realize them.

Reality Phase: Under this stage, we focus on most realistic ideas – the ones that can be solved and achieved in a shortest period of time. Due to the time frame that was budgeted for this research, the researcher and the participants agreed to consider short time challenges and these included; inaccessibility of materials, inadequate knowledge on materials, and inadequate support. All these were subjected to a pairwise matrix.

From the pairwise matrix, participants ranked limited knowledge on materials as the most pressing challenge and needed to be addressed promptly at YMCA Comprehensive Institute. The ranked challenge signified a gap within teachers that shows passive teaching methods employed in a multimedia crafts.

Implementation phase: In this phase, the researcher and the stakeholders worked out an action plan to implement the best idea or solution: Who does what, where, when and how? In this case therefore, the role of each stakeholder was clearly distributed.

Appendix 6: Work Process/situation Analysis.

Work process	Tasks involved	Competence required
ADMISSION	<ul style="list-style-type: none"> • Advertisement on television • Learners apply. • Short listing of successful applicants. • Issue out of admission letters. • Registration of new learners. <p>Orientation (1 week)</p> <ul style="list-style-type: none"> • Interpretation of institution rules and regulations • Briefing and introduction of staff and student's leaders to the new entrants. • Tour around the school 	<ul style="list-style-type: none"> • Use of Information and Communication Technology (ICT) skills • Good communication skills • Interpersonal skills. • Records management skills. • Administrative skills. • Secretarial skills • Analytical skills • Career guidance skills
TEACHING AND LEARNING PROCESS	<ul style="list-style-type: none"> • Preparing learning activities • Prepare training materials • Prepare lesson notes • Prepare attendance registers • Actual teaching and learning 	<ul style="list-style-type: none"> • Knowledge of the subject matter • Communication skills • Practical application • Material identification • Accountability skills
ASSESSMENT AND EVALUATION OF LEARNERS	<ul style="list-style-type: none"> ✓ Develop assessment items /tools/ instruments ✓ Formative assessment ✓ Class work assignments ✓ Learners feed back ✓ Observations ✓ Projects assignments ✓ Summative assessment at the end of an instructional unit ✓ Mid-term tests ✓ End of term exams and final projects • Prepare scoring grade • Moderate assessment tools 	<ul style="list-style-type: none"> • Knowledge of the subject content • Professional ethics • Time management skills • Communication skills • ICT skills • Writing skills • Willing to learn • Tolerance • Intellectual • Observant

<p>INTERNSHIP</p>	<ul style="list-style-type: none"> • Eight weeks of training at the end of the programme 	<ul style="list-style-type: none"> • Managing • Entrepreneurship skills • Price negotiation • Solving problems • Customer care • Time management • Record keeping • Marketing skills
<p>AWARD AND CERTIFICATION</p>	<ul style="list-style-type: none"> • Successful completion leads to an award of certificate, and diploma in art and design 	<ul style="list-style-type: none"> • High Self esteem • Communication skills • Exemplarily • Decision maker • Good listener • Confident • Willing to learn • Responsible

Appendix 7: Meeting Minutes.

MINUTES FOR THE LAST MEETING ON THE PROJECT EVALUATION ON IST

AUGUST 2018 AT YMCA

TIME 11:33am.

AGENDA

1. Opening prayer
2. Communication from the researcher
3. Review of the previous work done
4. Participants' feedback on evaluation
5. Supervisor interacts with participants
6. Closure

Min 01/08/2018 Opening prayer

The workshop was started by a word of prayer from a participant at exactly 11:40am

Min 02/08/2018 communication from the researcher

The researcher welcomed members to this meeting. He then recognized the presence of the supervisor; Dr. Senoga Maureen. He made a review of what was done during the implementation process.

Members shared out the achievements, challenges as well as lessons learnt from the whole process.

Min 03/08/2018 Review of the previous work done

The researcher briefed members on the work done during the implementation process and stakeholders showed their appreciation towards the work done. He noted that he had a pedagogical workshop with art teachers taking through the use of project-based learning method in multimedia craft practical sessions. He showed concern that many of them did not know project based as a method.

He noted that teachers did not have a difference between teaching methods and techniques.

He said that teachers were briefed and they had to implement what they had learnt from the workshop to see whether it was to be effective. The researcher noted that the syllabus was organized well into

sub units which were supposed to cover in weekly to ease the teaching of the teachers since they didn't know how to make a lesson plan.

He also said that the teachers used the syllabus well during the teaching process.

Students participated in the projects given to them by their teachers using different materials.

The projects done were exhibited and presented; students had to explain the process of making the project work and show evidenced of owning his/her work. There was self and peer assessment during the critiquing which gave students an opportunity to correct their weakness and improve.

Min 04/08/2018 Participants' feedback on evaluation

A member raised a concern that they had a challenge with poor planning for course unit materials which was solved and greatly appreciated. A lecturer also showed an appreciation of the project whereby he said that students had learnt to be innovative and creative, acquired skills like communication through presentations and critiquing.

Another lecturer said that students had really learnt to work in team hence bringing team work in learning. A student supplemented that teamwork had worked for them to learn from each other and help out in areas of weakness.

A lecturer noted that project-based learning method was helpful to students because they were able use different materials during their course of production.

He added that it was easy for him to monitor the learning process since it was a one on one learning.

Min 05/08/2018 Supervisor interacts with participants

The supervisor introduced herself and asked participants especially students to give their view if they were given another chance, what they can do different from what they learnt.

Students expressed their own ideas and most of them were impressive and positive.

Min 06/08/18 Closure

The workshop was finally concluded with a word of thanks from the supervisor; later researcher asked one of the lecturers to give a closing remark. He gave his remarks and appreciated Mr. Kajjora for introducing this great idea to YMCA.

Time 13:14pm

Appendix 8: Attendances.

23/7/2018
STUDENTS FEEDBACK SESSION

	NAME	POSITION	CONTACT	SIGN
1.	KASUMBA AARON	student	0799073539	
2.	Onyiah JAMES	Student	0703166535	
3.	BURENYA DAIZY	student	0705425743	
4.	MUKONDO PETER	Student	0701759598	
5.	KIRIHIRE RONALA MARTIN	student	0705747770	
6.	BABIRIE BRENDA	student	0700761570	
7.	LUMBUYE ALLAN	Student	0755199465	
8.	ATUHANIRE WILLY	Student	0701769201	
9.	KERALI OLIVER	Student	078626900	
10.	NANLIKUMBE ALCHA	student	0704266085	
11.	MUKWANYA EMMANUEL	student	0705601041	
12.	BAHUKU MATHEW	student	0706201130	
13.	LUKYAMU ARAFAT HABIB	Student	0753359988	
14.	SEMMI GODFREY	Student	0771498279	
15.	MBATUUSA ALICE	Students	0704676810	
16.	KANYUNYUZI RACHAEL	Student	0777611791	
17.	MUKIIBI STANLEY STEPHEN	student	-	
18.	KASASA CHARLES DANIEL	student	0759630610	
19.	OSUTARU JUDDY MERCY	Student	0713253158	
20.	MUKISA ALVIN	Student/teacher	0704370809	
21.	ISABIRYE DILEMON	student	0703515187	
22.	LUBOBA FRANK	student	0706922405	
23.	MUHARWE PATRICK	student	0781753701	
24.	ISENTONGO RAYMOND	Student	0752114532	
25.	KUSHEMERERWA PROMIJE	student	0787265722 07572	
26.	KIMWAX JOHN	Student	0772977735	
27.	MARLE EDRINE	Student	0701701609	
28.	KYOMUHENDO JOHN	Student	0756740073	

Plate 21: Attendance for feedback session

01/06/2018
Project evaluation and feedback.

S/N	NAME	POSITION	TEL	SIGN
1.	KYOMUHENDO JOHN	Student	0766740073	
2.	KANYUNYUZI RACHEAL	Student	0777611791	
3.	KUTEMERERWA PROMISE	Student	0757630946	
4.	MBATULWA ALICE	student	0704676814	
5.	MUKONISO PETER	Student	0701957598	
6.	NANKIKOMBI AIDHA	student	0704260875	
7.	ILASO CHARLES DANIEL	student	0769630610	
8.	KINIRA Isma	"	0757968937	
9.	MUKWAMA EMMAMUEL	student	0705601041	
10.	KERALI OLIVER	student	0786269300	
11.	AKIBE ROBINETT	student	0774126582	
12.	ATUNARE WILLY	"	0701769201	
13.	KASUMBA ARON	student	0779073539	
14.	MABIKKE AMON	Businessman	0704870509	
15.	Ntale. Geoffrey	Lecturer.	0753194079	
16.	Kiyingi Joel	lecturer.	0702448539	
17.	ITATAA Philip samson	student	0785004520	
18.	Ssebuguzi George	lecturer.	0783636846	
19.	Dr. Maureen Senoga	Supervisor	0777208212	

Plate 22: Attendance for project evaluation session

PEDAGOGICAL SKILLING
Teachers Workshop 8/6/2018

Attendance

NAME	POSITION	CONTACT	SIGN
1. TUSUBIRA JUDITH	Ass. Lecturer	0772094448	
2. Kiyingi Joel	"	0702448539	
3. Ntale. Geoffrey.	Lecturer.	0753194079	
4. SSENENCO WILLY	"	0703898886	
5. Ssebuguzi George	"	0783636846	
6. Kajjora Kenneth	Researcher	0715883312	
7. Mbugha Jude	Lecturer	0752862311	

Plate 23: Attendance for art teacher training workshop

FUTURE WORKSHOP CONDUCTED AT YMCA COMPREHENSIVE INSTITUTE,
WANDEGEYA ON 7TH DECEMBER 2017

PARTICIPANTS ATTENDANCE

NO	NAME	Position	CONTACT
1	BUKIRWA JOANITAH .k	student	0723721104
2	MUSISI JOSEPH .		0787746498
3	NABUSYA CHRISTINE	STUDENT	0774837384
4	MAYINJA DERRICK	STUDENT	0752706777
5	ALITE TRENDE		0759017774
6	YOPE MORIH SAMUEL		0756013063
7	Aurelia Atukwasa	Member	0757794904
8	SEMENGO WILLY	lecturer	0703898886
9	Maybare hawin	lecturer	0754388980
10	MANSAMBA JOFIA	student	0776272896
11	Kajjira Kenneth	Researcher	0702223955
12	KITINGI JOEL	LECTURER	0702448539
13	ANUO LILLIAN DEBORAH	STUDENT	0704856329
14			
15			
16			
17			
18			
19			
20			

Plate 24: Attendance for situational analysis session

Appendix 9: Interview guide responses

Lecturer's Name: Brown BACE I ALCOA I.

1. Identify any four teaching methods you know?

Group learning
Problem based

2. Identify any four teaching techniques you know?

1. e-resources
2. Demonstrations
3. use of text books

3. In the teaching and learning process, as a tutor what is the most common method that you use?

Problem based learning.

1. Identify any four teaching methods you know?

2. Identify any four teaching techniques you know

3. In the teaching & learning process, as a teacher what is the most common method that you use in multimedia craft lesson and why??

4. What challenges do you face when using the above method?

① - Lecture method
- Self guided discovery method
- Demonstration method
- Critique method
- Discussion method
- Exhibit
- Academic focus.

② -

② - Lecture method
- Critique method
- Demonstration method
- Discussion method
- Self guided discovery method.

① Lecture method: students take long time to grasp the concepts.
Critique method: It's tiresome. Because it involves a number of activities.
Demonstration method: It becomes challenging especially when the teacher lacks demonstration materials or teaching aids.

Lecturer's Name: Kujingi Joel

- Identify any four teaching methods you know?
 - Demonstration
 - Observation
 - Class Student Participations
 - Explanation & Course work projects
- Identify any four teaching techniques you know?
 - Painting
 - Drawing
 - Illustrating
- In the teaching and learning process, as a tutor what is the most common method that you use?

Demonstration method.

+ What challenges do you face when using the above method?

- It limits Student's creative capacity & idea development since they ~~only~~ ^{only} look at reproducing what their eyes saw while demonstrating in class.

Lecturer's Name: Mr. Jude Mugula

- Identify any four teaching methods you know?
 - Lecture Method
 - The discussion method
 - The demonstration lesson
 - Brain storming
- Identify any four teaching techniques you know?
 - Self learning
 - Social Media
 - Free online learning tools
 - Design thinking (case study)
- In the teaching and learning process, as a tutor what is the most common method that you use?

Flipped Classroom Model

Lecturer's Name: Sampango Willy

- Identify any four teaching methods you know?
 - Debate
 - Discussions
 - Demonstration
 - Illustration
- Identify any four teaching techniques you know?
 - Using teaching aids
 - Giving examples
 - Engaging students
 - Guiding students
- In the teaching and learning process, as a tutor what is the most common method that you use?

Demonstration

Plate 25: Interview guide responses from art teachers

Appendix 10: Focus Group Discussion Guide

Guiding questions for the focus group discussion on challenges facing the teaching and learning process in art and design department at YMCA Comprehensive institute, Wandegeya.

Dear Sir/ Madam,

I appreciate your contribution to the development of Vocational Education and Training (VET) program in Uganda. In the Masters of Vocational Pedagogy Program, I am required to study and carry out research as requirement for the award. The purpose of this letter is to request you to briefly participate to the following interview guiding questions for situation analysis.

Situation analysis serves to identify potential obstacles and factors that are needed for successful implementation of a project/ institution.

The aim of the situation analysis is to identify factors that are likely to either positively/ negatively affect the project/institution.

Share with me on the following questions.

Section A: Industrial Art and design second year students

1. What challenges are facing Industrial Art and design second year students of YMCA Comprehensive Institute, Wandegeya?
2. Suggest possible measures we can employ to bridge the existing gaps in Art and design.

Section B: Industrial Art and design lecturers

1. What challenges are facing lecturers and students of YMCA Comprehensive Institute, Wandegeya?
2. Suggest possible solutions to the challenges
3. Among the identified challenges facing lecturers and students of YMCA Comprehensive Institute, Wandegeya, which ones are hindrances to your teaching and learning process that we can tackle as lecturers?

Appendix 11: New introduced syllabus for multimedia craft discipline

COURSE UNIT: MULTIMEDIA CRAFTS

COURSE UNIT CODE: IAD 123

COURSE LEVEL: YEAR I

CREDIT UNITS: 4 CU

CONTACT HOURS: 60 HOURS

Course unit overview

Students will learn various techniques and methods of craftsmanship essential jewellery making as an art. Emphasis will be put on the use of variety of tools and materials based on experiments, creativity and professional practices. They will develop design processes from the inspiration to the final design which will be actualized using different materials like gourds, paper, copper and aluminium wire, bark cloth, bamboo among others **3cu**

Performance Objective

During the lesson, the learner will:

- Collect various local and found materials from the environment
- Practice how to make crafts from the identified materials
- Create crafts from the various local and found materials
- Exhibit and critique a set of multimedia craft project

Period	Detailed course out unit content	Duration60 Hours
WEEK 1	Introduction <ul style="list-style-type: none">• Introducing students to concepts in multimedia crafts such as media, crafts, multimedia• Tools, and materials used in multimedia crafts	2 hours

	<ul style="list-style-type: none"> • Safety precautions in making multimedia crafts 	
WEEK 2-4	<p>Jewellery Art work & its concepts development</p> <ul style="list-style-type: none"> • Paper bead jewellery • Gourd jewellery • wire jewellery <p><i>Students shall be given course work (marked out of 15)</i></p>	6 hours
WEEK 5 - 7	<p>Embracing local materials to produce art works such as lamp sheds, mirrors, flower vases among others</p> <p><i>Students shall be given test (marked out of 25)</i></p>	6 hours
WEEK 8 - 10	<p>Embracing found materials to produce art works such as toys, candle stands, and other aesthetics.</p>	6 hours
WEEK 11 -12	<p>Mixed media art work</p> <p>Use of locally available materials, found materials and bought materials.</p>	4 hours
WEEK 13	<p>Individual study (Project work I)</p> <p>Students participate in projects of their choice using locally, and found materials</p>	2 hours
WEEK 14	<p>Individual study (Project work II)</p> <ul style="list-style-type: none"> • Students participate in projects of their choice using locally, and found materials 	2 hours
WEEK 15	<p>Exhibition & Critique</p> <p>Students display their multimedia craft works done in a term.</p> <p>Self and peer assessment take place</p>	2 hours
WEEK 15	<p>Final Examination (marked out 60%)</p>	3 hours

Working methods

- Project based learning method
- Problem based learning method
- Learning contracts

Assessment

- Coursework 15%
- Tests 25%
- Examination 60%

References

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- William C. mazwell, 1989 *Africa Adorned* Printmaking Prentice-Hall, Inc. Englewood Cliffs, New Jersey 07632.
- LoiseSherr Durbin, 1985 *The History of Beads from 30,000 B.C. to the Present* Harry N. Abrams. Inc. N.Y. Www. abramsbooks.com.
- Leslie Dierks, 1999 *Creative Clay Jewellery. Designs to make from polymer clay*. Sterling publishing co. Inc. N.Y pubs@thegmcgroup.com, www.gmcpublications.com.
- Judith Wilde. Richard wilde1994 *Visual Literacy*. A conceptual approach to Graphic problem solving. Watson-Guptill publications N.

Appendix 12: Supervisor's Assessment form

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ACTION RESEARCH PROJECT GUIDE FOR SUPERVISORS

No.	Stage	Activity	Indicators	Comments
1	Planning	Identifying the problem: <ul style="list-style-type: none"> situational analysis conducting future workshop analysis of work processes Develop plan of action <ul style="list-style-type: none"> Each stakeholders assigned an activity according to action point; roles clearly stipulated against time frames 	<ul style="list-style-type: none"> Minutes from the future workshops, attendances, videos, charts, photographs Work plan for actions available (who does what, time frames indicated and how and where evidence will be captured) 	Future Workshops conducted 07/12/2017 & 13/02/2018 Minutes recorded. Charts, videos and photographs availed. Plan of action developed on chart and schedule provided.
2	Act/ Implementation	<ul style="list-style-type: none"> Implement the plan of action Each stakeholder executes the assigned activities Document process and results Report the results 	<ul style="list-style-type: none"> Personal reflective log Evaluation minutes Notes Participants logs Pictures, video and voice recordings. Prototypes Models etc 	Records are in raw form and on computer.
3	Observe and reflect	<ul style="list-style-type: none"> Monitoring and evaluation. Observe the actions and changes Reflect on the findings Report the results Has the problem been solved? 	<ul style="list-style-type: none"> Personal reflective log Evaluation minutes Notes Participants logs Pictures, video and voice recordings. Prototypes Models etc 	Old curriculum and Project-based learning Model, pictures and videos of students work-process seen.

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4	Re-plan	<ul style="list-style-type: none"> Amend the original plan Re-plan another strategy if the problem has not been solved by a given strategy Implement the new strategy Observe and reflect And the cycle above is repeated until the problem is solved 	<ul style="list-style-type: none"> Personal reflective log Evaluation minutes Notes Participants logs Pictures, video and voice recordings. Prototypes, Models etc 	Stakeholders shared benefits of Project-Based Learning. Records on file and computer show change after intervention.
5	End the project	<ul style="list-style-type: none"> Compiling and analyzing results 		strategy implementation. Can proceed with compilation of results and analysis.

Principal Supervisor:
 H. K. M. Senoga
 Dr. Maureen M. Senoga
 01/08/2018