

**THE IMPACT OF MULTIMEDIA LEARNING IN GIRLS'
EMPOWERMENT: A CASE OF GIRLS INSPIRE PROJECT IN RUKWA
AND DODOMA REGIONS, TANZANIA**

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Open University of Tanzania a thesis titled, "**The Impact of Multimedia Learning in Girls' Empowerment: A Case of Girls Inspire Project in Rukwa and Dodoma Regions, Tanzania**" in fulfilment of the requirements for the award of Degree of Doctor of Philosophy in Development Studies.

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ABSTRACT

This study explores the impact of multimedia learning in girls' empowerment in Tanzania using a case study of Girls' Inspire Project (GIP) in Rukwa and Dodoma Regions. The GIP employed multimedia learning in training hands-on, entrepreneurial, and life skills to school-dropout girls. As such, the study focused at identifying the characteristics of multimedia learning contents used in GIP, determining girls' multimedia learning experiences, and examining the influence of multimedia learning in girls' empowerment. The study applied exploratory research design with qualitative research approach that involved 44 research participants comprising; 32 girls, 8 facilitators and 4 multimedia production team members of the GIP. The researcher collected data using Interview, Focus Group Discussion (FGD) and Documentary Review methods. Data from documentary review was analysed by preparing a review checklist against set criteria and formed a matrix for presenting results. Data from interviews and FGDs were analysed using thematic analysis by transcribing and annotating it into respective themes set on a matrix. Findings reveal that generally, the multimedia learning contents used, adhered to acceptable characteristics. Consequently, the multimedia learning process involved theory and practical sessions that enhanced better understanding of the learning contents. Furthermore, findings indicate that as a result of multimedia learning, the girls managed to form economic groups, processed microcredit applications and established income generating activities. Such achievements made them self-confident, respected, and recognised in their communities. The study concludes that multimedia learning impacts girls' empowerment, given that the learning content is geared towards achieving a targeted outcome to a particular context. The study recommends that for sustainability purposes, practitioners should link girls' empowerment initiatives to technical and financial stakeholders for vertical and horizontal benefits. Subsequently, such interventions should provide training to the girls on group administration and financial management skills to ensure effective use and management of funds acquired. Furthermore, a study on the feasibility of undertaking the intervention to other regions in the country is recommended.

Key words: Impact, Multimedia learning, girls' empowerment, Girls' Inspire Project

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ABBREVIATIONS AND ACRONYMS

ACDE	African Council for Distance Education
AIDS	Acquired Immunodeficiency Syndrome
BEST	Basic Education Statistics of Tanzania
CD	Compact Disc
COBET	Complementary Basic Education in Tanzania
CoL	Commonwealth of Learning
DEO	District Education Officer
EC	European Commission
e.g.	Example
E-learning	Electronic learning
ETP	Education and Training Policy
FGDs	Focus Group Discussions
GIP	GIRLS Inspire Project
GNP	Gross National Product
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
i.e.	That is
IAE	Institute of Adult Education
ICT	Information and Communications Technology
IGA	Income Generating Activity
IPPE	Integrated Post-Primary Education
LCD	Liquid Crystal Display

LMS	Learning Management System
MoCDGC	Ministry of Community Development, Gender and Children
MoCDWC	Ministry of Community Development, Women and Children
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MP4	MPEG layer-4 audio
MWADIMATA	Mwanamke ni Dira ya Maendeleo ya Taifa (A woman is the vision of National Development)
MWATETA	Mwanamke ni Tegemeo la Taifa (A woman is the backbone of the Nation)
ODL	Open and Distance Learning
OUM	Open University of Malaysia
OUSL	Open University of Sri Lanka
OUT	Open University of Tanzania
PDF	Portable Document Format
PO-RALG	President's Office - Regional Administration and Local Government
SDG	Sustainable Development Goals
SDG 4	Sustainable Development Goal number four
SDG 5	Sustainable Development Goal number five
SIDO	Small Industries Development Organisation
TNSGD	Tanzania National Strategy for Gender Development
UN	United Nations
UNDP	United Nations Development Programme

UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
VETA	Vocational Education and Training Authority
viz.	Namely
VTC	Vocational Training Centre
WEMU	Wizara ya Elimu na Mafunzo ya Ufundi (Ministry of Education and Vocational Training)
ZOU	Zimbabwe Open University

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

Girls' disempowerment is globally considered as a state which affects not only the livelihood of families but, also societies at large due to the fact that, as prospective mothers, girls determine the future of a nation. Therefore, disempowerment restricts girls from taking part in social and economic development activities in their communities. Thus, empowering girls today enhances women's future participation in socio-economic development processes. This perspective emanates from the sense that empowerment relates to aspects of self-confidence and decision making abilities necessary for an individual to participate in the social and economic development processes (Geetha, 2015; Kabeer, 2005). Empowerment therefore promotes capabilities of individuals who have been denied rights to opportunities that would have enhanced the same thus, enabling them participate in socio-economic development activities.

The European Commission considers girls' empowerment as a crosscutting priority and central pillar strategy towards strengthening female participation in the world's economy (EC, 2015). It is argued that girls' empowerment has achieved a significant progress globally but still girls are left behind and less privileged compared to boys across countries and regions (EC, 2015; UNDP, 2018a). Consequently, girls' empowerment remains an important role to play by key development stakeholders for sustainable livelihood. Seeberg (2014) argues that rural girls in China, like in other

parts of the world, are disempowered due to dropout from schools resulting from early arranged and forced marriages, a situation which calls for amendment of policies to enhance non-formal skills-development learning for girls' empowerment. In Brazil girls' empowerment is considered a primary focus in social and economic initiatives. It is believed that girls' empowerment not only reduces the gender gap but, also boosts a country's economy as it yields higher returns in form of national economic benefits (Moeller, 2014). Similar to Brazil, the Australian government has mainstreamed girls' empowerment efforts by enhancing policies that promote sustainable empowerment to allow female voices in the nation's development plans (Phillips, 2015).

Notwithstanding the need of girls' empowerment today, in most developing countries, empowerment of girls has been restricted due to existing gender discriminative traditions that privilege males over females in accessing social and economic opportunities (Omari & Mbilinyi, 2018; Peterman, 2011). The traditions have resulted to an alarming number of school-age girls missing the opportunity to basic education. As such, about 25% of the girls aged between 15 and 24 years in developing countries do not complete primary school education (CoL, 2017b). According to Njaya (2015) most of the girls miss the opportunity to acquire basic education due to dropout resulting from "early marriages and social inhibitions against [girls] pursuing education after marriage" (p. 86). In sub-Saharan Africa, marriages of girls under the age of 15 is apparently ranking higher than in other parts of the world and as a result, girls' disempowerment is alarming (Koski et al., 2017). Consequently, women in the region hold less economic status and education levels compared to men, a situation

that denies them ability to participate in social and economic opportunities surrounding them (Kato & Kratzer, 2013; Peterman, 2011).

In Tanzania, pregnancy and early marriages rank high among the reasons for schoolgirls' dropout and as a result, many girls are denied the right to education (Makoye, 2017; WEMU, 2014). For example, according to the Basic Education Statistics of Tanzania (BEST) in 2015, about 251 girls which is equivalent to 0.3% of country's total dropouts, dropped out of primary schools due to pregnancy. The BEST report also, mentions that in 2015 about 3,439 girls which is equivalent to 5.6% of country's total dropouts, dropped out of secondary schools due to pregnancy (PO-RALG, 2016). Kato & Kratzer (2013) argue that traditions in the country have for long made boys more privileged in education than girls. The society believes that boys deserved learning opportunities more than girls, thus, the emphasis was more in developing the boy child than the girl child.

Consequently, girls' disempowerment resulting from dropouts affects all girls in the country but, more so among rural girls whose peripheral locality leads to limited opportunities. Such opportunities include; alternative learning, microcredits, employment, and communication technology. The opportunities enhance girls' ability to establish income generating projects, meet basic expenses and access various learning and development opportunities. As such, Mehra (1997) advocates that empowerment should focus on two aspects; one being expansion of choices that girls can make and the second being increasing girls' capabilities towards exercising the choices. While the former include opportunities such as mortgages, microcredits, capital and employment; the latter include provision of education and health services

(Mehra, 1997, pp. 138-139). Similarly, Koski et al. (2017) recommend education to be important in enhancing girls' capabilities. Education plays a key role in girls' empowerment because once equipped with knowledge and skills, rural girls can eventually increase their capabilities towards exercising the existing choices and opportunities around them (CoL, 2017a). Way back in the 1920s, a Ghanaian educator, Dr. James Emman Kwegyir Aggrey noted; "if you educate a man, you educate an individual but, if you educate a woman, you educate a [whole nation]" (Kohli, 2017 p. 66). More precisely, Duflo (2012) supports women's empowerment ideas but, argues that such interventions have to start with girls. Duflo emphasises that empowering girls by providing them with education will not only have positive impact on themselves but, also to their children and the entire society. Likewise, CoL (2017a, 2017b) argues that education is one of the best strategies towards enhancing girls' empowerment for sustainable development.

However, girls who drop out of schooling due to pregnancy or marriage are expected to have multiple responsibilities facing them in their families which eventually makes it difficult for them to enroll in any alternative traditional formal-schooling system. Thus, given the complexity of their situation and peripheral neighbourhood, one would think of a strategy that will reach all the girls. As such establishing an easily accessible and flexible learning intervention that accommodates the girls' complex environment is necessary in ensuring effective empowerment. According to Modi (2017), education for empowering marginalised rural girls should use a flexible approach so as to easily accommodate all of the targeted girls.

With a focus on the flexibility aspect of education for empowerment, Tanzania government has had some interventions of alternative formal learning opportunities offered through open learning mode of training, aiming at reaching youths who drop out of schools. However, such interventions reached only targeted youths in a project area and others were only accessible to those whose families afforded to pay for tuition fee. One of the interventions is the Complementary Basic Education in Tanzania (COBET) established in 1999 aiming at complementing the existing primary education curriculum (Levira & Gange, 2007). The intervention focused on providing an alternative pathway to out-of-school youths especially girls aged between 11 to 18 years who failed to enroll in formal primary schools or dropped out of the same (Edwin et al., 2017; Emmanuel, 2018). COBET was implemented at the centres established within the existing public primary schools in the country. By the year 2016, COBET intervention reached a total of 82,339 learners of which 36,196 were females and 46,143 were males (PO-RALG, 2016).

Another intervention was the Integrated Post-Primary Education (IPPE) programme established by Institute of Adult Education (IAE) in collaboration with UNICEF in 2011 aiming at reaching youths who had dropped out of secondary schools. The IPPE which was piloted in 12 districts in the country, enrolled a total of 14,629 learners comprising of 5,649 females and 8980 males (PO-RALG, 2016). The programme had three curriculum components; academic, pre-vocational and generic skills (Vuzo et al., 2015). The academic skills component comprised of contents of the existing secondary education curriculum while the pre-vocational skills component comprised of contents that were specifically designed to suit pre-requisites for joining Vocational Training

Centres (VTCs) in the country. Generic skills component comprised of tailor-made contents aiming at enhancing life skills among learners. According to Vuzo et al. (2015), these components overloaded learners as they could not opt for studying only one component of their choice. As such, Vuzo mentions the requirement for studying all the three IPPE components instead of one, as one of the limitations of the programme as it denied learners' flexible learning. Other limitations include; incapacity of IPPE training centres, funding not reaching the training centres and lack of long-lasting system of funding to sustain the programme activities (Vuzo et al., 2015).

Based on the limitations in terms of accessibility to COBET and IPPE interventions, non-formal education strategy through open learning can be used to reach the marginalised rural girls as it “enables more flexible mode of delivery and learning” (Yasunaga, 2014, p. 16). Yasunaga adds that technology is inevitable in ensuring effective delivery and learning. Use of technology preferably multimedia technology in open learning ensures effective content delivery and learning because learners in this context prefer flexibility in learning than it is in traditional schooling system (Grinfeld & Ng, 2013; Rupande, 2014). This is putting into consideration that, the girls have multiple responsibilities for their families which interferes with their learning (Reuben, 2015). Multimedia learning therefore, fits this type of learners as it allows them to be responsible for their own learning thus, enhancing self-learning (Andresen & Van Den Brink, 2013). Furthermore, use of multimedia learning, is good for learners especially those in rural areas where there is limited access to Internet and computer technologies (Deb, 2011).

Multimedia learning content is a digital learning content that combines audio and visual effects in learning delivery (Sankey et al., 2010). Moreover, it can be delivered offline, therefore, tackling the challenges of poor ICT infrastructure and Internet connectivity in rural areas (see Bhalalusesa et al., 2013; Deb, 2011; Nihuka & Voogt, 2011). Also Richards, Dooley, & Lindner (2004) as cited in Chaturvedi (2010) argue that multimedia content promotes learners' interaction and active participation in the learning process. Confucius, a Chinese philosopher, once said, "If all I do is [hearing], I will forget. If I hear and see, I will remember. If I hear, see and do, I will understand" (Khalid & Nuhfer-halten, 2011, p. 8). This theoretical perspective means that, when hearing and seeing are utilised in the learning process as for the case of multimedia learning and then combined with hands-on skills training, then understanding will eventually be the result. Hence, integration of multimedia in learning is the best strategy towards empowering rural girls due to its ability to display actual events on the learning content. This theoretical perspective was put into practice by Girls' Inspire Project (GIP) intervention which the current study uses as a case study to address the role of multimedia in girls' empowerment.

The Girls' Inspire Project (GIP) is a non-formal open learning initiative by the Institute of Adult Education (IAE) which was implemented from 2017/2018 to 2018/2019 financial years in Rukwa and Dodoma Regions. The project resulted from a learning needs assessment by IAE that recommended for the intervention. With financial support from the Commonwealth of Learning (CoL), the project basically focused on providing non-formal open learning training to girls, aged between 10 to 25 years, who were out of school due to pregnancy and early marriages (Ferreira, 2019). The GIP

used multimedia learning in training the girls on hands-on, entrepreneurial, basic numeracy and life skills to allow them establish their own economic activities to sustain livelihoods. Graduates from this project were expected to inspire other girls through their achievements; an outcome that denotes the project name (i.e., Girls Inspire). IAE implemented the project in Kalambo and Nkasi Districts of Rukwa Region, and Kongwa and Bahi Districts of Dodoma Region in which, a ward from each district had two learning centres.

According to S. G. Mwita (personal communication, July 2, 2019), a communication focal person for GIP, IAE planned to reach 1,500 girls but managed to reach 1,981 girls by the end of the project, a success rate of 132%. This study therefore, focused on exploring the impact of multimedia learning in girls' empowerment as evidenced from the GIP in Rukwa and Dodoma Regions. Thus, the study shares empirical evidence which could facilitate decision-making processes in similar-future interventions in the country.

1.2 Statement of the problem

According to EC (2015) and UNDP (2018a) girls' empowerment has achieved a significant progress globally but, still girls are left behind, less privileged and hence, disempowered compared to boys across countries and regions. In Tanzania, girls' disempowerment has been a problem due to dropout from schools resulting from early marriages and pregnancies (Makoye, 2017; WEMU, 2014). Moreover, the existing gender insensitive traditions exacerbate the problem (Kato & Kratzer, 2013; Peterman, 2011). Consequently, the girls dropping out of school remain disempowered with limited alternatives to continue with studies. Aiming at restoring the lost dignity

among the girls, IAE established GIP in Rukwa and Dodoma Regions aiming at empowering girls using multimedia learning in entrepreneurship, basic numeracy, hands-on, and life skills. Notwithstanding the possible impact of multimedia learning in girls' empowerment resulting from implementation of GIP, the intervention has not yet been researched for public consumption. The current study explores the impact of multimedia learning in girls' empowerment in Rukwa and Dodoma Regions since no studies about "multimedia learning for girls' empowerment" have been conducted in these GIP project areas.

1.3 Objectives of the study

1.3.1 General objective of the study

The general objective of the study was to explore the impact of multimedia learning on girls' empowerment at the GIP project implemented in Rukwa and Dodoma Regions in Tanzania.

1.3.2 Specific objectives of the study

Specifically, the study aimed to achieve the following objectives.

- i. Identify the characteristics of the multimedia learning contents used for girls' empowerment in the GIP project implemented in Rukwa and Dodoma Regions.
- ii. Determine the multimedia learning experiences among the GIP girls in Rukwa and Dodoma Regions.
- iii. Examine the influence of multimedia learning on girls' empowerment at the GIP project implemented in Rukwa and Dodoma Regions.

1.4 Research questions

1.4.1 General research question

What is the impact of multimedia learning in girls' empowerment at the GIP project implemented in Rukwa and Dodoma Regions in Tanzania?

1.4.2 Specific research questions

1. What are the characteristics of the multimedia learning contents used for girls' empowerment in the GIP project implemented in Rukwa and Dodoma Regions?
2. What are the multimedia learning experiences among the GIP girls in Rukwa and Dodoma Regions?
3. How does multimedia learning influence girls' empowerment at the GIP project implemented in Rukwa and Dodoma Regions?

1.5 Significance of the study

With its increased development and appreciation in various socio-economic and educational programs, the importance of multimedia technology cannot be overemphasized. As a result, it cannot be ignored that multimedia is a driving force towards promoting knowledge, skills and competences to learners. It is generally accepted that multimedia has a great contribution in learning especially in adding quality of the content and enhancing active participation among learners (Abas et al., 2007). This study is motivated by the notion that, if multimedia technology is used to make an integral package of learning content, then learning will be more attractive,

entertaining, interactive and competence based (F. W. B. Li & Lau, 2011). This is to say that, multimedia technology add value to learning content therefore, resulting into a better understanding among learners whose impact is portrayed in their ability to demonstrate skills and competences acquired (Abas et al., 2007; Kaputa & Mpezeni, 2016; Kulasekara, Jayatilleke, & Coomaraswamy, 2011; Mayer, 2002). Thus, the ability triggers them to venture into various socio-economic activities that make them independent in terms of income, decision-making and being responsible to their families and communities hence, being empowered. This study therefore, draws attention to the impact of multimedia learning in girls' empowerment.

Moreover, the use of multimedia learning in promoting girls' empowerment is a unique intervention in Tanzania thus, the current study adds the associated new knowledge to practitioners and shares experiences that can be used to scale up similar interventions to other parts of the country. Further, the study informs policy makers on the necessary contemporary aspects of multimedia learning to incorporate into respective national policies on girls' empowerment. Subsequently, the study findings will benefit government and non-government organisations interested in supporting girls' empowerment initiatives in the country as they will have an evidence-based point of reference in making decisions.

1.6 Organisation of the thesis

The thesis consists of six chapters. Chapter One covers the introduction of the study mainly focusing on the problem being studied, objectives of the study and research questions. Chapter Two presents literature review for the study showing what other researchers have reported in relation to multimedia learning and girls' empowerment.

As such, the chapter is composed of conceptual definitions, theoretical framework, empirical literature review, research gap, and conceptual framework.

Chapter Three presents descriptions on research methodology of the study. The detailed components of this chapter include; research strategies, research population, area of the study, sampling design and procedures, methods of data collection as well as data processing and analysis. Other components include; data validity and reliability, and ethical considerations. This chapter therefore provides a clear picture on how the research process was carried out.

Chapter Four is the research findings followed by Chapter Five which presents discussion of the findings. The findings and discussion are presented in accordance with the arrangement of the research questions of the study to ensure proper flow of information. Chapter Six presents the conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The chapter presents a review of literature on the association between multimedia learning and girls' empowerment. It starts with conceptualization of key concepts followed by review of supporting theories, empirical literature review, identified research gap and conceptual framework. The chapter ends with a summary on the literature reviewed.

2.2 Conceptualization of key concepts

This section conceptualizes the key concepts used in this study to enhance clear understanding among readers. The concepts as described below include; multimedia learning, girls' empowerment and open learning.

2.2.1 Multimedia learning

According to Heinich, Molenda, Russel & Smaldino (1996) as cited in Chaturvedi (2010), "multimedia emerged in the 1950s and commonly referred to [as a digital content] that combined at least two media formats such as text and video or audio at one time" (p. 40). Today various scholars view multimedia as a set of digital learning content designed and developed using a combined form of various media such as animations, audio, video, text, and graphics (see for example Lau et al., 2013; F. W. B. Li & Lau, 2011; Mariki, 2014; Mtebe et al., 2016). Therefore, multimedia learning as used in this study means a learning process that employs the use of a digital content

made up of combinations of various media (Mayer, 2014). In line with this same meaning, multimedia learning contents as used in this study are the video contents designed and developed in a combination of various media including; audio, text, graphics, sound and animations.

2.2.2 Girls' empowerment

Girls' empowerment refers to a process of enabling girls to realise their potential and participate in social and economic development opportunities around them (Mariki, 2020a). Thus, empowerment process involves changing of mindset, enhancing opportunities and creating avenues towards accessing the opportunities. As such, empowered girls should therefore feel self-confident and in control of their lives' destiny and environment (Turner & Maschi, 2014). Subsequently, empowerment as used in this study refers to the process of enabling the GIP girls to be able to; make self-decision, make choices and engage in income generating activities (Eisman et al., 2016; Geetha, 2015; Turner & Maschi, 2014; Zimmerman, 2000). Consequently, girls' empowerment is associated with education for sensitization, awareness creation, acquisition of knowledge and skills, and realisation of power (Adekola et al., 2016; Geetha, 2015; Peterson, 2014). In other words, education goes hand-in-hand with empowerment since, through education an individual acquire self-confidence, knowledge and skills necessary to participate in socio-economic development processes (Geetha, 2015). According to Njaya, (2015) it is evident that effective learning promotes income, financial independence, personal dignity, self-confidence and hence, empowerment.

2.2.3 Open learning

The open learning concept is a mode of learning that is characterised with learners' control over what to learn, when, where and how (Reuben, 2015). Under this mode learners decide on their preferable learning content, schedule, and duration based on their learning context (K. C. Li, 2018). Hence, in this study, open learning is considered as a learning mode in which learners study in a flexible learning environment as opposed to the traditional learning environment (Reuben, 2015; Tichauya et al., 2012). Flexibility is based on the words "open learning" which means; learners learn at their own pace with a flexible curriculum that considers their learning contexts thus, allowing free entry and exit as well as freedom in choice of modules to learn (Jegade, 2009; Njaya, 2015; Reuben, 2015). In this mode of learning there is no restrictions like rigid curriculum, fixed learning calendar, fixed assessment schedules, age limits, wearing of school uniforms, and daily classroom attendance (K. C. Li, 2018). Hence, it extends access to learning by learners whom due to some reasons, cannot access traditional classroom learning.

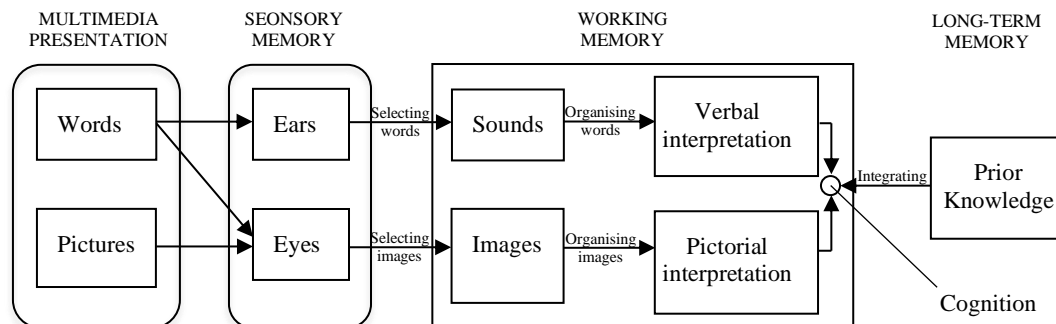
2.3 Theoretical literature review

The current study was guided by three theories namely; 1) the Cognitive theory of multimedia learning, 2) the Cognitive load theory, and 3) the Empowerment theory. The theories were selected as they demonstrate appropriately the understanding of multimedia learning and empowerment aspects of the current study (see USC, 2021). As such, the following explains the theories in relation to their contribution to the current study.

The Cognitive theory of multimedia learning, Mayer (2014) argue that human mind processes information effectively and promotes better understanding when learning uses multimedia contents. A mixture of words and pictures found in multimedia contents in form of audio and video makes effective learning. Figure 2.1 shows how information is processed by the human mind when learning uses multimedia contents.

Figure 2.1

Cognitive theory of multimedia learning



Source: Adapted from Mayer (Mayer, 2014)

As indicated in Figure 2.1, the theory suggests that multimedia content comes to the human mind in the form of words and pictures through ears and eyes. Words spoken come through ears, written words come through eyes and pictures come through eyes. The sensory memory of ears and eyes allows the selection of images and words to be processed to meaningful sounds and images that are organized into verbal and pictorial interpretation. The combination of words and pictures that take place in the human mind under working memory, brings an effective understanding of a phenomenon being studied especially, when integrated with the learner's prior knowledge. With reference to this theory, it is expected that use of multimedia learning in GIP will enhance better understanding and result to empowerment of the project targeted girls. This is due to the fact that use of visual and audio channels of human mind in learning

promotes effective learning because by nature, human minds tend to easily understand and retain audio-visuals (Mayer, 2014).

Andresen & Van Den Brink (2013) argue that multimedia learning supports constructivist theory which advocates for learners to be allowed to develop their own meaning instead of confining them to a predetermined single source of knowledge. Multimedia transforms teachers from being a single source of information to facilitators of the multimedia learning environment (Andresen & Van Den Brink, 2013; Babiker & Elmagzoub, 2015). Therefore, multimedia learning theoretically enhances active and result-based learning leading to greater impact to learners as opposed to traditional use of text only. This conforms to what Confucius said as stated earlier in Chapter One that, if one hears, sees, and does then s/he understands (Khalid & Nuhfer-halten, 2011).

Furthermore, Cognitive load theory as stipulated by Sweller et al. (2011) explains that multimedia learning promotes effective learning especially when learners have sufficient prior understanding of the subject matter presented. The theory clarifies that a combination of auditory and visual information in learning content delivery reduces the cognitive load on the audio-visual channel of a human mind because the media complements each other. However, the theory cautions that multimedia learning overburdens learners especially when complex animations are used among learners who are unfamiliar with the learning content.

The study was also supported by Empowerment theory which states that, empowerment starts with a belief in an individual's mind in terms of realising one's potential and using it to bring change in their lives (Eisman et al., 2016; Peterson,

2014; Turner & Maschi, 2014; Zimmerman, 2000). Thus, empowerment at the individual level as it is for the case of this study, means psychological empowerment (Zimmerman, 2000). According to the theory, psychological empowerment involves enabling one's competence to exercise control over their personal life and have critical awareness of their social, political and economic environments. Subsequently, empowerment paves the way towards ending gender violence among girls (MoHCDGEC, 2017; UN Women, 2019). Today gender violence is broad, it does not only include intimate personal violence but, also child, early and forced marriages which deny girls' right to their education and hence, disempower them (CoL, 2017a; UN Women, 2019). Therefore, empowerment frees girls from gender violence in its broad sense right from a young age to adulthood.

2.3.1 Policy review

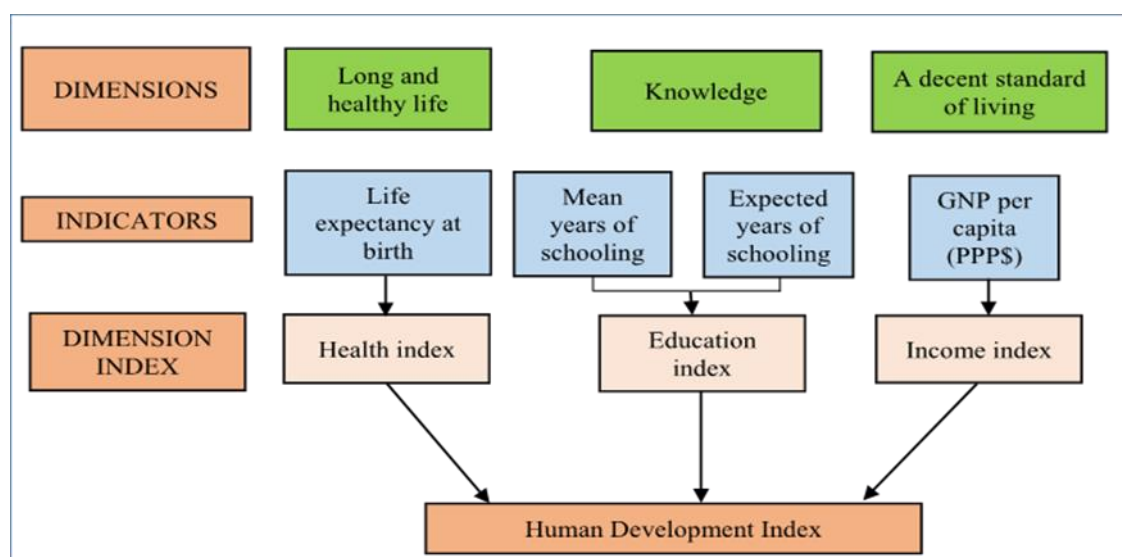
The National Information and Communications Technology (ICT) policy mentions multimedia as a means to promote effective learning (MWTC, 2016). Thus, the policy enriches the GIP purpose of using multimedia leaning to enhance better understanding for empowerment of the project targeted girls. Furthermore, the Education and Training Policy 2014 (ETP 2014) advocates the need for girls' empowerment. The policy explains that there is less participation of women in existing development opportunities due to societal belief that women are less capable compared to men (MoEVT, 2014). Thus, the policy advocates for girls' empowerment as in the case of GIP so as to enhance their capabilities muted by the existing societal discriminatory beliefs enshrined in a patriarchal system.

Similarly, Women and Gender Development Policy (MoCDWC, 2000) addresses the targeted girls of this study who are victims of early marriages and motherhood by advocating on their empowerment towards access to capital and markets. In ensuring women empowerment is achieved, the Tanzania National Strategy for Gender Development (TNSGD) advocates for women education (MoCDGC, 2008). It advocates for training on entrepreneurship skills and sensitisation on women self-initiated income generating groups to meet qualifications for microcredits issued by local government authorities and other development partners. Theoretically therefore, education is regarded as a means towards human empowerment as illustrated in the dimensions and variables of Human Development Index (HDI).

According to (Sharma, 2013; UNDP, 2015), being knowledgeable is one among three dimensions of HDI, others being, living a long and healthy life, and having a decent standard of living (see Figure 2.3).

Figure 2.3

Human Development Index

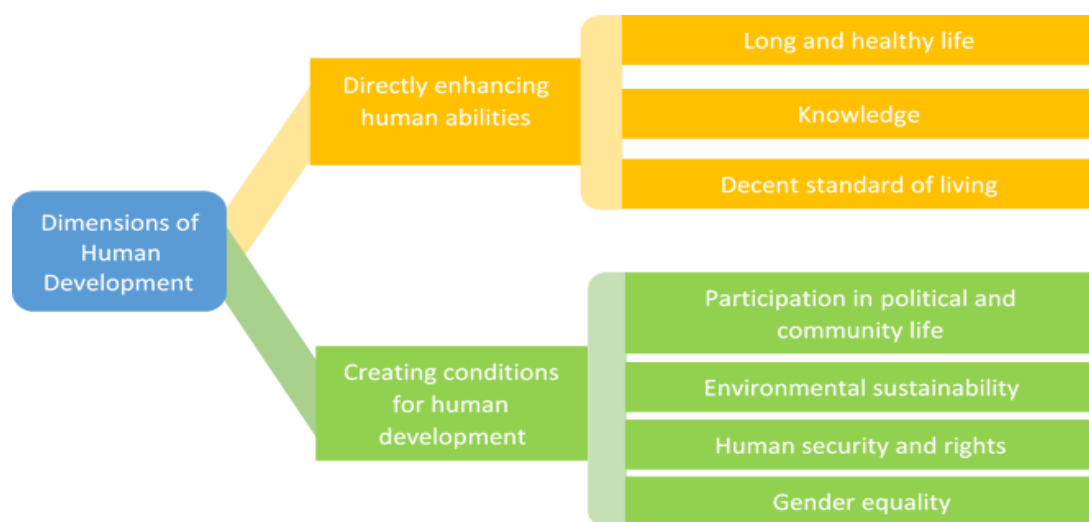


Source: (Sharma, 2013; UNDP, 2018b)

HDI is a measure created by the United Nations to make sure that people and their capabilities are used to measure a country's development rather than economic growth alone (UNDP, 2015). Based on this approach, education is globally considered a key towards human development. In line with this approach, UNDP suggested for dimensions of human development namely; directly enhancing human abilities and enabling conditions for human development (see Figure 2.4).

Figure 2.4

Dimensions of human development



Source: (UNDP, 2015)

As indicated in Figure 2.4 it is difficult to achieve human development in absence of an enabling environment that enhances people capabilities towards making choices and accessing available opportunities. Thus, for empowerment purposes as in GIP context, it is necessary to ensure access to development opportunities so as to achieve the ultimate goal of the girls' well-being (UNDP, 2015).

Subsequently, the Human Development Index with the stated dimensions of human development reflect the focus of this study in the context of the GIP where multimedia

technology was expected to facilitate delivery of knowledge and skills to girls for their empowerment. Thus, the intervention would finally enhance the girls' capabilities to exercise choices, access opportunities and participate in economic activities by establishing their own income generating activities to sustain life. Ultimately, this would mean a step towards attaining the United Nations Sustainable Development Goals (SDGs) particularly, goal number four (SDG 4) and five (SDG 5) that aim at promoting lifelong learning and empowering girls, respectively (UN, 2020). The goals enrich this study as multimedia learning in GIP is not only educational but, also a lifelong learning initiative that aims at empowering the project beneficiaries with entrepreneurship, hands-on and life skills for sustainable livelihood.

2.4 Empirical literature review

2.4.1 Characteristics of multimedia learning contents

Andresen & Van Den Brink (2013) state that one of the major characteristics of educational multimedia is the combination of media like audio, text, video, animation, text and sound in the delivery of learning content. For content to be multimedia, it should adhere to this characteristic as stated under the conceptual definitions section of this chapter.

A study by Stemler (1997) on educational characteristics of multimedia, indicates features necessary in multimedia learning contents. The study emphasises that it is important to properly design attractive content to display on screen so as to capture learners' attention. The study states that colours, text, graphics, and animations should be balanced and simplified to avoid screen noise to learners. The author adds that

multimedia content should be designed in a way that enhances learner-content interaction and facilitates feedback from learners. However, according to Clariana, Ross, and Morrison (1991) as cited in Stemler (1997) feedback is one of the important features missing in most multimedia learning contents. Most multimedia learning contents do not have a feedback mechanism to show learners' satisfaction, understanding, and reaction to the learning content.

Najjar (1998) advocates for the media communicating best to learners to be prioritised when developing multimedia content. Some media communicates best than others depending on the context and topic being delivered. The study also specifies that multimedia content has to bear interactive features that allow mutual interaction between learner, learning system and learning content. Further, the author instructs that use of media in a decorative way should be avoided and instead, media should be used in a supportive way to enhance effective learning.

Another study conducted in Malaysia by Abas, Osman, Kumar, & Thangapragasam (2007) reported that, effective multimedia courseware or content should clearly state its objectives and address it properly. And also, the courseware should contain user-friendly instructions, appropriate animations and graphics, and simple and clear explanations.

A study by Hasler et al., (2007), found that effective multimedia content should allow learner control over animations. The study indicates that the multimedia content should have a mechanism for stopping, pausing, restarting a segment and slowing down animations. According to the study, the availability of the start and stop options

alone was enough to activate learning though learners did not use them throughout the learning process.

2.4.2 Learners' experience in multimedia learning

Use of multimedia learning draws various perspectives among learners in relation to their learning context. A study conducted by Abas et al. (2007) of the Open University of Malaysia (OUM) on “effectiveness of multimedia courseware design” reported on the positive learning experience by open and distance learners of the university. Findings of the study show that learners were highly motivated in using the multimedia since; the courseware was interactive in nature, animations and graphics allowed better understanding, virtual learning resources were useful and easily accessible, and the technology in general simplified learning as opposed to print media technology. Learners claimed to have completed their studies on time as a result of the technology.

Another study by Ranga & Mhaka (2016) of the Zimbabwe Open University (ZOU) shows a different perspective. As opposed to learners at the OUM in the study by Abas et al., most ZOU learners attending similar learning in Manicaland, Regional Centre in Zimbabwe found it difficult to access learning due to computer illiteracy. Findings indicate that learners had to arrange private face-to-face sessions with their tutors on their own time especially on weekends to overcome the situation. The study findings also show that other learners accessed instructional materials from the Internet cafe but, with technical assistance from cafe's technical personnel because they were computer illiterate and did not own computers. The study reveals that, although there are some computers with Internet connectivity installed at the ZOU Centre, yet there were no students attempting to use them as they were computer illiterates. As such,

some students relied on their mobile phones to access learning though not all contents were visible on their phones. Based on the ZOU experience, it is evident that, learning technologies do not guarantee better learning and understanding among learners as other associated factors like ICT infrastructure and learners' computer literacy skills might hinder effective learning (Lee et al., 2014; Sweller et al., 2011).

In Sri Lanka, learners' experience depicts best practices on learning in Open and Distance Learning (ODL) similar to that of the Open University of Malaysia by Abas et al. (2007). This is according to Kulasekara's et al. (2011) study on "learner perceptions on instructional design of multimedia in learning abstract concepts in science at a distance" conducted at the Open University of Sri Lanka (OUSL). The findings in the study show that students find multimedia helpful as it simplifies and stimulates learning. Learners appreciate animations, graphics, audio, sounds, text and video used saying that the media complements each other in a manner that promotes better understanding. Learners also commend instant feedback from facilitators.

The learners experience reported by Kulasekara et al. (2011) and Abas et al. (2007) in Sri Lanka and Malaysia, respectively, are similar to the findings by Tablatin et al., (2016) in Philippines where the Pangasinan State University learners appreciate the multimedia courseware delivered. Findings indicate that learners were able to see PDF text on screen and hear audio narrations something which enhanced a better understanding among them. The study also shows that faculty members and learners were generally comfortable with the multimedia features and contents used. Nonetheless, learners suggested enhancing the video visibility, use of larger text font and making learning content more attractive.

Another study by Deb (2011) speaks of “effective distance learning in developing countries using mobile and multimedia technology”. The study indicates that most developing countries are not enjoying the benefits of technology due to lack of infrastructure and limited access to the Internet. Thus, multimedia learning (with self-instructional content) would be effective in rural remote areas as it combines various media such as; video, audio, texts, and animations, which enhance effective learning in such offline environments. Multimedia learning therefore, supplements the technology gap.

At the University of Dar es Salaam in Tanzania, learners commended the effectiveness of multimedia learning contents provided in compact discs (CDs). Although the learners complained of outdated learning contents uploaded in the online Moodle learning system of the university, they were happy to have had "an alternative means to access learning resources" through multimedia learning contents on CDs (Mtebe & Raphael, 2013 p. 133). The study adds that contents on CDs made learning effective as most learners (68%) could not play the online multimedia learning contents due lack of enough bandwidth and poor internet connectivity.

Experience from the Open University of Tanzania (OUT) shows that learners complete studies, graduate and, advance socially and academically as a result of effective participation in learning that is mediated by multimedia (See Appendix I). The OUT, open learning system as in Appendix I, shows that, effective participation ensures knowledge and competence acquisition due to integration of multimedia in learners' support services (OUT, 2016). Consequently, multimedia features in Moodle Learning Management System (LMS) used by the university.

2.4.3 The association of multimedia learning to learners' empowerment

Generally, research shows that technology can change girls' socio-economic life and inspire future generations in terms of social and economic capabilities (Klugman, Hanmer, Twigg, Hasan, McCleary-Sills, Santamaria, 2014). Technologies have had greater contribution to learners from the way of learning to the way of living. Neo & Neo (2004) indicated that learners in Malaysia preferred using multimedia content in learning because it is an innovative way of learning that stimulates learning, makes it easy to understand concepts, and meet demands of digital generation. This has been more or less the same in Sri Lanka where uses of multimedia has transformed learners in aspects of interactivity and exploration, making them more active in learning to the extent that the Open University of Sri Lanka gradually started integrating the technology in their learning content (Kulasekara, Jayatilleke, & Coomaraswamy, 2011).

Impact of multimedia is also reported by Kessy (2016) in her study on differential effectiveness of plain and multimedia instructional materials on secondary school students' academic performance in Tanzania conducted at the OUT. Kessy administered printed plain learning content to control group, and printed multicolour, audio, and audio-visual content to experimental groups. Their study findings showed that the experimental group using audio-visual content performed better as a result of better understanding compared to other groups. Consequently, the study concludes that with multimedia learning, students learn better, understand, change behaviour and practice effectively the skills learnt. Thus, the empirical evidence shows the power of

multimedia learning content as supported also by (Deb, 2011; Mariki, 2020a; Mayer, 2014; Tablatin et al., 2016).

Furthermore, a study by Grunfeld & Ng (2013) on “multimedia approach to ODL for agricultural training in Cambodia”, showed that use of multimedia produced similar but, slightly better results to traditional classroom learning. Thus, farmers trained using multimedia as indicated in the study findings, were able to start new or improve existing farming practices including poultry keeping, levelling rice farms, water management in rice fields, applying chemicals, rice harvesting and fish keeping. The study therefore, proves the ideas by Klugman et al. (2014) that multimedia learning has greater impact to socio-economic status of targeted learners. As for the current study, multimedia learning is expected to have a tangible impact on girls’ empowerment.

2.5 Identified Research gap

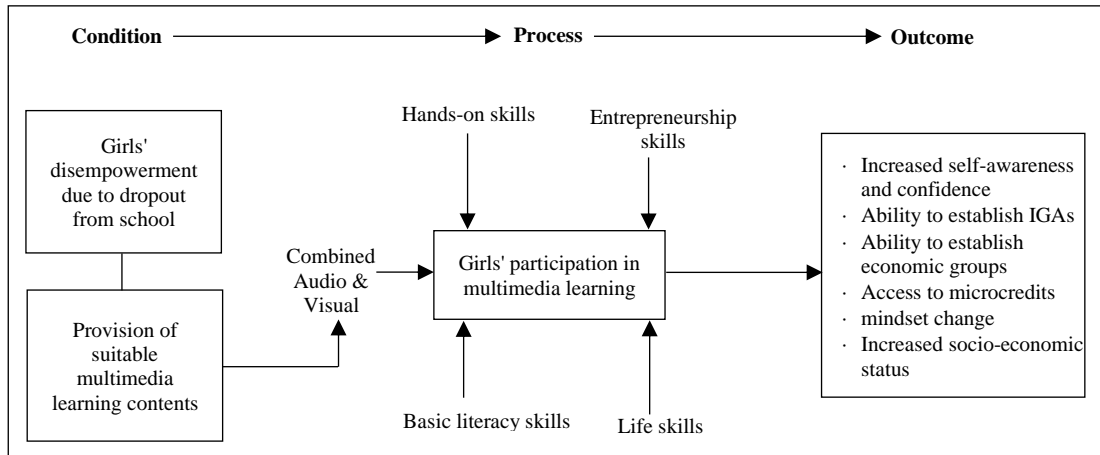
Experiences from literatures (Abas et al., 2007; Andresen & Van Den Brink, 2013; Kulasekara et al., 2011; Mayer, 2014) show that multimedia learning has a direct contribution towards effective learning among learners and of course on empowerment as for the context of this study. These studies show that multimedia contributes to active learning that ultimately enhance empowerment as a result of better understanding. However, Lee et al. (2014) and Sweller et al. (2011) show that multimedia learning is not a guarantee towards active learning, better understanding and ultimately empowerment. Such inconclusive arguments from scholars calls for further research. Hence, this research was worth conducting to assess the impact of

multimedia learning to girls' empowerment and eventually adding empirical evidence to the existing knowledge.

Furthermore, there is scarce literature about multimedia learning in girls' empowerment. Existing literature (Abas et al., 2007; Andresen & Van Den Brink, 2013; Mtebe & Raphael, 2013; Ranga & Mhaka, 2016; Sweller et al., 2011), speak of multimedia learning for effective learning and understanding but, do not address empowerment aspects and girls' empowerment in particular. Moreover, the studies are conducted at tertiary and not lower levels of multimedia learning as it is for the GIP case of the current study. Furthermore, none of these studies are conducted in the contexts of this current study. As such, the current study shares new knowledge from the unsearched/grey area of the GIP contexts of Rukwa and Dodoma Regions in Tanzania.

2.6 Conceptual framework

Figure 2.2 presents the conceptual framework of the study denoting research aspects in which the study sought to investigate and get answers for the research questions. The study research questions are therefore, built on condition, process and outcome parts indicated in the conceptual framework so as to get answers on the impact of multimedia in girls' empowerment.

Figure 2.2*The study's conceptual framework***Source: Adapted from Kato & Kratzer (2013).**

Based on the conceptual framework, literature shows that girls are disempowered due to dropout from traditional formal-schooling system resulting from various factors including early pregnancy, culture, traditions, and early marriages (see Makoye, 2017; Njaya, 2015; PO-RALG, 2016; WEMU, 2014). The researcher's theory under the stated framework is that, the disempowered girls can be empowered through multimedia learning if provided with suitable multimedia learning contents in which they will be trained with. Therefore, the girls will participate in multimedia learning as an intervention process towards empowerment by studying contents prepared on hands-on, entrepreneurship, basic literacy and life skill training areas. As stated in cognitive theory of multimedia, the multimedia learning contents to be used has to be in a combination of audio and visual effects (Mayer 2014) to ensure better outcome.

The Cognitive theory of multimedia (Mayer, 2014), explains that learning using a combination of auditory and pictorial content makes use of both ears and eyes sensory organs, a state which establishes a better understanding. As such the disempowered

girls will be in a position to effectively recall and practice skills acquired during multimedia learning and achieve the desired outcome of empowerment. It is expected that the knowledge and skills developed will eventually make the girls empowered by being self-aware and self-confident towards attending their duties at family and community levels. Also, the girls will be able to make self-decisions on matters affecting their lives such as sexual relationships which affects most of them. Further, they will be able to access economic opportunities available such as microcredits, income generating activities, markets and eventually become self-dependent due to enhanced financial capability (see also Eisman et al., 2016; Geetha, 2015; Kato & Kratzer, 2013).

2.7 Summary

The reviewed literature shows that multimedia content should not only combine various media but also prioritise the media that communicates best to learners with emphasis on interactive learning. Application of various media, however, should consider supplementing roles among media in use and not decorative purposes. Further, literature indicates that it is important to design and develop attractive and user-friendly multimedia content aided with learner-feedback features so as to promote quality.

Furthermore, literature shows that learners in countries outside Sub-Saharan Africa experience better multimedia learning environments. Learners in Sub-Saharan Africa are facing challenges of poor infrastructure, unreliable Internet services, and lack of computer skills as well as unreliable power supply. As indicated in the literature, these challenges affect learning of the targeted learners if no efforts are put forward. It was

therefore the aim of this study to find out how multimedia learning was applied in Rukwa and Dodoma Regions regardless of the existing challenges. The study was also expected to share experiences on how the challenges found in literature were dealt with in GIP context and come up with recommendations. Further, since existing studies on multimedia learning intervention were conducted not in the context of this study area, findings therefore reveal contextual learning experiences by girls and add information to the existing knowledge.

Finally, the reviewed literature has shown that multimedia can change the social and economic status of girls after completion of training. This is because multimedia enhances better understanding of a phenomenon, facilitates retention and practice of knowledge and skills acquired and ultimately, results in the girls' empowerment on both social and economic aspects as indicated in the conceptual framework of this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the research methodology used in this study. It comprises sub-sections namely; research strategies, description of the study areas, study population, sampling design and procedures, and methods of data collection. Other sections include; data processing and analysis, validity and reliability, and ethical considerations.

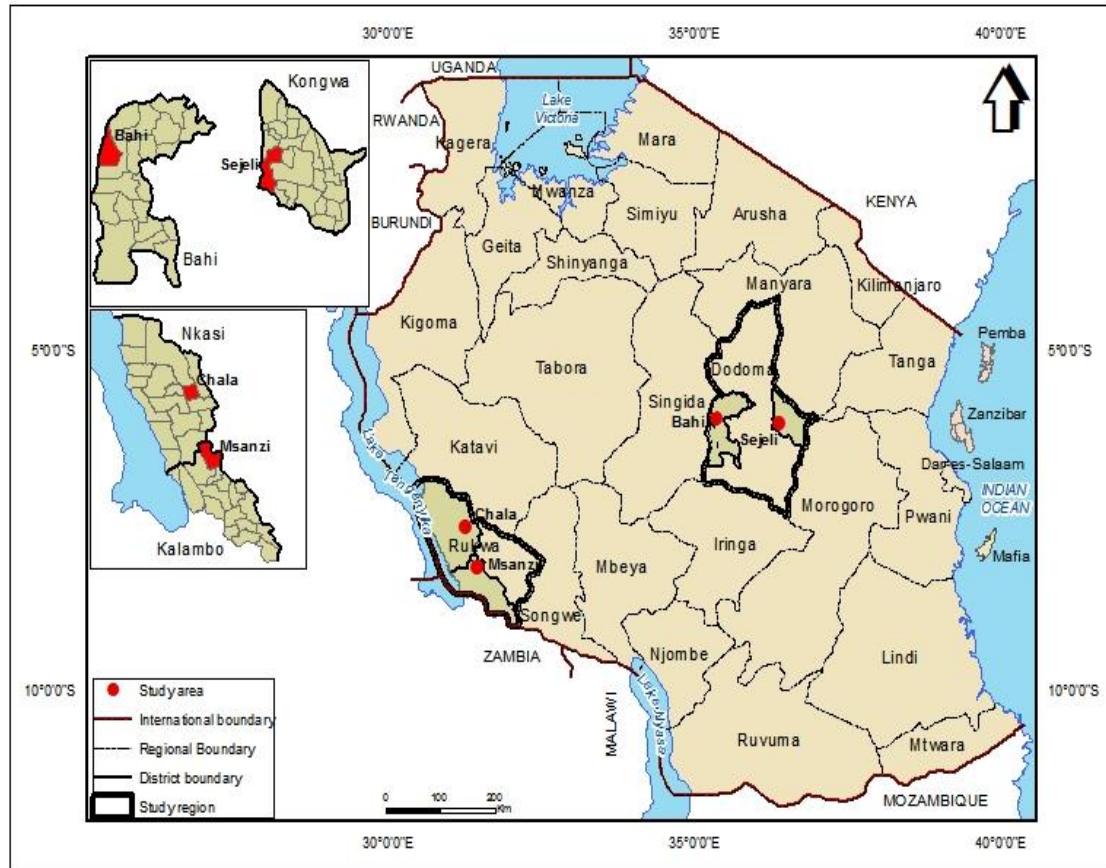
3.2 Research strategies

In the course of finding answers to the research questions, this study applied exploratory research design (see also Maritim & Mushi, 2012). The selection of the design based on the nature of the research question of the current study which sought to explore the impact of multimedia learning in girls' empowerment (see Saunders et al., 2009). Also, the researcher chose the design because "multimedia learning in girls' empowerment" is a scarcely studied area (Creswell, 2014; Saunders et al., 2009). In line with the design, the researcher used a case study strategy that engaged GIP contexts of Rukwa and Dodoma Regions in Tanzania. The researcher chose the strategy because traditionally, it suits exploratory studies as it allows intensive studying of a phenomenon at its real-life settings (Yin, 2003). As for the current study, the strategy enhanced an in-depth studying of the GIP multimedia learning intervention at the stated project areas.

This study was not intended for generalising findings as for the case of quantitative research (Creswell, 2014; Nyaruwata, 2013), but instead, it aimed at exploring the phenomenon, and thus qualitative research approach was employed. As opposed to quantitative study this research required collecting data at natural settings where participants live (Creswell, 2014). Thus, the researcher was a key instrument for data collection and no instruments were sent to the field for filling. As such, data collection methods included; Interviews, Focus Group Discussions (FGDs) and Documentary Review.

3.3 Description of the study areas

This study was carried out in Bahi and Kongwa Districts (Dodoma Region) and, Kalambo and Nkasi Districts in Rukwa Region. Each district comprised of two learning centres in a selected ward to which the GIP was implemented. Hence, the study focused on the selected wards with their respective learning centres. Thus, making a total of 2 wards in Rukwa (viz., Chala and Msanzi) and 2 wards in Dodoma (viz., Bahi and Sejeli). The wards were de facto selection to reach the intended participants of this study (i.e., the GIP beneficiaries). Figure 3.1 is a map of Tanzania showing the study areas in Rukwa and Dodoma Regions.

Figure 3.1*Map of Tanzania showing the study areas*

3.4 Study population

The research population comprises of all the girls who participated in GIP multimedia learning intervention in Chala and Msanzi wards in Rukwa region as well as those who participated in Bahi and Sejeli wards in Dodoma region. The population also include the facilitators of the GIP in respective wards in the above-mentioned regions as well as the IAE staff involved in the project.

3.5 Sampling design and procedures

Saturation of data collected was an important aspect in determining the sample size during data collection (Creswell, 2014). The researcher therefore, stopped collecting data when satisfied, there were no new data coming up from additional data collected from the GIP girls. As a result, 32 girls were reached. Further, all 8 multimedia learning facilitators from the wards together with all 4 multimedia production team members, were involved in the study to make a sample size of 44 participants.

Aiming at getting an in-depth understanding of the research questions, the researcher used purposive sampling techniques to reach participants of the study (Tshuma & Mafa, 2013). Facilitators from each ward and the multimedia production team members from IAE were purposely selected to participate in the study based on their roles in implementing the multimedia aspect of the GIP. While facilitators facilitated multimedia learning sessions in the GIP centres, the production team recorded and produced the multimedia learning contents. Thus, the researcher involved all facilitators and the team members as Key Informants of the study. Subsequently, the researcher used snowball sampling technique to reach the girls since, some were difficult to trace (Tshuma & Mafa, 2013). Besides, there were no physical address or contact details, readily available that would have facilitated their gathering. Instead, only a list of names was available at the learning centres. Thus, in accomplishing the process, the researcher made contact with facilitators and got connected to some girls, whom after being interviewed, helped to locate others, one by one at their households within the wards. Participants from each ward are as indicated in Table 3.1.

Table 3.1*Participants' Distribution by Wards*

Participants	Rukwa Wards		Dodoma Wards		Total
	Chala	Msanzi	Bahi	Sejeli	
The GIP Girls	9	8	8	7	32
Facilitators	2	2	2	2	8
Multimedia production team					4
Grand total					44

3.6 Methods of data collection

The importance of using multiple-methods in research cannot be overemphasized. As such, the researcher applied multiple data collection methods for triangulation purposes, aiming at crosschecking the validity and reliability of information collected (Creswell, 2014; Lincoln & Guba, 2011). That being the case, the study used documentary review, interview, and focused group discussion methods of data collection.

3.6.1 Documentary review

The researcher reviewed all eight (8) multimedia learning contents used in GIP to observe their characteristics. Since documentary review focuses on a systematic process in reviewing documents (Bowen, 2009), criteria to determine the characteristics of the multimedia learning content was set based on literature review indicated in this study. These criteria included; arrangement, combination of media, visibility, interactivity and length. Other criteria included; comprehensiveness, feedback, learners' control on animations and attractiveness. The criteria were used to form a review checklist that was used to observe characteristics of each multimedia learning content (see Appendix II).

The researcher played the multimedia contents on a computer, as repeatedly as necessary, to ensure effective review. Data obtained revealed not only the characteristics of the multimedia contents but also became useful in discussing findings on girls' experiences in multimedia learning.

3.6.2 Interviews

The researcher used Interviews to collect data from the GIP girls, facilitators and multimedia production team members. The interview method was used because it allows face-to-face interaction between interviewer and interviewee thus, it gives room for on-spot analysis to responses and permits further cross-examination where needed (Kothari, 2004). On the other hand, Saunders, Lewis, & Thornhill (2009) mention interviews of experts involved in the study, at the study area, as one of the basic methods in conducting exploratory research. Upon interviewees' consent, all interviews were recorded to facilitate effective data collection process. The researcher used both structured and unstructured interviews. Appendix III, IV and V are the Interview instruments for the girls, facilitators and production team respectively.

3.6.3 Focus group discussions

Focus Group Discussions (FGDs) involved participants who were already interviewed, so as to allow truth worth crosschecking of information collected (Creswell, 2014). Thus, the researcher conducted FGDs with the girls in ensuring an in-depth understanding of the information obtained from the interviews (Nihuka, 2011; Saunders et al., 2009). Subsequently, the researcher designed the instrument suitable for collecting data on the characteristics of multimedia contents used in GIP, girls'

multimedia learning experiences, and impact of multimedia learning to girls' empowerment. Tshuma and Mafa (2013) recommend for an average number of 6 to 12 participants for a Focus Group Discussion; thus, the study involved FGDs of 6, 8, 7 and 9 members from Sejeli, Bahi, Msanzi and Chala wards, respectively. Subsequently, the researcher used FGDs guide to lead the discussions to ensure accuracy. Appendix VI shows the FGD guide used. Similar to the interviews, the researcher, upon participants' consent, recorded the FGD sessions to facilitate effective data collection process.

3.7 Data processing and analysis

The researcher processed and analysed data on a matrix table. To ensure complementary of data from one method of data collection to another, the researcher analysed data from each method separately, using relevant techniques.

Subsequently, under documentary review method, the researcher analysed its related data by setting a review checklist that denoted the characteristic of a given multimedia learning content. A checklist of nine criteria were set and presented in a column, on a matrix, against eight multimedia learning contents that were reviewed. The matrix facilitated the ranking of each multimedia learning content against the review checklist. The nine criteria included arrangement, media combination, visibility, interactivity and length. Others were comprehensiveness, feedback, control options and attractiveness. The ranking of length and feedback criteria used "time" and "yes/no" scales respectively while the remaining seven criteria used; high, medium, and low standard scales to show the extent to which a content complies to its respective criteria.

The researcher analysed the research data from interview and FGD methods using thematic analysis (Castleberry & Nolen, 2018; Guest et al., 2012) in which, he had to listen to it from a recorded audio files; transcribe to make meaning out of it; and annotate it into respective themes (Tshuma & Mafa, 2013). Data were categorised into themes as reflected from raw data so as to enhance clear presentation and understanding of the findings.

3. 8 Validity and reliability

Creswell (2014) and Lincoln & Guba (2011) suggest that for accuracy and credibility of findings, multiple data collection methods should be applied to ensure validity. The researcher therefore, used a combination of interviews, FGD and documentary review data collection methods. For reliability purposes, the researcher pretested the data collection instruments at Msanzi ward in Kalambo district, Rukwa region. The pretest involved 8 girls and 2 facilitators from the ward as well as 2 multimedia production team members from IAE. It involved participants from the study population as they are at the context of the study; this was to ensure reliability of the instruments (Creswell, 2014; Tshuma & Mafa, 2013). The researcher found no unexpected results from the pretest; thus, maintained the instruments.

Also for reliability purposes, the researcher recorded the interviews and focus group discussions using a smartphone voice recording application. (Creswell, 2014; Tshuma & Mafa, 2013). The recording helped the researcher to stick to the unaltered original information during transcription and analysis of data.

3.9 Ethical considerations

This research was a case study of the IAE project and it dealt with rural girls of which others were under 18 years of age. Under such scenario, the researcher requested approval from the IAE and local government authorities at the study areas prior to consultations with the families of the targeted participants (Graham et al., 2014; Vreeman et al., 2012; Wilson & Wilks, 2013). Similarly, the researcher requested for research clearance from OUT, with an introduction letter to the local government authorities in all study areas (see Annex VII). Moreover, the researcher adhered to ethical considerations like introducing the purpose of the research and seeking families and girls' consent (Vreeman et al., 2012). Therefore, prior to interview of younger girls, the researcher requested for the presence of an elderly family member for encouraging the girls being interviewed to comfortably participate by giving out honest responses (Graham et al., 2014). Subsequently, researcher guaranteed participants freedom to participate or decline the interviews. Furthermore, for anonymity reasons, the names of the study participants are not disclosed in this study, instead pseudonyms are used accordingly.

CHAPTER FOUR

FINDINGS

4.1 Overview

This chapter presents the study findings. The findings are presented narratively due to the qualitative nature of the study. Subjects involved in this study are referred to as participants in this chapter rather than as respondents. Further, the girls involved in the study are frequently referred to as learners because they were learners during the multimedia learning sessions. Participants were in three categories: the girls, facilitators and multimedia production team members. Characteristics of the study participants by their categories are as indicated in Table 4.1.

Table 4.1

Characteristics of the study participants (N = 44)

Description		Girls	Facilitators	Multimedia production team
Sex	Female	32	6	1
	Male		2	3
Girls' distribution by age	15 - 19 years	14		
	20 - 25 years	18		
School level at dropout	Primary	31		
	Secondary	1		
Marital status	Married	9		
	Single	18		
	Divorced	5		

Table 4.1 indicates characteristics of the three participants' categories of girls, facilitators and multimedia production team. The table indicates that eighteen girls (56%) who participated in this study were single, nine (28%) were married and five (16%), divorced. Of the total number of girls participated in the study, eighteen (56%) aged between 20 to 25 years while the remaining fourteen (44%) were teenagers aged

between 15 to 19 years. Thirty-one girls were primary school dropout victims and one was a secondary school dropout. The facilitators participated in the study comprised of six female and two males while the multimedia production team comprised of one female and three males. For a better understanding of findings, each participants' categories as in Table 4.1 is referred to when presenting data from it.

In this chapter, findings are presented in three main sections respective to the research questions of this study that focused on;

1. Characteristics of the multimedia learning content used for girls' empowerment in GIP project implemented in Rukwa and Dodoma Regions,
2. Multimedia learning experiences among the GIP girls in Rukwa and Dodoma Regions and,
3. Influence of multimedia learning in girls' empowerment at the GIP project implemented in Rukwa and Dodoma Regions.

Excerpts from the field are presented in respective areas to reflect the actual response of a particular participant. For anonymity reasons, pseudonyms are used to participants quoted in-text.

In this chapter, the terms; content, learning content, and multimedia content are used interchangeably, to mean the multimedia learning content used in the GIP.

4.2 Characteristics of the multimedia learning content used for girls' empowerment at the GIP in Rukwa and Dodoma Regions

The first research question of this study was asking about the characteristics of multimedia learning content used for girls' empowerment in the GIP project implemented in Rukwa and Dodoma Regions. Answers to the research question were obtained through physical review of eight (8) multimedia learning contents used, interview of participants and FGD by the girls. Data collected for the research question was built on nine (9) criteria set as basis for documentary review checklist (Appendix II), interviews (Appendix III & V) and FGDs (Appendix VI) to determine the characteristics of the contents used. These included: arrangement; media combination; visibility; interactivity; and length. Others were comprehensiveness, feedback, learners' control on animations and attractiveness. Table 4.2 present results of multimedia learning contents' review obtained by observing each content against the set review checklists.

Table 4.2*Review Results of Multimedia Learning Contents Used*

Review checklist	Multimedia learning content used in GIP							
	Batik	Gender	Environment	HIV AIDS	Arithmetic	Liquid soap making	Bar soap making	Communicating in business
Arrangement	Medium	High	High	High	High	Medium	Medium	High
Media combination	High	Medium	Medium	Medium	High	High	Medium	High
Visibility	High	High	High	High	High	High	High	High
Interactivity	Medium	Medium	Medium	Medium	High	Medium	Medium	High
Length	23min	14min	13min	10min	25min	17min	19min	14min
Comprehensiveness	Medium	High	High	High	High	Medium	High	High
Feedback	No	No	No	No	No	No	No	Yes
Control options	High	High	High	High	High	High	High	High
Attractiveness	High	Medium	High	High	High	High	High	High

Note:

High = the content has all required features of the criteria on the checklist

Medium = the content misses some features of the criteria on the checklist

Yes = the learning content had mechanism to obtain feedback from learners

No = the learning content had no mechanism to obtain feedback from learners

Findings presented in Table 4.2 are described below in line with the review checklist.

Excerpts from interviews and FGDs are presented concurrently to show the characteristics of multimedia learning content used.

a) Arrangement of the multimedia learning content

As indicated in Table 4.2; Gender, Environment, HIV and AIDS, Arithmetic and Communication learning contents are ranked high in terms of arrangement because they adhere to required features. These contents had all required features for a learning content which include intro, main body, summary, and outro. Intro is a video segment in which a presenter starts the lesson by welcoming learners and introducing objectives of the lesson to be taught. For instance, in the HIV and AIDS multimedia learning content; the intro part stated,

Dear learner, welcome to this HIV and AIDS lesson. In this lesson we will learn about the meaning of HIV and AIDS, later we will learn about the causes

of HIV and AIDS and finally we will learn about the economic and social effects of HIV and AIDS. Welcome.

The main body is the content being taught in a particular multimedia learning content. For instance, from the case of HIV and AIDS content given above, the main body comprises narrations and graphics on; the meaning, causes and effects of HIV and AIDS. The summary can be seen at a point where the presenter is taking learners back to what they have learnt in a particular multimedia learning content. For instance, in the multimedia learning content entitled, Environment education, the summary states, "Dear learner, in this lesson you have learnt the meaning of environment and its importance in sustainable development. Also, you have learnt on how to identify environmental issues and how to overcome environmental destruction..."

The outro is the video segment where the presenter is giving farewell to learners as a sign of marking the end of the lesson taught. For instance, in the reviewed multimedia learning content of Communication in business, the outro says, "On behalf of all those who prepared this lesson, I would like to say thanks and goodbye". The outro in the reviewed content of Gender education says, "On behalf of the whole team who prepared the lesson, I say thanks for watching. Until next time, goodbye".

Review process revealed that three contents of Batik, Bar-soap making, and Liquid soap making were ranked medium as in Table 4.2 because they miss the summary aspect of a multimedia learning content. These contents' arrangement included only intro, main body and outro features.

b) Combination of various media

Table 4.2 shows that combination of media was medium to Gender, Environment HIV AIDS and Bar-soap making contents. The presentation for these four contents had a good combination of various media like sound, video and audio but, with less text. For instance, in Gender and Bar-soap making contents, text was only used in presenting the lesson title and in Environment and HIV AIDS content, text was only on lesson title and sub-topic titles. The remaining multimedia learning contents of Batik, Arithmetic, Liquid soap and communication had a high level of media combination. These had combinations of text, sound, video, graphics, animations and audio in suitable sections of the learning content. For instance; in communication content there was a background sound at the intro (when the presenter welcomes the learners), this was followed by lesson objectives in presenter's ¹voice over with its text appearing on screen one after another in the order they were mentioned by the presenter. This content continues with a variety of media combined including presenter on camera and voice over on text descriptions and video drama. The content also had pictures of books, leaflets and related video clips with the presenter's voice over that describe the graphics. The Batik and Liquid soap making contents had a similar approach in which the presenter conducts dialogue with the trainer throughout the learning content but with a combination of text straplines on videos and graphics presented. Text animations in the contents are also displayed with the presenter's voice over when

¹ Voice over as used in multimedia learning content refers to an off-camera commentary. It narrates synchronously what appears on the screen.

presenting outlined items of lesson objectives and inputs for making respective products of batik and liquid soap.

c) Visibility and interactivity

All eight (8) reviewed contents were highly visible as indicated in Table 4.2. The researcher viewed the contents on a computer and found it very clear in terms of videos, graphics, texts and animations displayed. Tiny items like needles, writings and signs on labels were magnified and made clearly visible. One of the girls in Chala Ward commended the visibility of the contents as per the following statement,

The videos were very clear, our facilitator connected a projector to a computer in a classroom and all of us could view comfortably. The photos were very clear that one could even tell the colours and marks on small displayed items (Anda).

Another girl in Bahi Ward said, "No one among us complained about the visibility because the display from the projector was very fine" (Alle).

According to the results in Table 4.2, interactivity appeared to be ranked high to only Arithmetic and Communication because its content engages learners in the learning process. For instance, in Communication content presenter instructs learners to design leaflets for marketing their products and share it to their facilitators. This makes it look interactive since it engages both learners and facilitators during the learning process while allowing feedback from learners because facilitators will be in a position to assess performance. In Arithmetic content, the presenter used animations and graphics to ask questions for arithmetical computations. Also, the presenter made computations

on a whiteboard like for a case of traditional classrooms while asking questions that needed answers at one step before proceeding to the next one.

With exception of Arithmetic and Communication which ranked high, other learning contents were ranked medium (see Table 4.2) because they had less learner engagement in the learning process as stated in the observations below.

Batik content was less learner engaging because it was a kind of one-way presentation. It was an interview-based type of presentation that presented a dialogue between presenter and the trainer throughout the content. With guiding questions from the presenter, the trainer demonstrated all procedures involved in the making of batiks. Liquid and Bar soap making content had a similar approach to Batik content. They used the same approach with the same presenter and same trainer. Their contents also focused on presenting to learners the process of making the soap but with less learner engagement. At every beginning of a new lesson section in these contents, the trainer like in all other presentations address learners by saying, "dear learner", and subsequently present explanations of what they were going to do for example, "the process of mixing water with caustic soda is complete, what follows now, we are going to take 20 spoons of sodium silicate and mix in the solution..." This presentation style is applied throughout the contents.

d) Length, comprehensiveness and feedback

The length of the reviewed multimedia learning content ranged from 10 minutes to 25 minutes as indicated in Table 4.2. Arithmetic content had the longest time of 25 minutes, comprised of theory and practical presentation in measurements of distance,

weight, volume and time followed by Batik content that had 23 minutes of theory and practical presentation in batik making processes. HIV AIDS content had the shortest time of 10 minutes followed by Environment content which had 13 minutes.

As presented above, the length of the lessons differs from one multimedia learning content to another. One of the production team members at IAE had this to say, "The multimedia learning contents were purposely designed at different lengths to suit the demand of particular lessons. Practical sessions needed much time" (Tasi). Another multimedia content production team member from IAE added the following:

We normally produce a 10 to 15 minutes' multimedia learning content so as to avoid overload to learners. However, we produced some longer contents for GIP because the designed scripts required us to do so. We normally produce as per scripts. Scriptwriters, who were actually the subject experts, designed a longer content. (Paja).

Findings regarding comprehensiveness of the learning contents as in Table 4.2 were reached upon unstructured interview with facilitators of the respective learning contents and the documentary review process. Thus, results from the two methods show that Batik and Liquid soap making contents were comprehensive at medium level while other contents were highly comprehensive. One of the facilitators in Msanzi Ward said the following regarding comprehensiveness of the multimedia learning contents used in GIP.

Multimedia learning contents for hands-on skills were highly comprehensive in terms of content and skills introduced. In fact, we had a prior training from

Small Industries Development Organisation (SIDO) on batik and soap making for GIP but the skills provided in the multimedia learning contents simplified my work because they were more complete and easier to follow (Dasi).

Another facilitator “Manuu”, from Sejeli Ward said, "I facilitated all multimedia learning contents, they were actually exhaustive especially Gender, Environment, HIV AIDS, Arithmetic, Bar soap making and communication contents. I had to add very little to these contents". The statement shows that the contents met the needs of particular learning for empowerment something which is necessary for effective learning. Similarly, another facilitator from Chala Ward commended the learning contents giving the following statements.

As a facilitator I commend the way the multimedia contents were designed. They were well designed to suit our context. For instance, in our area it is very difficult to find a parent talking about issues like sexual affairs to their children but, these were well contained in the learning contents. I can say the learning was delivered to the right community (Chipi).

Findings from Table 4.2 shows that all learning contents ranked “high” on the comprehensiveness criteria except batik and liquid soap making contents that ranked “medium”. Some technical mistakes lowered the ranking of the batik and liquid soap contents. The following excerpts from facilitators in Chala and Bahi Wards explain respectively.

Batik content was well presented but, some actions elaborated were not displayed for learners to see. This can be seen where the trainer is

demonstrating the two types of batik presented. She soaks the prepared piece of cloth in the solution made for batik making but, the following steps for drying the soaked cloth were not displayed, instead the presenter displays the finished products (Lily).

As a facilitator, I had to demonstrate fully some parts missing in the Batik and Liquid soap learning contents. I also had to correct some mistakes made by the trainer. For instance, she mixed chemicals during liquid making process without gloves on hands and demonstrated some actions silently with only text straplines on screen (Rutu).

Moreover, the multimedia learning contents were also comprehensive in terms of inclusiveness. The combination of media in the contents enhanced learning among girls who had no literacy skills. Again facilitator “Chipi”, had this to say:

The learning content simplified my work. I had three learners who could not read and write but, they were able to follow the training throughout. They were not able to read the texts on screen but, were able to follow narrations and video actions. Dramas and photo graphics made it even easier for them to understand contents of for instance, Gender and communication lessons.

The above statement from Chipi shows the power of multimedia learning. It presents the fact that with combination of audio and visuals, limitations of literacy skills are kept at minimum. The findings are also reported by a facilitator from Msanzi Ward who says;

In my class those students who had no literacy skills surprised me because they were the most active learners in multimedia learning. They would even lead others in taking solution measurements for batik and soap making during practical sessions (Niga).

This study revealed that only one learning content had feedback mechanism as indicated in Table 4.2. All other remaining contents had no mechanism to get feedback from learners. Communication content had a section where the presenter asked learners to design leaflets for their business based on what she presented and instructed them to share it with their facilitators.

e) Learners' control and attractiveness of the learning content

Table 4.2 shows that learners had control over the multimedia learning contents. Learners' control as used in this study is referred to as a room for them to stop, pause, skip, rewind, and or forward the content played. From the review process the researcher noted that the multimedia learning contents were in a format that allows learners' control. The contents were in MP4 format which is a digital multimedia container format that allows users to navigate around the content without a need for other supporting applications.

In commenting about learners' control, one girl from Sejeli Ward, had this to say, "we had a laptop computer and projector supplied by the GIP. Our facilitators used to connect the projector to the laptop and play the content. At any point we could pause and un-pause whenever needed" (Lexus). "Sometimes we had to replay a particular segment for taking notes on what was presented. In short, we were able to move back

and forth as we wanted" Said "Sala", another girl from Chala. During one of the FGDs, it was argued that it was easy to navigate through the learning content only by those with computer skills; others were just staring at what was going on.

One of the interviewed girls from Sejeli Ward had the following to say;

For most of us it was the first time to see that thing displaying video on the wall. We could not have navigated on the content even if needed but, our colleagues did it for us and we were able to follow through (Gunia).

Attractiveness is an important characteristic that any multimedia learning content should have. In this study attractiveness was measured based on colours, screen noise, presentation style, animations and organisation of media as it appeared on the multimedia learning content. It was revealed that seven of the multimedia contents used were highly attractive and one was at medium (see Table 4.2). The presentation style used in these contents was attractive because presenters would always start the lesson after a related drama segment recorded at an actual location. The actions and ambiance sound recorded in the drama reflects the real world and thus becomes very attractive. Presenters at this point are seen on camera after the drama when introducing the lesson. The presentation continues with the presenter, photo graphics, text graphics and drama segments appearing on screen interchangeably. At some points strapline appears below the screen describing graphics being narrated in presenter's voice over. In general, this whole style made the contents look attractive.

One of the production team members added that the learning contents designed were attractive since they used various entertaining techniques.

There was a use of bang at the beginning of every multimedia learning content. Bang is a short drama played at the very beginning of the content that aims at capturing learners' attention. The bang reflects what will be taught in the lesson. Presenters refer to the bang at some point during presentation. A segment of the drama being referred to is displayed on screen synchronously when the presenter refers to it. Also, there was a music sound set at the background of the contents to draw learners' attention. These techniques made the content attractive (Paja).

During the FGDs with girls it was revealed that the multimedia learning contents were very attractive. The girls said that the content attracted even other villagers who were not registered in GIP. The girls added that one could tell about the attractiveness of the contents from the silence and attention paid by the class in a particular multimedia learning session. Adding to this, facilitator Lily said,

"The content was very attractive that the information spread all over the village within no time. Some villagers requested me to show the multimedia learning contents in public for a large number of people to learn but, I could not do that because the contents were meant for GIP girls".

4.3 Multimedia learning experiences among the GIP girls in Rukwa and Dodoma Regions

The second research question of this study was asking about girls' experience in multimedia learning. Answers to this research question were reached through interviews and FGDs with the girls. Facilitators were also interviewed regarding girls'

experiences so as to capture some insights from them. Girls' experience is presented in various perspectives of; multimedia learning delivery, facilitators and the multimedia learning environment, best experiences, class interactivity, practice of skills demonstrated and challenges experienced in multimedia learning.

a) How were the multimedia learning contents delivered?

As it has been pointed out earlier in this chapter, the multimedia learning contents were made in a video format. These contents were pre-installed in laptop computers that were distributed by IAE to all learning centres in the wards of Chala and Msanzi in Rukwa region; and Bahi and Sejeli in Dodoma region. Along with the laptops were projectors to facilitate viewing of the multimedia learning contents. The learning contents were therefore, available offline whereby facilitators would connect the laptop with a projector and play the content without a need for Internet connectivity. A Folk Development College in Rukwa region was used as one of the learning centres while other learning centres were all located at public primary school premises. Due to lack of power supply in classrooms, a teacher's residence and staff office were turned to a classroom during multimedia learning sessions in Rukwa and Dodoma Regions, respectively.

The delivery of the multimedia learning content was similar in all GIP centres whereby Liquid Crystal Display (LCD) projectors were used to project contents on a wall for learners to view. Some facilitators reported to have covered the room windows with curtains to protect them from sunlight and allow clear view on the projected contents. One of the facilitators from Chala Ward said, "I had to cover the room windows to

enhance the conducive learning environment. The room needed to be a little bit darker for the projected contents to be seen clearly." (Gaya).

At all GIP centres facilitators allowed learners to view the whole learning content before commencing practical sessions. One participant "Chausiku" a girl from Chala Ward said they "sat in the classroom, viewed the displayed contents, discussed and did the practical later". Another girl from Bahi Ward said,

We were listening to the whole video and later did the practical part with our facilitator. Also, in Gender, Environment, HIV AIDS, Arithmetic and Communication learning contents, like in the hands-on skills contents, we listened for the whole content before discussions and sharing of experiences. We had time to share real cases from families and our neighbourhood relating to the subject matter (Didia).

Several learners pointed out that they had a chance to ask questions and conduct discussions during or after viewing a learning content. As for the case of Gender, HIV AIDS and communication contents, the learning experience was very interesting. There was a long session of discussions and questions because most of learners raised real issues relating to gender discrimination, sexual abuse and customer care skills. Other learners added that clarifications from their facilitator on the multimedia content were exciting and engaging to further discussions. Again, the facilitator from Sejeli Ward said the following during their interview.

In Gender and HIV AIDS, I played the content and thereafter engaged learners in discussion in which they shared their own real cases relating to what they

have just seen on screen. The discussions among learners were very lively and in some cases I had to replay some parts upon their request (Manuu).

Several other learners also said that the training was in the form of presentation and discussion style in which facilitators mediated the process by first allowing them to view the multimedia content and later discuss before practical sessions. With regard to hands-on skills contents, learners said that they had a day for just a theoretical part followed by a day for practical session. The theoretical part involved viewing multimedia learning content followed by questions and discussions.

b) Experience with facilitators and multimedia learning environment

Several learners commend facilitators and claim to have enjoyed the learning environment. Learners argued that, based on the way facilitators treated them, it is evident that they had adult facilitation skills. A girl from Msanzi said, "facilitators mingled with us as their colleagues...there was no such a relationship like teacher-student but, rather collegial and cordial" (Sambu). "The experience made us feel comfortable in the whole learning process". Said "Imbwa" from Bahi Ward.

Some of us came with our babies in the classroom and they were crying at some point but, the facilitator would always find a way to calm them down. There was a time the facilitator helped me to babysit my baby outside the classroom and let me watch the multimedia learning content (Lexus, Bahi Ward).

Other learners commended the flexibility nature of the learning saying that they were happy that the class sessions were conducted during evenings. There were no strict

time tables. In some days the facilitator would wait for late comers to arrive so as to start together with all other learners. The learning process was flexible in a way that suited learners' schedules. "On other days, learners could ask the facilitator to extend a session to accommodate pending discussions and they would do so for them", said "Pia" from Msanzi Ward. Also, "on some days, we agreed to come early especially for practical sessions", added "Pia".

Several learners again commended the facilitators in terms of knowledge, skills and understanding of the subject matter. Learners claimed that in no way could they have been so skilful if it was not because of their facilitators' competence. Although the multimedia learning contents were exhaustive, still learners were inquisitive and facilitators managed to provide answers. As for the inquisitive aspect, the girls said facilitators were competent in all areas as they answered all questions and clarified all issues raised. One of the girls from Chala Ward "Soni" said, "facilitators had broad understanding about the topics and multimedia learning: No doubt about that". Another girl from Chala added, "facilitators were knowledgeable and that's why they were able to facilitate the practical part after we had finished watching the multimedia learning contents" (Sala). Other girls added that facilitators knew all procedures for making liquid soap, bar soap and batik. As such, there was close supervision by facilitators during practical sessions and "facilitators would always intervene at any point when observing a misconduct", said "Liusi" from Bahi Ward.

Some learners at the learning centres said that at the beginning of the multimedia learning sessions, their facilitators had difficulties in setting the LCD projectors due to some technical issues. One of the facilitators "Manuu" from Sejeli Ward said he had

difficulties in setting the projector because some drivers were not installed in the laptop but, some colleagues at the learning centre managed to help and the projector worked. Similarly, one of the girls from Chala Ward said,

One of our facilitators was computer literate but, had some difficulties on day one in setting the projector. I was able to help in setting the projector because I had some computer skills...from that day onwards, our facilitator entrusted me to connect and set the projector in all multimedia learning sessions (Chausiku).

c) Multimedia learning best experiences

Delivery of learning content through multimedia appeared to be unique and best experience among girls of the GIP. The girls said that when they joined GIP, they knew that they were going to learn in a traditional way as they used to do in primary schools. None of them had in mind the idea of multimedia learning. Others were amazed to see projected contents for the first time. Some of the girls had this to say:

I used to hear from friends that people in cities particularly in universities are learning using these technologies but, I had never seen it with my naked eyes and did not know how it works. This time around I experienced the technology in my own village. My husband and friends could not believe that we were taught on computers and projectors (Chausiku, Chala Ward).

I was excited to see the light projecting video on a wall like visuals on a television screen...remember none of us have televisions at home. Thus, this incident itself made us draw maximum attention to the learning content...I

actually remember everything that I saw because it was memorable learning to me and all of us (Have, Msanzi Ward).

Another girl, “Nana” from Sejeli Ward said that "learning with multimedia itself was my best experience ever! I won't easily forget what I learnt. This was quite different from traditional classrooms where teachers used to stand at the front and talk without the aid of audio-visuals". Insisting on multimedia learning, another learner “Gunia” from Sejeli Ward said, "it was very interesting to learn by audio-visuals. This was my first experience and I found it very entertaining. The learning process was not boring and so we were all attentive and active".

Apart from multimedia learning, the girls pointed out batik making process as another best experience they have had during the learning process. They said batik making was exciting right from the multimedia learning contents presented because the process demonstrated on screen drew much of their attention. That was especially when the presenter processed a plain piece of cloth with her own hands with some solution on a basin to form a well decorated cloth named batik. This amazed everyone and influenced learners to closely follow-up the process. The following quote from a facilitator in Msanzi Ward explains.

Batik making was really amazing. You see the trainer holding a white cloth, folds it into different shapes, soak it in a solution, dries it and then it turns to a batik -- a new look cloth with various patterns of different colours on it. You wonder what happened. I never imagined that this could be made at home (Have).

Another girl, “Waridi” from Bahi Ward had a similar experience saying that "the way the presenter made the outstanding features in various colours from just a plain cloth was commendable". She added that she was overwhelmed when they managed as a group to follow step by step and produce their own batik. Another girl, “Unene” from Bahi Ward as well as other girls from other wards said that the presenter on batik learning content advised them to be limited not to the styles demonstrated but to be innovative by designing various shapes of their own desire and enjoy the outcome. As a result of such a motivation, each one of the girls in their working groups made unique products that were even a surprise to themselves since, “no one knew how their batik would look like till when they saw the end-result”, said “Unene”.

d) Interactive nature of the class during multimedia learning

Learners from all learning centres judged their multimedia learning classes as interactive since the whole learning process was learner-engaging. Several girls said the class was not boring since the contents were engaging them in critical thinking and discussions. It made all of them participate in the learning process. If one could not understand they would ask and the facilitator would respond with reference to the multimedia learning content. A girl named Kisu from Msanzi Ward said the good thing with the multimedia learning sessions is that, "there was always time for discussion".

When asked about class interactivity, one of the facilitators “Dasi” from Msanzi Ward said that the class was interactive. Furthermore, Dasi said;

Learners were free to intervene at any point where they could not understand and I would pause and replay that particular part. For instance, the contents

that involved practical sessions, learners frequently requested for a replay. At some point some of them were able to navigate themselves through the content using the laptop computer which was connected to an LCD projector.

One of the girls from Chala also said, "learning was interactive because we were pausing whenever we wanted to ask questions and were also able to search back for particular segments" (Chausiku). As such, learners could interact with the multimedia learning content in a flexible way that enhance active learning for empowerment.

The GIP girls also view their class interactivity from the way it was conducted. One of the girls "Ena", from Sejeli Ward said that "the way some contents were presented, allowed us to take notes. For example, in batik and soap making, the trainer was displaying and mentioning required materials one after another. This allowed us to note down the items". Another girl "Pia", from Msanzi Ward said that, to her understanding she considers the multimedia learning interactive as in most contents there were some actions that required learners' instant practice. "In Arithmetic for example, most of us were computing synchronously with the presenter," She said. Another girl "Nguya" from from Chala Ward said that there were practical sessions demonstrated in the liquid soap, bar soap and batik learning contents for everyone to follow. Therefore, everyone was actively engaged in each stage of making the products as per demonstrations made on the multimedia learning contents.

In addition to the stated interactivity evidences, the GIP girls reported that the chemistry between them, within their class, made learning more interactive among themselves. One of the girls "Sorina" from Sejeli Ward said that at times, there were some moments of jokes and laughs among themselves as a result of what they have

just seen from a multimedia learning content. As a result, “we found ourselves engaging more and more to the learning process”, said “Sorina”.

e) Practicing skills demonstrated in the multimedia learning contents

As stated earlier in the findings, the girls would first view multimedia learning contents and thereafter continue with its respective practical part. The reported practice by the GIP girls was “to watch the learning contents at plenary and practice later in groups”. One of the girls “Awichi”, from Msanzi Ward said, "at some point, during practice, we had to make reference to our notes to recall the process," she added. This is similar to what “Ena”, from Sejeli Ward said in the previous section that, they were taking notes of the multimedia learning contents when presented and used it as reference during practical sessions.

In addition, several girls said that practical learning was done in teams whereby each one had a role to play. For instance, facilitators would ask some of the girls to identify and prepare materials needed for bar soap making, then ask others to identify the next step as well as demonstrating it. Thereafter, other girls would again demonstrate the step that follows, followed by others who would continue to the next part and so forth so that everyone would finally participate. The GIP girls reported that the practice of the skills taught was a collective assignment in which all of them had to work as a team. One of the girls from Sejeli Ward who appeared to be conversant with all practices said;

I can recall the bar soap making practical sessions in which our facilitator allowed us to practice on our own under her supervision. Some of us in my

group prepared required materials and two others who had gloves and masks on, mixed the prepared chemicals and materials as stipulated in the learning content (Sorina).

Sorina and other girls show that there were hectic moments experienced in practical sessions because bar soap-making needed timing, precision and physical energy particularly in stirring the stiff end product solution. Thus, in accomplishing the task, the girls went on step by step till the end of the soap-making process and each one of them had a chance to participate at one stage or the other. Other girls said that at times, there were some debates among them during the process regarding steps, measurements, and time needed for a particular task but, this was quickly settled as most of them were referring to their notes taken from the multimedia learning contents. One of the girls “Have” from Msanzi Ward said that although they had arguments at some points, “a facilitator was always there to instantly settle any mix-ups”.

f) Challenges experienced in multimedia learning

With regard to challenges, several girls said that there were no serious challenges encountered during the multimedia learning process. One of the girls “Anda”, from Chala Ward said that "there were no challenges experienced...everything was okay with the learning". Another girl “Taga”, from Sejeli Ward said that it is difficult to locate challenges experienced because all girls were excited with the multimedia learning. "There was no experience that I could term as challenge because all theoretical and practical sessions were well delivered," she said.

Notwithstanding the above findings, "Kisu", one of the girls from Msanzi Ward who happened to be advanced in information technologies said, multimedia learning content was offline and so no one could access them online at home if wanted to do so. "Kisu" added that, since there were no chances for re-viewing the learning contents at home, then learners had to consult a facilitator so as to access the content at the learning centre. However, other girls said that this was not a challenge experienced among them because none of the learners had neither gadget to use at home nor ICT skills to use it.

Another girl from Msanzi Ward pointed out that, there was no room for instant interaction with the presenter on the multimedia learning content displayed:

The learning content was not a live presentation. We could not ask questions to the presenter on the screen, instead facilitators were answering our questions. I believe the presenter on the multimedia learning content could have responded better to our questions although our facilitators were good as well (Awichi).

Other girls pointed out that in their centre they used Head teachers' office as a classroom and this was a bit challenging to the learners because the room happened to be too small for everyone to be accommodated inside. The following excerpt from "Sisimi", a girl from Bahi Ward, clarifies.

Our multimedia sessions were conducted in the Head teacher's office at our centre because it was the only room with electric power supply at the school.

Space was therefore limited and we overcrowded the room to the extent that some of us had to view the [projected] content from outside.

Another girl “Anze” from Bahi Ward said that those girls who viewed from outside the Head teacher's office could hear the sound of the learning content displayed but, with some noise interference of the school surroundings. “Some of the girls were struggling to listen to what was being said in the learning content”, she added. The findings however, show that the challenge had minimal effect because as presented earlier, there was a collective group working during practical sessions in which facilitators ensured common understanding and participation by everyone.

4.4 The Influence of multimedia learning on girls' empowerment at the GIP in Rukwa and Dodoma Regions

The third research question of this study was asking about the influence of multimedia learning on girls' empowerment. Answers to the question were reached through interviews with the GIP facilitators and girls. Based on data analysis, the researcher had chosen to divide the findings into three main themes for the purpose of highlighting the aspects emerged. Therefore, the findings are presented in sub-headings namely: a) The overall contribution of multimedia learning on girls' empowerment in GIP, b) The girls' income generating activities resulting from multimedia learning in GIP and c) Influence of multimedia learning to socio-economic status of the GIP girls.

a) The overall contribution of multimedia learning on girls' empowerment in GIP

This study findings show that generally, multimedia learning enhanced skills and knowledge among the targeted girls towards their empowerment. One of the facilitators “Lily” from Chala Ward said that the multimedia learning contents gave learners skills, knowledge, and confidence because they heard and saw the actual undertakings through the audio-visuals presented: Through that they were able to imitate the processes demonstrated to make various products. "We know that, in learning, a combination of vision and hearing, makes a long-lasting memory; thus, the multimedia learning contents, helped the girls to remember and apply skills obtained from the training" she said.

Adding to what “Lily” said, one of the girls “Sala”, who makes liquid soap in Chala Ward said, "multimedia learning enabled me to effectively do what I am doing now; I always recall the visuals in making my products”. Another girl “Anze” from Bahi Ward added that multimedia learning contributed to what they did after training because they were following all steps as demonstrated in the learning contents. Thus, their undertakings were directly influenced by the GIP multimedia learning. With confidence, “Anze” emphasises, “actually, the learning content influenced our practice - one hundred percent”.

Talking on the role of multimedia learning, another girl “Sambo” from Msanzi Ward said, previously they did not know about establishing more than one business but, now multimedia learning contents have enlightened them; they can, "make batiks and soap, bake bread, grow vegetables, and make pancakes for sale, at different times depending

on the market demand”. Adding to this, another girl “Imbwa”, from Bahi Ward said that, multimedia learning has essentially transformed their lives because they now have skills and knowledge, which they never had. As such, the excerpts reflect the girls’ appreciation of the multimedia learning contribution to their lives in terms of skills and knowledge gained from GIP.

A girl called “Unene”, from Bahi Ward described the role of multimedia learning in terms of its relevance today. She said, multimedia learning technology is unavoidable nowadays; “today it is applicable everywhere (in television, traditional classrooms, social networks, etc.)” and contributes greatly to community development. Thus, the role of multimedia learning remains obvious regardless of what may or may not have been practiced in relation to the lessons learnt in GIP.

Furthermore, the study findings show that, there are several changes among the girls, which are the outcomes of multimedia learning. The following statements are some of the girls' testimonials:

I have changed a lot in my way of thinking towards various things; my understanding on gender issues for instance, is very high at the moment compared to the past i.e., before the multimedia learning. Now I can even tell some gender discrimination behaviours happening in my neighbourhood because I am aware of the issues (Sala, Chala Ward).

Gender learning content made me self-determined and aware of my position in the society. Before, I felt inferior to my male counterparts but, now I have realised my potential and know that, life is about both sexes: Both sexes have

a big role to play for family prosperity because men and women depend on each other (Nana, Sejeli Ward).

As described by Sala and Nana above, the findings show that prior to the multimedia learning by GIP, the girls did not know their gender rights and roles in taking parts to development opportunities. Currently, with the aid of the multimedia learning contents delivered, they feel strong, confident and capable of participating in development practices at home and in the community at large. One of the facilitators “Chipi”, from Chala Ward said that, “I have made my own follow-up and realised that the girls are no longer vulnerable and easy prey to men as they used to be; their self-awareness and confidence has gone to another level - I can say”.

The study also found that multimedia learning has changed the mindset of the girls and entrepreneurship is what clicks in their minds today. One of the girls “Chausiku”, from Chala Ward said that as soon they completed multimedia learning, they started thinking of what to do. They established two groups; Mwanamke ni Tegemeo la Taifa (MWATETA) and Mwanamke ni Dira ya Maendeleo ya Taifa (MWADIMATA). The groups are well established with leadership, constitution, bank account and signatories; they are now looking for microcredits to take off. Another girl “Gusa”, from Sejeli Ward proudly said, "I have skills to make business: I am just looking for capital to make liquid soap and batik; I am no longer the 'Gusa' of those days" This change of mindset is also evidenced by another girl “Pesa” from Chala Ward who said, "even if I would have been single today, I could have managed my own life without depending on support from a man". Such words from a married girl demonstrates the confidence vested in her mind towards self-dependence and sustenance of livelihood.

Adding to the “change of mindset” aspect, one of the girls “Lexus” from Sejeli Ward had this to say;

Due to ignorance, culture, and traditions; some of the wives in our village do not bother to engage in income generating activities but, rather leave it for their husbands. For me, things are quite different now because of the multimedia learning: I am no longer sitting back and rely on my husband; I always think of entrepreneurial activities to support my family.

Another GIP girl “Ngwilizi” from Msanzi Ward said, "multimedia learning created self-awareness among ourselves; as a result, we always speak of capital, customers, markets, prices, materials, projects, business, and the like; the languages that we never had before, but now has become part of our lives". She adds that, "our way of thinking has really changed".

The findings regarding “change of mindset” as presented above show that as a result of multimedia learning, the GIP became aware that female family members have chances and rights to work and support their families and communities. That, the existing social and economic development opportunities are not meant for their male counterparts alone but for the entire family and community members.

b) The girls’ income generating activities resulting from the multimedia learning

The study findings show that some girls managed to establish self-income generating activities and some could not due to lack of enough capital. Also, the findings show that some girls united and formed groups for income generating activities. With the

groups they qualified for microcredit granted by the Local Government Authorities and SIDO.

One of the girls in Msanzi ward said that they had an opportunity to establish a group, acquire microcredit and undertake some income generating activities but, could not sustain it. The following excerpts explain:

We formed a group and managed to secure a microcredit amounting to Tshs. 1,000,000/= from SIDO with the help of our Ward Community Development Officer. We used the fund to make batik and soap that we sold in our village and a nearby town. We managed to repay a large part of the loan but, still we owe SIDO Tshs. 400,000/= of which we failed to repay because the group ceased operations (Pia).

Having received the microcredit as stated by “Pia” above, the group made products and later assigned among themselves tasks to market and sell their products from house to house in the village and neighbouring town. This strategy was successful but, it started slowing down from day to day due to irresponsibility and ignorance factors. One of the facilitators “Niga” from the Ward said that the girls succeeded to open a group bank account, acquired a microcredit from SIDO and managed to make and sell liquid soap, bar soap and batiks for a few months but, they could not sustain it because some of them were not responsible enough. “Niga” added that "Some of the group members abandoned the products at their homes, others spent cash sales collected instead of collecting it to the group treasurer and some left the village for other places without any information to the group,". Niga's co-facilitator also said:

Starting a business is always hard at the beginning. The making and selling of the products were okay when the girls were doing it under facilitators' supervision. Facilitators made them record every transaction and kept for them the money collected from sales. Some of the money raised was used to open a group bank account and the balance was combined with a microcredit secured to boost their small business. From here the girls had independent supervision. It was very unfortunate that they no longer keep records, as a result they lost track of their transactions and failed to manage the business (Dasi).

Another group member "Awichi" said that the group was active in repaying the debt on monthly instalments at initial stages but failed later. She added that,

We were repaying the microcredit at Tshs. 100,000/= instalment per month... we were active in such a way that our District Council promised us for another microcredit once we finish repaying the one from SIDO. Unfortunately, our group never got the microcredit from the council as we failed to finish repaying the loan provided by SIDO.

As stated from the findings above, it is clear that the girls were active in practicing the skills obtained from the multimedia learning in GIP. However, they lacked skills on managing and sustaining their established income generating activities. Adding to this, the facilitator "Dasi" says, there is no doubt that the multimedia learning initiative transformed the social and economic lives of the girls but, a capacity building training to the girls on financial management is necessary putting into consideration the challenges associated with starting a new business particularly with novice entrepreneurs. For instance;

Liquid soap is very marketable especially at the Nkasi district council headquarters, which is just 40 minutes' drive from here. It needs a capital of only Tshs. 30,000/=, which is very affordable to a group. If you talk to the girls, they would say that they do not have enough capital but, to my understanding, they lack financial management skills at individual and group levels which led to misuse of their income generated from previous undertakings (Dasi).

Apart from the girls from Msanzi ward whose group acquired the microcredit from SIDO, some of the GIP girls in Bahi ward reported to have been engaged in groups and established their small project by producing, marketing and selling batik, liquid and bar soap using cash delivered by GIP for training purposes. The following excerpt is from one of the girls.

We sold the products we made as a group during multimedia learning and used the cash obtained to buy chemicals and materials for making liquid soap and batik. We produced and sold products to Bahi villagers as a group. However, the business collapsed because we had no enough capital to sustain it... (Alle).

Other girls from Msanzi ward had similar experience as indicated in the following excerpt:

We raised capital by selling the products we made during multimedia learning. Later we formed a group and opened a group bank account. All the money collected was used to open the account. For now, we are looking forward to receiving a microcredit which we have applied for from our district council. (Kisu).

Another girl from the same group with Kisu above said;

We made batik as a group and sold it at a price of Tshs. 10,000/= per piece of which, most of it was sold to GIP officials who visited us. The cash collected was used in preparation of the group constitution and meeting expenses involved in opening a group bank account. Our group signatories had to travel to town several times for the bank account related issues thus, incurred a lot of expenses which consumed the capital we had (Have).

The findings as stated above by “Have”, “Kisu” and “Alle” show that some GIP girls managed to generate income out of funding delivered by GIP for practical training sessions. However, the amount generated was not enough to cover group overhead expenses and as a result after finishing training, the group ceased operations due to lack of funding.

To overcome the challenges associated with irresponsible group members and lack of enough capital, some girls in Sejeli Ward were determined to working in a small group of committed members but, were stuck later due to some factors as stated in the excerpt below.

After we had produced, marketed and sold our products during multimedia learning, my friends and I formed our small group of which we planned to work together as a team. We had no capital but, thought of contributing some money ourselves. Unfortunately, the time happened to be a farming season and each one of us was busy with family farming activities. Now the season is over but,

none of us has capital to contribute, and some of us have already left the village to other places (Liusi).

The excerpt above from Liusi shows clearly that lack of capital was among main reasons behind the girls' failure to sustain their group initiatives. As for the case of Liusi's group, it shows that if the girls could have accessed capital, they would have sustained their plans since they were a group of committed and responsible members as opposed to others.

Furthermore, in an attempt to overcome group challenges, some other girls dared to establish their own projects. The following are statements from the girls.

I started my batik business and managed to sell to villagers here in Sejeli. I had orders from various people. Others requested for training but, I could not train them because they had no money to buy required materials. My business went well until when my child fell seriously sick to the extent that I had to use all my capital for her treatment as I am a single mother, and that is how my business ended (Ngulai).

I make liquid soap and sell it to villagers here in Chala. It is challenging because most villagers have no cash to buy my products. I sell on credit most of the time...I also made and sold some batiks but, could not continue with it because it needed large capital. For instance, a bale of cloth for batik costs Tshs. 36,000/=, leave aside chemicals and other materials. Materials for a liquid soap cost only Tshs. 18,000/=. And again, liquid soap is more profitable and with higher demand than batiks in our locality (Loba).

At a time, I made eight (8) gallons of liquid soap and managed to sell only five (5) of it for a whole month. I had to use the remaining soap at home as I came to learn that there are no many buyers here in Chala. Today I only make it when ordered. If you produce much you won't be able to sell it all unless you sell it in Sumbawanga municipality, which is far from here. Moreover, people here prefer bar soap to liquid soap but, I can't make it because it is expensive to make compared to liquid soap. Nonetheless, I plan to start it in the near future if I succeed in raising enough money from my business and farming activities (Sala).

Another girl “Pesa” from Chala Ward said that she engaged herself in liquid soap making but, stopped because the product had no customers. Instead, she said to have started tomato and green vegetable farming for sale. Together with “Pesa” were also, two other girls who started vegetable vending. One of the two girls said, “my friends and I thought we could also do something different from batik and soap making using skills and knowledge we acquired from the multimedia learning project...we therefore ventured in to green vegetable vending” (Samya).

Another girl “Imbwa” from Bahi Ward claimed to have benefited a lot from the multimedia learning but, was sad for not being able to engage herself in soap or batik making as she had no capital. Alternatively, she requested her parents to work for their small family restaurant, which is located alongside the road. Coming from a poor family just like all other GIP girls, “Imbwa” served her small family restaurant with passion and she could tell her contribution to the project. “Imbwa” who is married with one toddler said that the restaurant does not generate much income to meet both her

parents' and her family expenses. However, she pointed out that it was worth serving there for the time being than making liquid soap and batik. "It is pleasing to see customers flocking to our restaurant and commending our customer care services", she said in trying to link her success with multimedia learning where she learned about communicating in business. "Imbwa" is optimistic that she will one day gain capital and continue with making batiks and soap upon market demand.

c) Influence of multimedia learning to socio-economic status of the GIP girls

The girls gave out testimonials that multimedia learning had influenced their socio-economic status in the community. Based on the way people treat them, and their ability to meet some petty expenses which they couldn't previously; the girls believe that their socio-economic status is higher compared to what it used to be.

One of the girls, "Chausiku" from Chala Ward, said that she thinks, today the community perceives her as an important person compared to previous times and she could feel it because a lot of villagers are curious about what she is doing. It reached a point, some of her friends were asking her for training when they saw her products. "Chausiku" also supports her family; the following statement explains.

At home sometimes my mom says she has no money for charcoal. So, what I do, is to just go and collect some cash from my debtors and buy some... I think my income has increased, because today I do not even ask my mom or my husband for a recharge voucher for my mobile phone; I even travel to Sumbawanga town to sell my products on my own cost.

“Chausiku”, one of the few girls who managed to sustain their self-initiated project commends the multimedia learning saying that it brought her some hopes in life. Although currently “Chausiku” earns a hand-to-mouth income, yet her achievement is worth mentioning as she became a role model to other girls in the village. Another girl “Sala” from Chala Ward who occasionally makes liquid soap on order, had a similar feeling to that of “Chausiku” regarding her socio-economic status. She says:

Currently, I feel respected in the community. I even feel like some men in the community are afraid of me by the way they treat me; they regard me as a learned person. Apart from that, nowadays I feel confident in front of men as opposed to the past to the extent that, I can even detect their cheating strategies such that, I cannot easily fall into their traps.

“Sala” added that multimedia learning had an impact on her socio-economic status because, these days she does not ask for money from her mom for petty expenses but, cutters for the same herself. Another girl “Pesa”, from Chala Ward has a similar response to that of Sala saying that, "I get little amount of money from what I do which meets my petty expenses and this makes me feel comfortable". Adding to these findings, the following quotation from another girl in Msanzi Ward, portrays a similar context on socio-economic status:

Before the GIP multimedia learning, I used to beg for money from the father of my kids, but now I can meet my own expenses as a single mother. Even when I do not have money, I do not beg anymore, instead I find my own way. We had a bad mindset that we cannot stand on our own without support from

a man and this made us fall into trap of sexual abuse ending up being pregnant and in unplanned marriages (Lima).

The findings as presented above by “Lima”, “Sala” and “Chausiku” show a state of self-dependence among the girls. It portrays aspects of empowerment as the girls live with positive mindsets and realise their potential in the society. Notwithstanding the positive comments from GIP girls regarding their socio-economic status, one girl named “Elena” from Sejeli Ward had a different opinion. “Elena” says, she has a feeling that her socio-economic status has changed very little because the little amount of money she gets through batik and soap vending does not suffice for herself and her daughter. She believes with more capital she could improve her business and consequently her socio-economic status. As a response, “Elena” poses a question as to whether gaining skills and knowledge alone without capital can be referred to as being empowered. The following excerpt from a facilitator in Chala Ward explains.

Some outcomes of multimedia learning might not be seen today because empowerment is a lifelong process. And in fact, not all the girls were able to venture into small businesses at a particular time but, their positive change in terms of attitude, character and mindset portrays empowerment. In fact, I have been receiving applications from both female and male youths who want to join the programme: they are all inspired by the GIP girls (Gaya).

The above quote from “Gaya” clarifies that empowerment at the context of the GIP cannot only be measured by capital gains from established projects but also, the cognitive capacity building in terms of skills and knowledge is empowerment as it

leads to lifelong impact. With cognitive empowerment, the girls can venture to any opportunity throughout their lives hence, lifelong socio-economic status.

In an attempt to clarify the socio-economic status of the GIP girls, one facilitator “Lily” in Chala Ward said that during the multimedia learning, some husbands admired their wives and requested to join the programme. She added that even “when IAE administration visited the centre, men complained that the training was biased to girls”, they wanted it to have included them as well. Another facilitator “Gaya” added that some of the girls became trainers; they trained family members and friends. This made them important and respectable persons in the family and the community at large.

Facilitator “Lily” also mentioned an incident that happened in the village whereby a group of young men admired the girls. She said, there was a time when they had exhibitions at the centre, and the girls were displaying their self-made products. During exhibitions, the said group was passing by and she overheard one of them saying to his fellows that if somebody was looking for a wife then the girls were the right choice. The young men kept on talking about the girls, admiring their skills in soap and batik making. As a result of the incident, Lily said that she really liked the conversation and wished the girls could have heard what she just heard. "It was very rewarding to have seen an immediate feedback of the multimedia learning which I personally facilitated", she added. The following statements from one of the facilitators in Msanzi Ward show further evidence of multimedia learning influence on socio-economic status of the GIP girls with reflection on initiatives made:

When the girls finished training, they were very active. They even had a small shop here at the ward centre, where they sold batik, liquid soap, and bar soap.

It was a good start though the business kept slowing down as time went on and now, they have closed (Dasi).

The facilitator “Dasi” added, it should be noted that the targeted girls were those who had already lost hope because of dropping out from school due to early pregnancies and marriages. As such, community members regarded them as losers in life. In other words, their socio-economic status was as low as of an ordinary and poor villager with less education.

Today, due to multimedia learning the lost hope of the girls and dignity have been restored; they are now happy and skilled, conducting income generating activities in the village. Confidently, I can say, they are now awake, active and self-determined: They truly inspire other girls, just as reflected in the project’s name - Girls Inspire (Dasi).

Another facilitator “Chipi” from Chala Ward pointed out that, despite of the observed impact of multimedia learning, the girls need more support in terms of funding and administrative skills training for sustainable socio-economic status.

With reference to the excerpts from “Chipi”, “Dasi”, “Gaya” and “Lily” above, the findings show that the girls inspired their families and community right from the training to post-training time. As such, the girls gained socio-economic status among villagers based on their skills, self-determination, activeness and ability to make and sell batik, liquid soap, and bar soap.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Overview

This study aimed at exploring the impact of multimedia learning in girls' empowerment with specific focus on: exploring characteristics of multimedia learning content used for girls' empowerment; determining multimedia learning experiences by the girls; and exploring the impact of multimedia learning in girls' empowerment. This chapter presents the discussion of the findings presented in the previous chapter. The discussion is grounded on the findings, literature review and the research gap. The researcher's arguments are therefore focusing on how the findings relate or contradict each other, respond based on the research questions, and fit in the context of the reviewed literature. The discussion thus, allows for a wider understanding of the findings and its implication to theory and practice of multimedia learning in girls' empowerment. It also provides inputs to the conclusion and recommendations in Chapter Six.

The discussion flows in-line with sections indicated in Chapter Four, so as to allow systematic flow of information, and easy analysis and understanding of information by readers. Similar to Chapter Four, the concepts; content, learning content, and multimedia content are used interchangeably at particular contexts to mean the multimedia learning contents used.

5.2 The multimedia learning contents' characteristics

Findings as stipulated in Table 4.2 under section 4.1.1, show that all multimedia learning contents except one, had suitable characteristics needed in learning for empowerment. The contents appeared to have been arranged properly, visible, interactive, attractive, comprehensive, and with combination of various media (Andresen & Van Den Brink, 2013). Further, the learning contents had average length and control options to enhance effective learning. General implication from these findings is that, the multimedia contents used in GIP were suitable for learning although, not all contents ranked "high" at each review criteria used in documentary review process. Some of the contents ranked medium but, there were no any, which ranked low or poor. As a result, having the suitable characteristics the contents, would enhance better understanding and therefore, empowerment (see Isa et al., 2010).

It should be noted that, the researcher reviewed and ranked the multimedia learning contents basically, basing on their experience and expertise in multimedia content development, inside and outside Tanzania. Nevertheless, the study's bias was at minimum since the information presented from documentary review tallied with the one from other methods of interviews and FGDs. However, regardless of this triangulation approach, still readers have their duty to critique and provide basis for future research areas.

Findings indicate that the multimedia learning contents were properly arranged in terms of the flow of content. It shows that the content included intro, main body, summary, and outro. Arrangement plays a major role in presenting a learning content to learners (Tablatin et al., 2016). Without proper arrangement, a content might lose

its meaning. The examples given in findings, entails the use of features depicting a clear flow of information in the learning content. Incorporation of these features depicts what has been addressed by Abas et al. (2007) and Tablatin et al. (2016) regarding adoption of a content flow.

Proper arrangement, help learners to easily digest and conceptualise the learning content (see Lee et al., 2014). With GIP, the aspect of proper arrangement was necessary as the targeted girls were of the lower levels of basic education. Thus, multimedia learning content for empowerment of such a group would require an effective design. For instance, intro as stipulated in findings draws learners' attention to the lesson and prepares them for the topic in question. Without the intro, then the main content becomes a surprise to learners, making them uncomfortable. As for summary and outro, these ending segments of the content, wind up the content and wishes farewell to learners, respectively. The farewell makes learners feel involved in the learning process and becomes virtually connected to the content presenter.

Unfortunately, as indicated in the findings, three learning contents of Batik, Bar soap, and Liquid soap making, missed the summary aspect of the content. This denied the GIP beneficiaries the opportunity to reflect what they had learned in a particular content. The summary helps learners to retain memory and at some point, assess themselves on their understanding of the subject matter. However, since the multimedia learning contents were offline, one might argue that the summary component, together with other components of intro and outro, do not affect learning process because, in offline environment, learners have chances to replay the contents as frequent as they wish and get a better understanding, with or without the said

components. Physical existence of facilitators also minimises the effect of not having the summary as they can always offer clarifications whenever needed (Andresen & Van Den Brink, 2013).

Media combination was another criterion to measure in determining the characteristics of the learning content used. From the findings, it is clear that the contents had a good combination of various media: no content had less combination. Combination of media in a learning content is what makes it a multimedia learning content (Lau et al., 2013; F. W. B. Li & Lau, 2011; Mariki, 2014; Mtebe et al., 2016; Sankey et al., 2010). Study findings show that there were a combination of various media like the background sound (e.g., music and IAE signature), video (e.g., dramas and presentations), text (e.g., straplines and descriptions), audio (e.g., voice overs), and graphics (e.g., photos) in learning contents as it could be seen also in Andresen & Van Den Brink (2013). However, Gender, Bar soap making, environment, and HIV AIDS learning contents had less text. As commonly known, text media plays a big role in learning as it helps in words spelling, notes taking, point stressing, and learner - content interaction; it is obvious that the media communicates best to learners, thus, it should have been prioritised in the content (see also Najjar, 1998). However, the physical presence of trained facilitators on subject matters, made it easier for learners to understand as there were times for questions and answers as well as discussions during multimedia learning.

The study also used visibility and interactivity criteria to examine characteristics of the multimedia learning contents used in the GIP. According to findings, all 8 multimedia learning contents were highly visible. As it can also be seen in Tablatin et

al. (2016), visibility of learning content is a very important aspect in making learning content attractive. Imagine a learning content with less visibility; the learning process would be very difficult and boring because learners cannot see clearly what happens on screen. As such, learners in GIP enjoyed clear visible contents which made it easier for them to imitate the on-screen demonstrations hence, effective empowerment process.

Apart from being visible, findings also indicated that the learning contents were interactive. Two of the learning contents (Arithmetic and Communicating in Business) were ranked highly interactive as they were in a style that highly engages learners in the learning process. In Arithmetic for instance, the content adopted the "traditional chalk-and-talk method" of instruction which draws learners' attention and makes them engaged (See Malik & Agarwal, 2012, p. 468). In communication content, learners' involvement in making marketing leaflets, encouraged learner-content and learner-facilitator interaction. As for the remaining six multimedia contents, interactivity was ranked medium, as learners were less engaged compared to the two contents stated above. In these contents, the video media used was less learner-engaging, unlike the usual practice with video (cf. Isa et al., 2010). This came up because the presentation style was more of presenter-interviewer dialogue, which did not assign any instant learning activities to learners; it made the content more of knowledge giving rather than competence building. As a result, learners became non-participant viewers, unlike what is expected from multimedia learning (cf. Abas et al., 2007; Isa et al., 2010; Malik & Agarwal, 2012). Notwithstanding, the effects of the presentation style, learners make it negligible when engaging themselves in learning by taking notes from the

ongoing presentation (see findings on section 4.3 (d), sub-title, "interactive nature of the class during multimedia learning"). Interactivity is sometimes assumed to occur automatically because, the combination of media makes multimedia interactive but, in most cases, one needs to be creative to make it happen. Based on GIP, this signify that the interactivity aspect was not clearly designed during the multimedia learning content development. Although findings show that the multimedia learning classes were interactive, the fact remains that multimedia learning contents should always bear interactive features to ensure effective learning (see T. K. Neo et al., 2012).

Length, comprehensiveness and feedback criteria had different opinions as per the findings. Starting with length, findings indicate that the contents had no specific length used because they were made each to suit a particular context. Findings indicate that, suitable time for a multimedia learning content is 10 to 15 minutes but in practice, this might not be feasible to some contents in which a lot of demonstrations are involved. For instance, Arithmetic had the longest time (25 min) followed by Batik learning content (23 min) due to a series of demonstrations. The length was therefore suitable for the intended learning purposes. However, Sweller et al. (2011) recommend for short segments of a learning content to ensure memory retention by learners. Although the concept, "short segments" is subjective, it is still worth it to shorten the multimedia learning contents but, with consideration of particular contexts. Considerably, the Arithmetic and Batik contents should have been split into two segments each to ensure high level of interactivity although no complaints were raised regarding interactivity (see also Sweller et al., 2011).

As for the case of comprehensiveness, findings indicate that on average, it was at a high level rank across the contents. The combination of various media made it easier to provide learning content which is simplified to the level of the learners, exhaustive, contextual, and inclusive: Even those with limited literacy skills, managed to understand the learning content. With such stated standards, the impact is obvious as learners find it attractive, interesting, easier, and simple to learn (see also Abas et al., 2007; Kulasekara, Jayatilleke, Coomaraswamy et al., 2011).

Furthermore, Tablatin et al. (2016) revealed that with comprehensive multimedia learning content, less facilitators' intervention is needed during the learning process. This is revealed in the present study findings, as facilitators had less to do because the multimedia learning contents were comprehensive. However, in some cases, facilitators may need to supplement the content where necessary. For instance, during batik and soap making, facilitators had to demonstrate the use of gloves and masks safety measures because the learning content delivered missed the section. The facilitators' role played brings us to a conclusion that, regardless of the comprehensiveness of a multimedia learning content, still facilitators are needed in facilitating offline contents as opposed to online contents that can be hyperlinked to other information available online for further learning (cf. Chaturvedi, 2010; Tablatin et al., 2016). Moreover, the facilitators are needed based on their roles as moderators, advisers, inspirers, organisers, and experts in the multimedia learning process (Andresen & Van Den Brink, 2013).

Feedback was missing in all learning contents except one. This is mostly neglected in multimedia learning contents (See Clariana, Ross, and Morrion (1991) as cited in

Stemler, 1997). Feedback ensures effective learning because it helps learners to assess themselves. It is necessary for multimedia learning contents to be designed in a way that promotes feedback from learners (Stemler, 1997). However, with the present multimedia learning content, delivery was in an offline learning environment, mediated by a facilitator thus, minimising the effects of missing the feedback. As for this scenario, facilitators should instantly get feedback from learners during practical sessions, unlike for an online multimedia learning with no facilitators.

The last criteria to determine the characteristics of the multimedia content used in learning was learner's control and attractiveness. Findings indicate that learners' control over the learning content was granted in each content. It is argued that, for multimedia learning content to be effective and interactive, it should be in a format that allows learners' control as to enhance navigation from one point of the content to another (see Hasler et al., 2007; Spanjers, Gog, & Merrienboer, 2010; Sweller et al., 2011). Content without a learner control mechanism, becomes frustrating to learners especially when in need of re-viewing or replaying a particular segment. Learners would need to restart the whole content since they cannot go straight to a particular previous segment. Consequently, at some point, learners would be forced to watch a whole content even if they wanted to skip to the next section. Learning becomes boring and less interactive under such circumstances.

With regards to attractiveness criteria, findings indicate that the multimedia learning contents were on average highly attractive. Attractiveness was measured in terms of colours, screen noise, presentation style, animations and organisation of the combined media in the content (see also Stemler, 1997). As it can be seen, attractiveness of the

content is influenced by a combination of the previous stated criteria. Proper presentation arrangement, well-combined media, visibility, and the ability of learners' control over animations, all together made the content attractive. However, since it was the first learning experience among the girls; the content would have still been attractive regardless of any missing quality because multimedia learning itself is attractive in nature (see also Isa et al., 2010; Mariki, 2020b; Mayer, 2014).

5.3 The GIP girls' experience in multimedia learning

Similar to the above section, the discussion in this section flows in line with findings of the second research question of this study which was exploring the girls' experience in multimedia learning. The discussion therefore, focuses on the girls' experience with content delivery, facilitators, and learning environment. Also, it captures best experiences, class interactivity, skills practicing, and challenges experienced in multimedia learning.

Study findings show that multimedia learning content was delivered offline and learners accessed it through a laptop computer and an LCD projector. In places where there was no electric power supply in classrooms, teachers' residences around the school and offices were used. As such, the girls enjoyed learning without major obstacles. The offline learning environment ensured content delivery without a need for Internet services (Mtebe & Raphael, 2013) and computer gadgets (e.g., iPads, tablets, smartphones, and laptops) by learners, unlike in online learning environment (Chaturvedi, 2010; Tablatin et al., 2016). However, as it has been seen from the results, it is clear that, access to power supply determines the use of the multimedia learning contents. This implies that, since the computer and LCD projector are not useful in

places with no power supply, then delivery of the learning content is impossible in such areas (Mariki, 2020b). It was fortunate that there was power in all learning centres, something which facilitated the use of existing infrastructures (see also Deb, 2011).

Study findings further show that learning process took place in a controlled environment; a room in which facilitators covered its windows with curtains to enhance clear view of the contents. This experience shows, under such context, there should be a prepared learning environment for effective multimedia learning to take place. Furthermore, facilitators allowed learners to first, view the whole content, then discuss, and later engage in practical sessions. This whole process starting from; setting of the classroom, display of multimedia contents, lesson discussion, to practical sessions; set a conducive environment for learners to learn comfortably and actively. Most importantly, the discussion sessions set every after viewing the multimedia learning contents, made learning more interactive and attractive. The multimedia contents stimulated sharing of prior knowledge and real-life experiences by the girls and eventually, enhanced a wider understanding of the lesson learnt. Thus, enhancing the girls' empowerment in terms of self-confidence, change of mindset and self-determination.

With regard to girls' experiences with facilitators and the multimedia learning environment; findings depict a positive reaction among the girls. The girls commended facilitators and the learning environment. Study findings also show that facilitators made the learning environment welcoming to the girls. The facilitators mingled with the girls in a way which made them to comfortably participate in the learning process.

This was essential putting into consideration the nature of the learners, as they were all out-of-school girls - some married and some with children (Mariki, 2020b). The findings regarding the learning environment on the other side, showed that the setting enabled flexible learning that suited the girls' context. Learners agreed to meet in the evenings when most of them were free from other family responsibilities that could have interfered with their learning. According to Reuben (2015) and Yasunaga (2014), such flexibility is important in an open learning environment.

The study findings further show that facilitators were knowledgeable with the multimedia learning contents delivered. Therefore, the facilitators were able to respond accordingly to all questions raised by the girls. They were also skilful in facilitating the practical sessions for liquid soap, bar soap, and batiks making; an indication that they were well oriented with the multimedia learning contents. This scenario entails that, it is essential for facilitators to be competent of what they are facilitating. Otherwise, learners may be frustrated especially when they miss answers or support to what they find difficult during the learning process. Hence, effective multimedia learning requires skilful facilitators. In addition to content skills, facilitators need to be familiar with the technology being used in learning (Andresen & Van Den Brink, 2013). For example, the girl who assisted in setting the projector, and the colleague who assisted in installing the missing drivers as stated in the findings; it is obvious that if it was not for them, then the learning process would have been affected. Some other issues which might sound minor and simple, can at some point frustrate or even obstruct the entire learning process especially, in rural areas where instant technical support is scarcely available. As for the said case, the girl and

the colleague at the centre rescued the situation. This experience is caution to multimedia learning facilitators to never take things for granted especially when using learning technologies.

Similar to the perspectives regarding facilitators and the learning environment, study findings show various multimedia learning best experiences by the girls. As it has been said earlier in the thesis, the girls were excited with the multimedia contents because it was their first time to learn with the technology. As a result, multimedia learning became their best experience ever. Further, findings show that learners referred to batik making content as their best experience. The use of audio-visuals in demonstrating step by step in batik making made learners attentive and attracted. Learners were excited with the way batik is made as they saw the whole process in the multimedia learning content. Other learners said they will never forget the batik content because they were able to innovatively practice what they saw on multimedia contents. Batiks are very attractive by looking, and for the girls to have been able to make it, out of a piece of a plane cloth, was a remarkable experience. These findings align with Confucius ideas stated earlier in the thesis that people understand when they hear, see and do (see Khalid & Nuhfer-halten, 2011).

Nevertheless, the expression shared by girls as their best experiences is not surprising, for literature shows that multimedia contents make learning more entertaining, attractive and interactive due to its nature of using audio-visuals (Abas et al., 2007; Kulasekara et al., 2011; F. W. B. Li & Lau, 2011). However, if the learning content was not well designed then results would have been different. A well designed multimedia motivates learners (Abas et al., 2007). As for this study, learners were

highly motivated because, during practical sessions they were allowed to design their own batik features to make. Hence, learning was not boring but, active as learners could see the end product of their own creativity.

The findings also reveal that classes were interactive during multimedia learning. Learners had chances to ask questions and discuss topics taught before engaging in practical sessions. This made learners active in learning throughout the learning process since learning is more active when learners participate in learning activities (see Lau et al., 2013). Learners were not only practicing the hands-on skills but, also navigating through the content and interacting among themselves during learning. This practice enhances physical interaction between learners to contents, learners to learners, and learners to facilitators which ultimately, results in effective learning (Lau et al., 2013; Malik & Agarwal, 2012). Özdemir (2010) argues that offline learning is less interactive unless supported with mobile technologies but the current study has proved that, a well-designed multimedia content can make offline classes very interactive.

The findings on the girls' experience in practical sessions show that the learning was participatory in which everyone had a chance to practice the skills demonstrated in the multimedia learning contents. The experience portrays the power of multimedia in skills training since, multimedia learning content allows learners to see the actual processes involved in making intended products. In other words practicing of skills demonstrated in the multimedia learning contents was possible due to the use of audio-visuals, which made it easier for learners to easily acquire and practice skills needed (see also Kulasekara et al., 2011; Tablatin et al., 2016). Using multimedia learning

contents with suitable characteristics is therefore necessary towards achieving intended outcome especially in skills development training.

As for the challenges experienced in multimedia learning, findings indicate minor challenges of which the girls claimed to have had a minute effect on their learning process. However, it is necessary to address these challenges mentioned to ensure effective learning. Such challenge as inability for learners to access learning online at home, calls for mobile technologies to address the situation (see Özdemir, 2010). If learners were supplied with gadgets and Internet service, they would have been able to access learning flexibly at their fingertips in their own convenient time. Alternatively, since the Internet is unreliable in rural parts of the country (Lwoga & Chigona, 2018) then, the learning contents could have been saved in the gadgets for the girls to access them offline at home. This also could have solved the problem of internet poor connectivity affecting learners' access to online multimedia learning contents in Tanzania (Byanyuma et al., 2018). Another challenge mentioned was the inability of the learning content to allow direct questions to the lesson presenter, as the sessions were not live. Although findings indicate that facilitators responded very well to the questions asked by the learners, the fact remains that learners would always be very interested in interacting with the multimedia learning contents through asking questions, commenting, and discussing online (see also Kulasekara et al., 2011; Tablatin et al., 2016). With an online multimedia learning environment, GIP girls could have gained some more insights from the original speaker in the content as opposed to the current learning environment that is offline. However, with an online multimedia learning environment, the girls would require more time and resources to

learn and achieve the ultimate goal of empowerment (Byanyuma et al., 2018). In other words, regardless of the stated challenges, the multimedia learning at offline environment suited better the GIP girls putting into consideration their rural settings.

The last challenge mentioned was the overcrowding resulting from the use of the Head teacher's office as a classroom. Being the only room with an electric power supply, the office was used to facilitate multimedia learning. Unfortunately, the venue was not big enough to accommodate all learners at a time. As such, other learners could not hear what was being presented because the computer internal speakers were not powerful enough to reach those who were outside the room. Under such circumstances, some learners had to rely solely on the displayed content. Notwithstanding such a situation, the good part of it is that, multimedia contents combines various media in delivery thus, learners can still follow the presentations through graphics and animations on visuals displayed (see also Kulasekara et al., 2011). Moreover, since facilitators allowed time for discussions, then no doubt that all girls had time to ask questions prior to commencing practical sessions. Subsequently, the facilitators as moderators had time to ensure common understanding among the girls (see also Andresen & Van Den Brink, 2013; Mariki, 2020b).

5.4 Influence of multimedia learning on girls' empowerment at the GIP

This section discusses findings of the third research question of this study which was finding out the influence of multimedia learning towards girls' empowerment. Similar to the preceding section, the respective findings for this particular research question, dictate the flow of the discussion. Hence, the discussion starts first with the general contribution of multimedia learning to GIP girls' empowerment followed the income

generating activities resulted from multimedia learning and ends with the influence of multimedia learning to socio-economic status of the girls.

As indicated from the findings, there has been a significant impact of multimedia learning to the girls' empowerment. The findings show a direct link between multimedia learning and skills, knowledge and confidence acquired by the girls. As it has been stated in the findings, multimedia learning gave room for listening, watching and practicing. Such combination makes learners understand better as per Confucius theory (see Khalid & Nuhfer-halten, 2011). Both girls and facilitators acknowledged the influence of multimedia learning to the achievements made.

The findings on the influence of multimedia to girls' empowerment, provide a link between theory and practice. Similar to what is stated by Mayer (2014) under cognitive theory of multimedia, this study shows that learners acquire skills and practice their hands-on skills better when trained with multimedia learning contents. The girls justify the theory with their ability to practice entrepreneurial skills trained during multimedia learning. The girls were able to make products and marketing by easily recalling what they saw on the multimedia contents. Others managed to make products apart from those trained on, something which shows the multiplier effect of multimedia learning. The audio-visuals therefore, play a vital role towards enhancing skills development, self-confidence and self-awareness.

Furthermore, the influence of multimedia learning to the girls is also vividly seen on changes observed. As it has been presented in the findings, multimedia learning led to positive changes among the GIP girls' attitudes and way of thinking, which is a sign of behavioural empowerment (see also Eisman et al., 2016). The girls for instance are

now aware of their position in the society and roles in the family in such a way that they are no longer dependent on their husbands and parents but rather engage themselves to various income generating activities to support their families (cf. Adekola et al., 2016). Also from the simulations and video displayed in the multimedia learning contents, the girls became self-confident in facing gender related challenges like early and forced marriages, discrimination, and stereotype (cf. Adekola et al., 2016; Njaya, 2015). As such, multimedia learning transforms lives since it creates a long term memory to learners that helps them to retain and apply knowledge acquired as stipulated in the findings (see Mayer, 2014).

As for income generation activities, the findings indicate that as a result of multimedia learning, some girls managed to establish income generating activities in groups, something which qualified them for group microcredit from the local government authorities and SIDO. Further, findings indicate that the girls managed to access their local market by marketing and selling their products. Hence, the empowerment capability was vividly seen through the girls' ability in accessing microcredit and their local market (see MoCDGC, 2008; MoCDWC, 2000).

Notwithstanding the success stated, findings show that the groups failed to sustain their established income generating activities due to poor financial management skills and irresponsibility of some group members. Notably, the failure to sustain the group income generating activities calls for discussion on what does empowerment means; as it was expected that such interventions will be sustainable for the benefit of the beneficiaries and not otherwise. Seemingly, this suggests that based on the fact that the girls were doing such income generating activities for the first time, a continued

capacity building support from facilitators would have sustained the activities established. This would have ensured a controlled group undertakings and financial management as it was the case during training.

Findings show that during training, the girls were facilitated to form working groups in which they could produce, sell products, and manage the amount collected collectively with support from facilitators. In other words, the groups were successful during the multimedia leaning sessions but failed to sustain their initiatives after the training. However, findings do not show if group dynamics was considered when establishing the groups as this could be another factor affecting the groups. Literature shows that with group dynamics, it is normal for individual members like in the case of GIP groups, to have different attitudes and behaviour towards achieving their intended goals (see Gençer, 2019; Gray & Gabriel, 2018). Such group dynamics affect group performance and sustainability. Seemingly, the GIP group did not exist before the project. These groups were established by the girls during the GIP multimedia training. As such, there was no room for analysing the groups' dynamics to understand them. Thus, failure in sustaining the group income generating activities could be a signal for reorganising the groups by the girls themselves for sustainable undertakings.

From the study findings, it is also noted that some other girls attempted to establish income generating activities at individual levels and managed to produce and sell batiks and soap in their villages and neighbouring areas. Such efforts by individual girls demonstrates their capability to take part in economic opportunities which is a good indicator for empowerment as indicated in dimensions of human development (see UNDP, 2015). Although these girls could not sustain their initiatives due to lack

of capital, the fact remains that they were empowered in terms of skills and knowledge as well as self-decision making and determination. In other words, their ability to make self-decisions and choices signifies empowerment (see Eisman et al., 2016; Geetha, 2015). Thus, with their skills and knowledge empowered on, the girls are capable of proceeding with their income generating activities whenever they access capital.

Furthermore, from the excerpts in the findings, it is obvious that the girls managed to establish income generating activities to produce the products trained in multimedia learning. The challenges being lack of capital, enough customers, and customers' low purchasing power which forced the girls to sell their products on credit. Thus, it is evident that the girls tried to exhaust their full capacity to earn a living but, were largely affected by lack of capital. This implies, girls' empowerment should always ensure establishment of not only income generating activities but also economic groups so as to enhance access to microcredit and markets as advocated by the National Strategy for Gender Development (MoCDGC, 2008). Again, linking the girls to financial sources is necessary for sustainable empowerment.

Findings also showed that one of the girls had decided to stop making liquid soap as it had no enough customers at their locality, instead she ventured into tomato and green vegetable farming. Other girls decided to extend their entrepreneurial skills to green vegetable vending. Another girl opted to join her family's small local restaurant where she made it vibrant in the area. These findings altogether demonstrate how empowered girls can make their self-decisions in taking part in economic opportunities existing around them (CoL, 2017a; Eisman et al., 2016). The multimedia learning was aimed at liquid soap, batik and soap making but, as a sign of empowerment, the girls ventured

beyond the target by opting to other available opportunities, something that explains the girls' ability in taking decisions towards problem solving (see also Geetha, 2015; Turner & Maschi, 2014).

Regarding socio-economic status, the findings indicate that multimedia learning has promoted the girls at various aspects in their communities. Based on the testimonials by the girls, findings reveal that it is evident that the girls have learned and acquired skills and knowledge that made them; change their way of living, venture into economic activities, and get recognised in their communities. The findings imply that community members recognise the girls and treat them as role models; a recognition that makes them to inspire other girls. That being the case, the girls are now regarded as trainers and receive requests from their fellows for hands-on skills training. Under such circumstances, the girls could seize the opportunity and share skills and knowledge to larger populations, engage in larger production and ultimately excel to higher levels of social and economic benefits.

Equally important, it is also interesting to see the increased confidence of some girls over men in the village as it is stated in the findings. This demonstrates the power of multimedia learning with regard to girls' empowerment. It proves that, girls are not inferior to their male counterparts if exposed to empowerment opportunities as for the case of multimedia learning in GIP (see also Duflo, 2012; Kato & Kratzer, 2013). With such opportunities in multimedia learning, girls widen their understanding and gain self-awareness among themselves. Thus, multimedia learning does not only increase girls' confidence but also changes their attitude, behaviour, and eventually makes them realise their potential in the community.

Likewise, the findings indicate that some girls are now in a position to support their families using money earned from their income generating activities. Such ability denotes the girls' socio-economic status in their context as a result of empowerment (see also Kato & Kratzer, 2013; Schuler, Islam, & Rottach, 2010). As per findings, it is evident that the girls used to depend on their partners, husbands and parents to meet their basic expenses but, now such dependency has been reduced. Although not all girls are earning enough money to support their families, still the little amount they get, do make a change in their lives and increases their self-confidence.

It should also be noted that, some girls could not sustain their income generating activities established but, yet they are well recognised in the community since they still have customers in need of their products whenever available. In other words, the girls either intentionally or unintentionally, did create relationships with their potential customers when marketing and selling bar soap, batiks, and liquid soap, something which makes them important as other suppliers in the community. The state of being able to deliver some services in the community makes them respected and appreciated compared to those staying at home, doing nothing.

Moreover, the findings indicate that there were those girls who after the multimedia learning, took initiatives to create economic groups, plan for some activities and seek for microcredit from the local government authorities. Although the groups have not yet received the loans applied for, their efforts signify their determination, self-esteem and self-decision making towards accessing economic opportunities. Thus, these initiatives make their socio-economic status higher as they are not only recognised by the village leadership but, also the local government authorities and other stakeholders

in their districts. The Tanzania government recognises and supports registered self-initiated community economic groups and therefore having such groups initiated by the girls, sets an atmosphere which expose them to possible funding support from the government and non-government actors (see MoCDGC, 2008).

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

This chapter presents conclusions and recommendations of the current study. It concludes by summing up major findings obtained from the study followed by conclusions on reflections and discourse from the study. Subsequently, recommendations are provided for practitioners and researchers interested in multimedia learning for girls' empowerment. Thus, the chapter is divided into sub-sections namely, summary of major findings, conclusions and recommendations.

6.2 Summary of major findings

Having presented the detailed findings in Chapter Four, this section presents the summary of major findings of the study. The summary presents major findings on; a) the characteristics of the multimedia learning contents used for girls' empowerment in GIP, b) girls' multimedia learning experience in GIP, and c) the influence of multimedia learning on girls' empowerment at the GIP.

a) Characteristics of the multimedia learning contents used for girls' empowerment in GIP

The findings indicate that the multimedia learning contents used were well arranged indicating intro, main body, summary and outro, something which made a clear flow of the content. Also, on average, all learning contents had a good media combination of text, sound, video, graphics, animations and audio. Use of text straplines, voice

overs, pictures, and video drama depicted media combination in the multimedia learning contents used. Similarly, findings show there was high visibility, good level of interactivity and comprehensiveness of the contents used. The length of the multimedia learning contents ranged from 10 to 25 minutes, which was not too long to make learners bored. The length however, remains debatable because it is subject from one context to the other.

Compared to other criteria which were all adhered to, all of the learning contents, except one, had no feedback mechanism within the learning content. However, the findings found that lack of feedback mechanism had no negative impact on learners because the learning was offline with facilitators mediating the learning process. Moreover, since learners had control over the learning content such as stopping, pausing, skipping, rewinding and forwarding, the provision allowed them to view the content with flexibility so, allowing instant feedback to facilitators.

The findings also show that by virtue of being multimedia, the contents were attractive to learners putting into consideration that the technology was new to them. It was not only its nature that made it attractive but, also the overall design of the multimedia learning contents. The display of real-life events and environments on the contents contributed to the attraction. Also, colours, drama, animations, and background sounds made the multimedia learning contents attractive to learners.

Based on the findings regarding characteristics of multimedia learning contents it can therefore, be concluded that suitable contents were used for empowerment of the GIP girls. In other words, the study connotes that multimedia learning contents for girls'

empowerment requires contents with suitable characteristics to enhance effective learning and understanding for empowerment.

b) Girls' multimedia learning experience in GIP

The study findings show that learners viewed the multimedia learning contents on LCD projector and later engaged into questions and discussion sessions mediated by GIP facilitators. For the hands-on skills contents, the discussions were followed by practical sessions where learners would engage in respective activities to produce products of a particular training. In such an interactive learning environment, the girls enjoyed a collegial and cordial relationship with their facilitators. Findings show that learners were comfortable with facilitators as they were competent with the multimedia learning contents. Further, facilitators had created a flexible learning environment whereby all girls would attend multimedia learning sessions when free from family responsibilities.

Subsequently, the findings indicate that the girls' best experience was multimedia learning technology where they could see simulations, drama and pictures of what otherwise they could not have seen on print learning materials as in traditional classroom learning. As such findings indicate that learning was not boring and learners became very attentive. Together with multimedia learning, batik making process was pointed out in the findings to be the best experience among learners due to amazing various features that they could make at their own creativity.

Regarding class interactivity, the findings show that the girls experienced a high level of interactivity during multimedia learning sessions. The learners interacted with each

other and with facilitators during question and discussion sessions as well as practical sessions. The findings also show that learners were interacting with the learning content as they could navigate on a computer screen from one segment of the content to another whenever needed to do so. In addition, learners' experience shows that the multimedia learning content was presented in a way that allowed them room for taking notes and participate instantly in some actions during a session as for the case of arithmetic computations and hands-on skills demonstrations.

With regard to practice of acquired skills and challenges experienced, the findings indicate that during the learning process, learners had to practice the skills after viewing the multimedia learning contents. The practical sessions involved each individual at group workings, thus, each learner had to take part in one of the activities as directed by facilitators. Learners played a role of reminding each other on actions needed and referring to their notes when necessary. Consequently, their facilitators would intervene when necessary. The findings show that there were no serious multimedia learning challenges mentioned by research participants. However, it was reported that offline learning was limiting learners to study only at the centre in the sense that they could not access contents elsewhere. Also lack of instant reaction to the learning content was missing, something which would have allowed direct question to presenters if it was online learning. Furthermore, the use of the Head teacher's office as a classroom was mentioned as one of the challenges experienced as the venue could not accommodate all learners.

Based on the findings on the girls' experiences in multimedia learning, it can be concluded that regardless of some challenges experienced, the learning experience was participatory and flexible in accommodating all targeted GIP beneficiaries.

c) Influence of multimedia learning on girls' empowerment at the GIP

With regard to the influence of multimedia learning on the GIP girls, the findings show that the technology had enabled them to effectively undertake the hands-on skills taught. Furthermore, the targeted girls acquired knowledge and skills that widened their understanding and enabled them to take advantage of various economic opportunities existing around them and eventually changed their way of living and increased their self-confidence and awareness. Multimedia learning therefore developed an entrepreneurial mindset and enhanced self-decision making among the girls. It also made the girls realise their potential in the society and get rid of inferiority complex over their male counterparts.

Moreover, findings show that by building on knowledge and skills acquired from multimedia learning, some of the girls managed to establish groups, acquired microcredit from SIDO and initiated income generating activities. Despite accessing microcredit, the girls could not sustain their income generating activities established due to lack of financial management skills among themselves. The findings also showed that, other girls had not yet received microcredit but, had already formed their economic groups and qualified for microcredit from their respective local government authorities. Such girls managed to undertake some income generating activities while waiting for the credit applied for. Also, findings show that other girls decided to establish income generating activities at individual levels, something that signifies

self-initiative, confidence and decision-making. The findings also show that some girls could not sustain their income generating activities due to lack of enough customers and customers' low purchasing power that led to credit sales and low demand.

The findings also show that multimedia learning had influence on socio-economic status of the girls based on the way the community perceive them and their abilities in meeting petty expenses. Some of the girls were in a position to support their families in meeting petty expenses. The findings also indicate that the girls' who were once perceived as losers in the community are now respected in their neighbourhood as they are regarded as learned and skilful. Also, it shows that youth and other community members admire the girls on what they are capable of doing to the extent that some request them for hands-on skills training and others wish to join GIP for similar purposes. Based on the findings, it can be concluded that although not all girls managed to engage themselves on hands-on skills for income generation at a particular time, their notable achievements in terms of activeness, self-confidence, self-determination, and positive mindset signifies empowerment.

6.3 Conclusions

In conclusion, the current study shows that multimedia learning impacts girls' empowerment given that the multimedia learning content is deliberately geared towards achieving outcome in a particular context. The case of GIP justifies this finding as the impact was evident among the targeted girls of whom after multimedia learning, they eventually gained self-confidence, decision making abilities, knowledge, and skills in establishing income generating activities towards sustaining their livelihood. In other words, multimedia learning as evidenced in this study, can

be used to promote girls' empowerment in rural areas of similar context to that of the GIP project implemented areas of Rukwa and Dodoma regions. Theoretically, it can be concluded that multimedia learning contributes to girls' empowerment as it provides learners with a chance to see what is being presented on the visuals, hear what is being said from the audio, and imitate what has been seen and heard. Hence, coinciding with the ideas from empowerment theory, Confucius theory and Cognitive theory of multimedia learning by putting them into practice.

6.3.1 The study's theoretical implications

Furthermore, the current study conforms with Abas et al. (2007), Andresen and Van Den Brink (2013), Kulasekara et al. (2011), and Mayer (2014) that multimedia learning has a direct contribution towards effective learning and ultimately, empowerment. Nonetheless, the study contradicts with Lee et al. (2014) and Sweller et al. (2011) who say that multimedia learning does not guarantee active learning, better understanding and ultimately empowerment. As such, the current study adds to the existing knowledge that multimedia learning guarantees effective learning and hence, empowerment. This can be ensured if contents with appropriate characteristics are well prepared and administered by facilitators who appear physically in the venue to guide and mediate the learning process.

Adding to theoretical implications, this study adds literature about multimedia learning in girls' empowerment since, none of the existing studies has studied the phenomenon (cf. Hodges & Scott, 2016; Kessy, 2016; Rienties & Toetenel, 2016; Tablatin et al., 2016; see also Lee et al., 2014; Malik & Agarwal, 2012; Mariki, 2014; NAMCOL & COL, 2009; M. Neo & Neo, 2009; T. K. Neo & Neo, 2009; Stemler, 1997;). In

addition, the current study contributes new knowledge on multimedia learning in girls' empowerment in non-formal, non-tertiary, lower levels of basic education, specifically, through case studies like GIP in Rukwa and Dodoma regions in Tanzania.

6.3.2 The study's policy implications

The current study provides empirical evidence on the use of multimedia learning contents in girls' empowerment as well as the GIP girls' experiences on the same. Moreover, it shows how multimedia learning influences girls' empowerment right from skills development, access to microcredits and establishment of income generating activities. The study can therefore, be scaled-up to other parts of the country to reach more girls in the country. However, the existing policies do not pay special attention to multimedia learning and girls' empowerment issues (cf. MoCDWC, 2000; MoEVT, 2014; MWTC, 2016). Thus, the current study calls for review of related policies to specifically state statements on multimedia learning and girls' empowerment as well as strategies to mainstream the same in development initiatives in the country.

6.4 Recommendations

Based on the major findings and conclusions stated in this chapter, the following are recommended.

a) Recommendations for practitioners

These recommendations are meant for community development and adult education practitioners together with other stakeholders involved in enhancing girls'

empowerment using multimedia learning. Such practitioners include but, not limited to; the government institutions like IAE, non-state actors and non-government organisations. Therefore, the study recommends the following:

- i. Delivery of multimedia learning should ensure conducive facilitation and learning environment particularly, the learning venue and ICT facilities and infrastructure to enhance effective learning for empowerment.
- ii. An offline mobile learning should be considered in multimedia learning for girls' empowerment where feasible so as to overcome the challenge of limited Internet service in rural areas of Tanzania. Consequently, supply of gadgets to the beneficiaries is important to ensure access to learning contents.
- iii. Practitioners should link girls' empowerment initiatives to stakeholders such as SIDO, Vocational Education and Training Authority (VETA) and microcredit Institutions for vertical and horizontal benefits including; training opportunities, quality assurance of products, value addition of products for competitive advantage, and loans.
- iv. Market assessment should be conducted prior to commencing any girls' empowerment intervention in order to ensure evidence-based decisions.
- v. Training on group administration and financial management skills should be offered to the girls to ensure effective use and management of funds acquired as well as responsibility by each group member.

b) Recommendations for further research

- i. A follow-up research to the GIP beneficiaries is recommended in tracing their reported plans and unfinished undertakings. Thus, the girls' initiative towards

accessing microcredits and continuing with their undertakings for income generating projects, need to be studied to know the challenges, success or failure associated there-in.

- ii. The GIP was carried out only in two regions of Rukwa and Dodoma. As such, the researcher recommends for interested researchers to study on the feasibility of undertaking the intervention to other regions to allow the possibility of scaling it up to all regions in the country.

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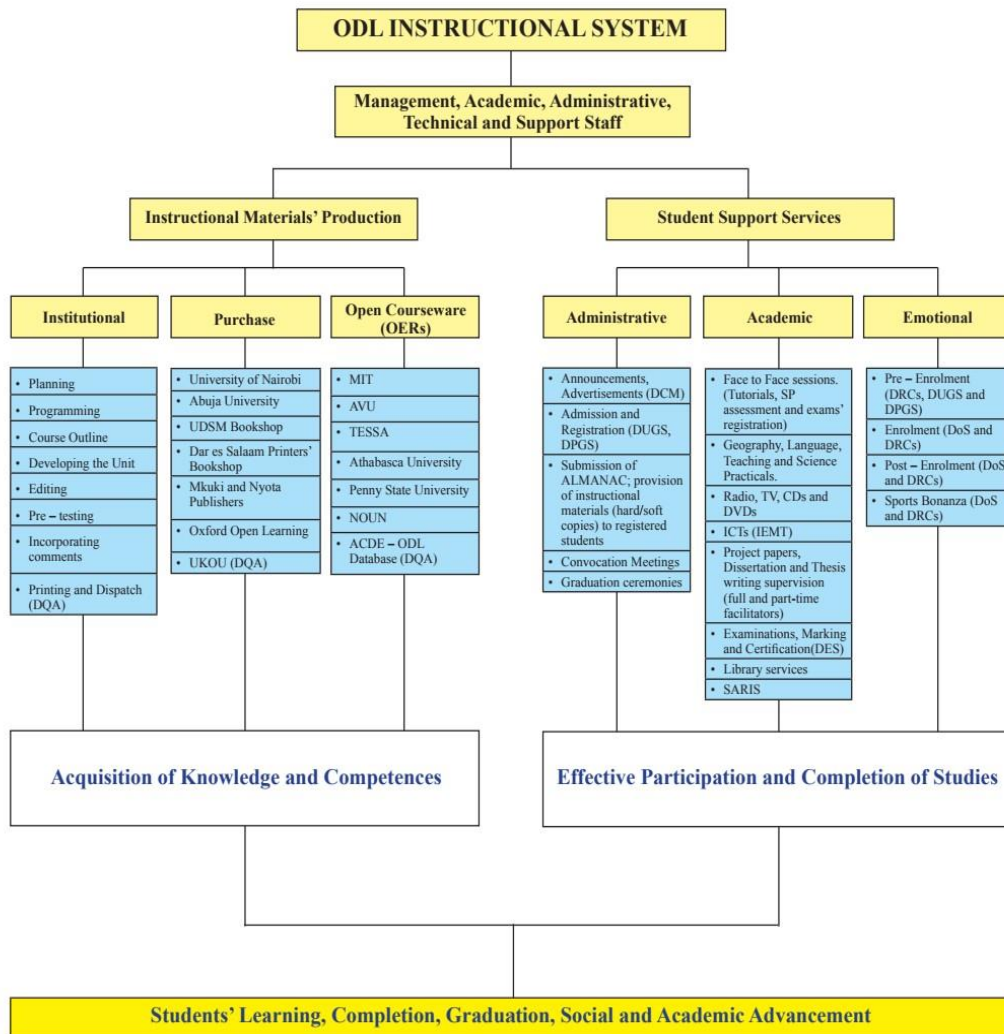
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APPENDIX I: OUT ODL INSTRUCTIONAL SYSTEM MODEL



Teaching and Learning in an ODL Instructional System



KEY	
ACDE:	African Council for Distance Education
AVU:	African Virtual University
DCM:	Directorate of Communication and Marketing
DES:	Directorate of Examinations' Syndicate
DoS:	Dean of Students
DPGS:	Directorate of Postgraduate Studies
DQA:	Directorate of Quality Assurance
DRCs:	Directors of Regional Centres
DUGS:	Directorate of Undergraduate Studies
MIT:	Massachusetts Institute of Technology
NOUN:	National Open University of Nigeria
SARIS:	Student Academic Records Information System
SP:	Student Portfolio
TESSA:	Teacher Education in Sub-Saharan Africa
UKOU:	United Kingdom Open University

Source: OUT (2016)

APPENDIX II: DOCUMENTARY REVIEW CHECKLIST

The documentary review checklist for exploring the characteristics of the multimedia content used in GIP. The checklist assesses each learning content independently.

Description	High	Medium	Low
Arrangement (intro, content, summary and outro)			
Combination of media (audio, text, animations, graphics)			
Visibility			
Interactivity (learner engagement)			
*Length			
Comprehensiveness			
**Feedback			
Ability for learners' control on animations			
Attractiveness (colours, screen noise, presentation style, etc.)			

*Length: Time (in minutes), indicates a length of a multimedia learning content.

**Feedback: A “Yes” or “No”, indicates a feedback status in a given multimedia learning content.

APPENDIX III: INTERVIEW GUIDE FOR GIP GIRLS

This interview is administered to the girls who participated in the GIP aiming at finding out the impact of multimedia learning in girls' empowerment. Data obtained from this study is for academic requirements of the Open University of Tanzania needed by the researcher to fulfil his study requirements. Such data will therefore be used solely for the mentioned purpose and not otherwise. As one of the girls who participated in the multimedia learning in GIP, you are requested, upon your consent, to respond to the following questions.

Note: For ethical reasons your identity is confidential and will not be revealed to anyone. Should you require permission from your family to respond to these questions please, allow me to ask for their consent before we proceed.

Characteristics of multimedia learning contents used

1. How would you rate the quality of the multimedia learning contents used in terms of visibility, interactivity, length, comprehensiveness and feedback?
2. From the question above what are the things that you did not like from the multimedia learning contents used?

Experiences:

3. How was the multimedia learning delivered?
4. What can you say regarding the facilitator's knowledge on the multimedia learning contents used?

5. What can you say regarding your experience in the multimedia learning environment used?
6. Please, describe the best practices that you experienced during multimedia learning?
7. How was the interactive nature of the class during multimedia learning?
8. What challenges did you experience in multimedia learning?
9. How did you practice the activities indicated on the multimedia learning contents?

Influence of multimedia learning on girls' empowerment

1. What entrepreneurial and hands-on skills taught in the multimedia learning contents, that you managed to engage in?
2. How would you describe the role of multimedia learning in relation to what you are doing now?
3. What changes have you observed as a result of multimedia learning?
4. How would you describe your socio-economic status in relation to multimedia learning contents used?
5. If you were to tell others on how multimedia learning has had an impact on your socio-economic status, what would you say?

APPENDIX IV: INTERVIEW GUIDE FOR FACILITATORS

This interview is conducted to find out the impact of multimedia in promoting girls' empowerment in Tanzania. It has been designed to collect data from facilitators of the Girls Inspire Project (GIP). Data obtained from this study is for academic purposes and not otherwise. As one of the key informants of this study you are humbly requested to, upon your consent, respond to the following questions.

Note: For ethical reasons your identity is confidential and will not be revealed to anyone.

Impact of multimedia learning on girls' empowerment

1. How would you describe the impact of multimedia learning in relation to what hands-on and entrepreneurship activities the girls are doing in the community after their training from GIP?
2. As the expert in the area, what changes have you observed among the girls as a result of multimedia learning intervention?
3. It is believed that the use of multimedia learning had impact to socio-economic status of the girls who participated in GIP. What is your comment?
4. Please, describe any socio-economic status change among the girls that you have observed.

APPENDIX V: INTERVIEW GUIDE FOR MULTIMEDIA PRODUCTION TEAM

This interview is conducted to find out the impact of multimedia learning in promoting girls' empowerment in Tanzania. It has been designed to collect data from the multimedia production team members of the Girls Inspire Project (GIP). Data obtained from this study is for academic purposes and not otherwise. As one of the key informants of this study you are humbly requested to, upon your consent, respond to the following questions.

Note: For ethical reasons your identity is confidential and will not be revealed to anyone.

1. What characteristics of the designed multimedia content do you consider the best in relation to the required standards of educational multimedia contents?
2. As an expert in multimedia production, please describe some weaknesses of the designed multimedia contents with its associated effects to the targeted learners.
3. If you were to review and improve the multimedia contents developed, what are the technical things that you would have improved and why?

APPENDIX VI: GIRLS' FOCUS GROUP DISCUSSION GUIDE

This group discussion is conducted to find out experiences from the girls who graduated from Girls Inspire Project (GIP) for the purpose of academic research. Thus, data obtained from this study is for academic requirements of the Open University of Tanzania and will therefore, be used solely for that purpose and not otherwise. As one of the GIP beneficiaries you are requested to actively participate in this discussion. Your participation is voluntary and upon your consent.

Note: For ethical reasons your identity is confidential and will not be revealed to anyone.

Questions:

Characteristics of multimedia contents used

1. What is your perception regarding the quality of the multimedia content used in learning?
2. How do you describe visibility of the multimedia content used in learning?
3. What can you say regarding the interactivity of the multimedia learning contents?

Experiences:

4. How was learning delivered?
5. Relating multimedia learning with the traditional way of learning
6. How was the class interactivity during multimedia learning?

7. What was the best experiences during multimedia learning?
8. What were the challenges experienced?
9. What is your perception regarding the use of multimedia in learning?
10. Discussing whether the multimedia content was enough by itself
11. How was the application of the lessons learnt?

APPENDIX VII: RESEARCH CLEARANCE LETTERS FROM OUT

THE OPEN UNIVERSITY OF TANZANIA

DIRECTORATE OF POSTGRADUATE STUDIES

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Dar es Salaam, Tanzania
<http://www.openuniversity.ac.tz>



Tel: 255-22-2668992/2668445
ext.2101
Fax: 255-22-2668759
E-mail: dpgs@out.ac.tz

Out Ref: PG201700629

30th July 2019

Deputy Executive Director,
P.O. BOX 2,
Mwanza,
RUKWA.

*Done
For your Action
Accordingly
A. M. Mwakwira
DSE
21/8/2019*

*DSEO/DPEO
For your
Action
D. H. R.
21/8/2019*

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007. In line with the Charter, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you Mr. BELINGTON E. MARIKI, Reg No: PG201700629 pursuing Doctor of Philosophy (PhD). We here by grant this clearance to conduct a research titled "*The Role of Mobile Learning in Promoting Girls' Employment: A Case of Girls Inspire Project in Rakwa and Dodoma Regions.*" He will collect his data at Nkasi, District in Rakwa Region from 31st August 2019 to 31th July 2020.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 255-22-2668820. We lastly thanks you in advance for your assumed cooperation and facilitation of our research academic activity.

Yours Sincerely,

Prof. Giosca Rwegoshora
Deputy Vice Chancellor
THE OPEN UNIVERSITY OF TANZANIA

*Chala PDC
Give him a required cooperation.
DSEO-NKASI DC.
21/08/2019.*

THE OPEN UNIVERSITY OF TANZANIA

DIRECTORATE OF POSTGRADUATE STUDIES

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Dar es Salaam, Tanzania
<http://www.openuniversity.ac.tz>

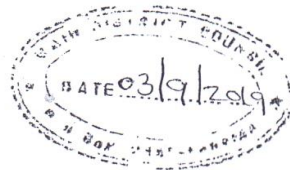


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ext.2101
Fax: 255-22-2668759
E-mail: dpgs@out.ac.tz

Our Ref: PG201700629

District Executive Director,
P.O. BOX 2993,
Bahi,
DODOMA.

30th July 2019



Approved. DDES +
DOSO assist
DCE
DED 3/9/19

RE: RESEARCH CLEARANCE

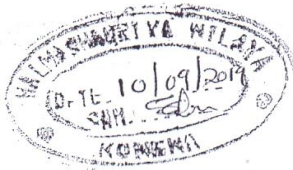
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In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thanks you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours Sincerely,


Prof. Hossea Rwegoshora
For: VICE CHANCELLOR
THE OPEN UNIVERSITY OF TANZANIA



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 DIRECTORATE OF POSTGRADUATE STUDIES

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Our Ref: PG201700629

District Executive Director,
 P.O. BOX 57,
 Kongwa,
 DODOMA.

30th July 2019

RE: RESEARCH CLEARANCE

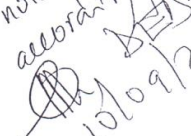
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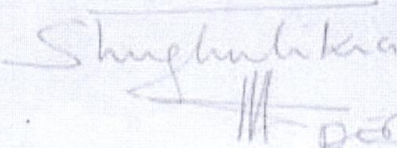
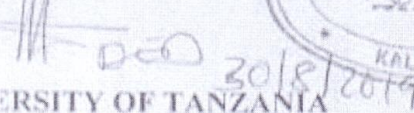
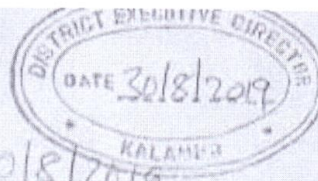
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In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thanks you in advance for your assumed cooperation and facilitation of this research academic activity.


Yours Sincerely,


 Prof. Hossea Rwegoshora
 For: VICE CHANCELLOR
 THE OPEN UNIVERSITY OF TANZANIA

DCDO
 Take note and
 act accordingly

 10/09/2019




THE OPEN UNIVERSITY OF TANZANIA
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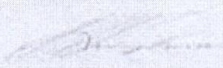
District Executive Director,
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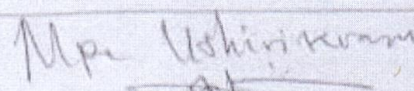
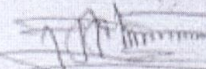
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For: VICE CHANCELLOR
THE OPEN UNIVERSITY OF TANZANIA

MEK - Msanzi


 DPO
