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Editorial Note

Teaching and learning process in higher learning institutions need an in-depth exploration of fundamental skills, principles, practices, theories, concepts and professional issues involved in delivering special adult education knowledge and training in various disciplines. The current edition offers eleven comprehensive articles originated from research and review works that facilitate adult learners' students, lecturers and practitioners to acquire new knowledge and practices in numerous adult educational fields. Other contributors in this edition offer the solutions to pandemic diseases relative to adult learner's contented technics in knowledge acquisition.

In this respect, the article entitled **Assessment on Students' Information Literacy Skills for Self-Directed Learning at the Open University of Tanzania by** Peter Kisusi Charles, assessed students' pre-university information literacy skills, also examined the variations of information literacy skills among students and investigated facilitators' support in developing students' information literacy skills. The findings indicated that some students had pre-university information literacy skills and others relapsed into information illiteracy. Based on information literacy variation some students posses high capacity for recognizing information sources while fewer had lower skills. Moreover, the article revealed ineffective academic support between lecturers and students. The article concluded that, the high or low information literacy skills among students lead distance learning to be easier or complex learning process.

The second article entitled **The Effects of Home Environment on Students' Academic Achievement in Longido District, Arusha Region by** Anathe R. Kimaro sought to examine the effects of home-work habits on students' academic achievement across the gender as well as exploration of the degree to which parental support and finally explored on guidance affect students' academic achievement. The article established that students with high degree of homework activities performed poorly in their subjects compared to students with moderate and low homework burden who scored average and high on their academic tasks respectively. Moreover, female students were occupied more with home-work activities before and after school hours compared to male students. It was also found that parents had very little support and guidance towards their children school related activities. The article recommended that In order to improve students' academic performance, parents should give their children time to study at home by relieving them from burden of home chores.

The third article entitled **Influence of Credit Risk on SACCOS' Performance on Mainland Tanzania and Implications for TEWW SACCOS Ltd by** Mbowe Ramadhani Kabung'a. The article investigated on relationship between the non-performing loan over total loan ratio (NPL/TL) and Return on Assets (ROA) among SACCOS. Second, it set out to determine the relationship between the Total loan over total deposits ratio (TL/TD) and (ROA) among SACCOS. Finally, it compared the influence of the two afore mentioned specific objectives among SACCOS. The findings indicated that (NPL/TL) had a strong negative (-0.89) and significant influence with the ROA at p=0.001. In fact, when NPL/ TL was significantly lower, the ROA on average stood at 45.7 percent. Moreover, there was a positive relationship (+0.91, influence) between (TL/TD) and (ROA) and significant at p<0.001. The results implied that loan recipients used to deposit more in their savings accounts but failed to repay the loan. The article recommended that TEWW SACCOS LTD should be prepared to improvise a special grant mechanism for bad loan provisions or creating discounting sort of mechanism to facilitate the loan repayment before loan crisis.

The fourth article by Mbowe Ramadhani Kabung'a on **Factors Influencing Deposit Mobilizations in Higher Learning Institutions' Financial Entities: A Case Study of TEWW-SACCOS Ltd**, determined the factors mostly influencing the TEWW SACCOS LTD. It also focused on deposit mobilization; establish the effect of interest rates on a variety of services on its deposit mobilization; and the extent to which employees' salary levels affect its deposit mobilization. The findings indicated that most of the respondents (42.2% and 22.2%, respectively) confirmed that the employee's salary levels and the varying services rendered adversely affected the TEWW SACCOS LTD deposit mobilization. The interest rates, were also, insignificantly affected the variety of services and TEWW SACCOS's deposit mobilizations. The effects of employees' salary levels emerged to be three times more adverse than any other factor on TEWW SACCOS LTD deposit mobilization. The article recommended that the TEWW SACCOS LTD needs to increase number or service varieties rendered while rethinking the applicable collateral. Moreover, the TEWW SACCOS LTD management through the employer should endeavor into reformation and encourage more members to join it so as to boost the deposit mobilization.

The fifth article in this edition is **Communication Skills Confidence, Employability Skills and Workplace Preparedness: Perceptions of Finalist-Undergraduate Students at the Institute of Adult Education in Tanzania by** Kija Steven Magembe. It aimed at determining if students are confident in their communication skills and well prepared for employment. Results indicated that, the courses in adult and community development prepared them most for future jobs (M = 4.93). Of the respondents, 62.4% reported to work in an adult education organization and 25.6% planned to attend post-graduate course after graduation. Students were very confident in their communication skills (51.4%). Respondents considered BSc. in Entrepreneurship and Adult Education (36%) and Bachelor degree in Mathematics and other Teaching Science Subject (24%), Bachelor degree in Information Technology (20%) to be most needed programmes. The article suggested that, curriculum revision should always be informed by findings from different studies as well as being guided by assessment for competencies and skills including student's reflections on the curriculum they went through and how much they find it useful/not useful during their learning practices.

In this edition, the article headed **Exploring Potential Areas for Institute of Adult Education's Promotion of Knowledge Sharing among Adult Population in Tanzania** by Onesmo Emmanuel, aimed at finding out the position of IAE in promoting knowledge sharing among adults and seeking to establish potential areas for IAE's consideration in ensuring that knowledge sharing is enhanced. Findings from this article revealed that though IAE is vested with mandate on adult education in Tanzania, the national education policy and plans do not make direct recognition of that. Similarly, there was no establishment of clear and effective mechanisms that provide avenue for wide sharing of knowledge among adults in a country. However, the study provided some areas which are potential for IAE to adopt in its efforts to promote knowledge sharing behavior among adults in the country. The article recommended that, if its functions are clearly defined while pegged on its establishment act and if the potential areas proposed in this study are analyzed for implementation, IAE will play a notable role in managing knowledge sharing behavior in the country.

The seventh article in the current issue is **Role of IPPE and IPOSA in Empowering Youths with Industrial Skills towards Poverty Reduction in Tanzania** by Scholastica Kileo. The article was guided by two research questions whereby the

first question investigated on the ways IPOSA and IPPE can contribute to youth industrial skills in attaining middle-income economy while the second question examined on how both programmes helps Tanzanian youths in tackling poverty. The findings revealed that IPOSA and IPPE programmes equiped youths with skills such as soap, batik, apron and candle making as well as food processing. These skills allowed youths to participate in income generating activities and earn some income thus, improved their livelihoods. The article recommended for integration model of both theory and practical oriented skills to make education system more practical. Finally, the Institute of Adult Education should collaborate with the Ministry of Education, Science and Technology in reviewing education policies to reflect the current needs of industrial economy and compete in the labour market hence curb youth unemployment.

The eighth article in this edition by Kija Steven Magembe, referred to **Students' Views and Difficulties in Data Analysis at the Institute of Adult Education in Tanzania.** The article determined types of statistical techniques commonly used and difficulties encountered by finalist students at the Institute of Adult Education in data analysis process. The findings indicated that sixty-nine percent (69%) had a problem with statistical hypothesis testing and sixty five percent (65%) had a problem with analysis of qualitative data. Furthermore, eighty one percent (81%) of the participants had problem with choosing the right statistical test for data analysis. In addition, descriptive statistics were mostly used (89.6%) and it was indicated that there was a significant difference between the problems experienced by male and female students ($p < 0.05$). The themes that emerged from the data analysis were analytical skills, numerical skills and technical skills. It would be beneficial for students at the Institute of Adult Education to receive training on data analysis skills. The article emphasized on the imperative to understand the challenges the students faced as they continue their educational journeys in Higher Learning Institutions in Tanzania.

The ninth article by Florence Williams on **Flexible Learning Design: A Turning Point for Resilient Adult Education**, explored on ideas of teacher readiness and the characteristics of structured content delivery using teachers from three schools in Montserrat. The findings suggested that: (a) professional development improves teacher readiness for flexible engagement and (b) Ongoing coaching and mentoring are critical for maintaining student engagement in a flexible learning environment. The article recommended that institutions interested in implementing new learning pathways should utilize a guiding framework for professional development that reduces teacher readiness gaps and implement

ways to realize key performance indicators through coaching and mentoring strategies. This research is vital for opening a new perspective for educators and policymakers on effectively planning for sustainable education in small states, both now and in the future.

The tenth article in this edition by Michael Wilfred Ng'umbi entitled **Analysis of the TCU Standards and their Relevance to Quality Assurance in Open and Distance Learning**, reviewed the standards issued by the Tanzania Commission for Universities. The article reported that the standards and guidelines were reasonably fair and provide for all the key basic quality domains to be assured in an institution practising open and distance learning. However, there were some quality issues that could be institutional-specific that need attention, leading to the need of having in place institutional quality assurance policies on Open and Distance Learning. The article proposed a model for quality Open and Distance Learning institutions.

Finally, is the eleventh article by Peter Kisusi Charles entitled **Towards a Paradigm Shift from Andragogy to Heutagogy: Learners' Utilization of Online Resources at the Institute of Adult Education**. The article explored the learners' capabilities in utilizing online resources and secondly, assessed institutional mechanisms in supporting a paradigm shift from andragogy to heutagogy. The findings revealed that students with prior ICT experience were capable of utilizing e-materials effectively than those with no prior experience. Moreover, the study noted some of critical challenges facing librarian and ICT specialist in supporting students such as; most of the students were not aware of free e-libraries; insufficient of e- materials, lack of internet connectivity and absence of computer laboratory. The article concluded that effectiveness of the paradigm shift to heutagogy depends much on the learner's capability in ICT skills and institutional support services.

The authors' contributions towards knowledge from various multidisciplinary issues are highly acknowledged. I appreciate the remarkable work by Reviewers, JAET board members, and Research and Publication Committee.

Dr. Mbowe R. Kabung'a

JAET Chief Editor

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Assessment on Students' Information Literacy Skills for Self-Directed Learning at the Open University of Tanzania

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Abstract

This study assessed students' information literacy skills for self-directed learning at the Open University of Tanzania. The specific objectives were to; assess students' pre-university information literacy skills; examine the variations of information literacy skills among students; and to investigate facilitators' support in developing students' information literacy skills. The study conducted at the Open University of Tanzania in Kinondoni Regional centre. The study employed mixed methods approach and sequential exploratory design. The respondents involved were; students, facilitators, librarians and Information Technology specialists. The participants were obtained through purposive and simple random sampling procedures. The instruments of data collection included were; interview, observation, focus group discussion, documents review, and questionnaires. Qualitative data were analysed through content analysis and quantitative data were analysed using descriptive analysis employing Statistical Package for Social Sciences (SPSS) software version 20.0. The findings indicated that some students had pre-university information literacy skills and others relapsed into information illiteracy. Based on information literacy variation some students posses' high capacity for recognizing information sources while fewer had lower skills. Moreover, the study revealed ineffective academic support between lecturers and students. The study concludes that, the high or low of information literacy skills among students lead distance learning to be easier or complex learning process.

Keywords: *Information literacy skills, Self-directed learning and Open and Distance Learning*

Introduction

Globally, the rapid growth of Information and Communication Technologies has contributed to the emergence of a related concept, namely, information literacy which is becoming increasingly important in the information society due to the development and change of science and technology (Bundy, 2004).

Tracing the origin of information literacy, Bruce (2013) indicates that the history of information literacy runs back to the early 1970s when it was associated with the foundation of library education and information science. The author indicates that since the information literacy has become a foundation to learning and an essential component of digital age, it must be integrated in the whole education system in order to develop a perspective called informed learning or using information to learn. Andretta (2012) adds that information literacy is essential in addressing the requirements generated by such phenomena as information overload, the rapid developments in digital technologies, the needs of the information society for competent information consumers, and the requirements of the knowledge economy for the responsive and informed workforce.

Catts, Lau, Lee and Chang (2012) argued that information literacy empowers people from all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. The authors define information literacy as "a capacity for people to recognize their information needs, locate and evaluate the quality of information, store and retrieve information, make effective and ethical use of information and, apply information to create and communicate knowledge".

The nexus between information literacy skills and self-directed learning can be evidenced by examining one's mastery of information skills that enable an individual to function independently (Thomas, 2012). A study by Bundy (2004) views information literacy as one of the important foundations for self-directed learning and lifelong learning. The author describes information literacy as a prerequisite and essential enabler for lifelong learning, arguing that lifelong learning is intertwined with self-directed learning.

Bruce (2002) notes that skills such as researching, decision-making, communication and problem-solving requires one's ability to locate, manage, evaluate and use information from various sources. Not only that but also Shapiro and Hughes (1996) suggest that information literacy skills are key for students at all levels of learning to learn across all curriculum areas. Such skills could unlock independent learning and help students to do an independent works.

Several studies suggest information literacy skills play a key role in the development of self-directed learning in an academic environment that enables one to go beyond reading lists and recommended texts to discover and explore information independently (Peters, Jones and Mathews, 2007). Given its importance, some scholars (See for example Andretta, 2012) recommend Universities to provide students with ability of information skills and other competencies for working successfully in the modern knowledge-based environment. Such authors emphasize that the goals of education should be to facilitate students on how to think critically and independently using information sources and how to manage it.

The study conducted by Edward (2006) in Australia revealed that students who are unfamiliar with the use of information searching techniques such as use of truncation or wildcard and Boolean operators face problems of finding information from reliable sources for their academic matters. Bruce (2002) point out that the effect of poor information literacy skills on learning is huge among University students. Also the study conducted in Singapore found that some students were unable to search effectively information as required and could not make an accurate interpretation of the questions (Hepworth, 1999).

Within the context of Africa Ilogho and Nkiko (2014) conducted a study on information literacy search skills of students in five selected private Universities in Nigeria. The study shows that students have low knowledge of information literacy skills with high deficiency in identifying diverse information sources. The study concluded that sound information literacy skills is needed in knowledge acquisition in the twenty-first century and recommended inter alia; that information literacy skills should be integrated into the secondary and tertiary schools' curricula. Another study conducted by Jiyane and Onyancha (2010) in eleven (11) South African higher education institutions identified challenges facing first year students in applying information literacy skills such as the lack of information handling skills, including basic computer skills. The findings show that most of the students who come from poorly technologically equipped schools had zero information literacy skills. Furthermore, the study noted that lecturers are forced to begin information literacy program at very basic levels to each first-year cohort (Jiyane and Onyancha, 2010).

Under exploration of issue in case of Tanzania, only few studies have been carried out to explore the status and levels of information literacy skills among

higher education students. Lwehabura and Stilwell (2008) noted that information literacy was a new phenomenon to most of the University students. The study indicated that not all students were able to search online materials using their electronics devices such as laptops and smart phones. Meanwhile, the authors indicated that lack of adequate resources and lack of an information literacy policy were identified as challenges hindering the effectiveness of information literacy programme.

Also, Wema (2006) conducted a study on students' development of information literacy program among public Universities. The study revealed that there was a need to recognize the importance of information literacy education since most of the students were unfamiliar with categories of information sources, analysis, synthesis, evaluation and use of information as needed.

Another study conducted by Lwoga (2014) on mapping information literacy outcomes and learning experiences of health sciences undergraduate students. The study aimed to assess whether first year undergraduate students are applying the research skills taught in an information literacy module. The findings show that there was low use of scholarly database and library catalog for academic and non-academic activities. The study suggests the need to address some issues concerning the information literacy module by putting more emphasis on teaching the topics related to search strategies, information sources and evaluation of resources as a practical and useful skill.

Despite the existence of these studies, only a few of them had focused on investigating the levels and status of information literacy resources in the Open and Distance Learning (ODL) mode of learning within the context of Tanzania. In this regard, the purpose of this study was to assess the extent to which information literacy skills at the OUT facilitate or limit ODL students' capacity for self-directed learning.

Literature Review

The Concept of Self-Directed learning

The concept of self-directed learning (SDL) has its origin in adult learning and it is associated with a number of scholars (Brookfield, 1986, Candy, 1991, Carré, 2012, Gibbons, 2002, and Loeng, 2020).

Brookfield, (1986) and Candy (1991) for example suggest two dimensions related to this concept; the first dimension, self-directed learning refers as self-

teaching whereby learners control much of the mechanics and techniques of teaching themselves in a particular subject and second dimension, self-directed learning which refers to personal autonomy or autodidact, (taking control of the goals and purpose of learning and assuming ownership of learning). Meanwhile, Carré (2012) views self-directed learning as the process that includes both the students' self-determination (freedom of choice) and self-regulation (autonomous learning methods). Thus, the process of learning in SDL context takes place through students' self-production of information and knowledge.

Loeng (2020) argued that the importance of self-directed learning could be viewed through societal and technological changes worldwide. The author explained that the world has changed vastly because of the rapid rate of political, social, and technological change which increases the need for self-directed citizens. The technological development at the workplace and in society, as a whole, requires unique skills and abilities relating to searching and using information from reliable sources. The use of modern technology devices in the workplace lead the significance of updating or upgrading knowledge and skills among workers hence an increasing need of self-directed learners.

Furthermore, Gibbons (2002) argued that self-directed learning develops learner's ownership of learning through motivating a learner to pursue a learning goal and persist in learning process and implies student's autonomy. According to the author's perspective there are a number of steps for one's to become a self-directed learner as shown below (see table 1).

Table 1: *THE GROW'S MODES OF LEARNING AUTONOMY*

Student assumptions	Teachers assumptions	Examples
Dependent	Authority, Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.
Interested	Motivator, guide	Inspiring plus guided discussion. Goal-setting.
Involved	Facilitator	Discussion facilitated by a teacher who participates as equal. Seminar. Group projects.
Self-directed	Consultant, delegator	Internship, dissertation, individual work or self-directed study group.

Source: Knowles, Holton III, and Swanson (2005, p.187)

In his view Gibbons (2002, p.11) argues that a program adhering to SDL should have the following essential elements: (i) Students control over as much of the learning experience as possible. (ii) Skill development (iii) Students' learning to challenge themselves to their best possible performance. (iv) Students' self-management that is, management of themselves and their learning enterprises. (v) Self-motivation and self-assessment.

Information Literacy Skills in Learning

The other key concept in the present study is the concept of information literacy that has been widely discussed in the contemporary society and it is associated with concepts like; metaliteracy, media and information literacy, information fluency, digital literacy and transliteracy (Bruce, 2016). Bundy (2004, p.4), defines information literacy as "an intellectual framework for recognizing the need for, understanding, finding, evaluating, and using information".

Bruce, Demasson, Hughes, Lupton, Abdi, Maybee, Somerville and Mirajimdotter (2017) argued that in learning process information literacy skills enable students to use information in a range of ways. From that perspective students can confidently adapt particular ways of experiencing to the situation they are in and navigate effectively through the information environment. Moreover, the authors confirmed that information literacy skills help an individual to access, evaluate, organize, and use information in order to learn, to solve information problems, and make decisions in educational settings.

Scholars such as Hepworth and Walton, (2013) view the relationship between the information literacy and learning in the broadest sense, as they argue that the relationship between the two is founded on two extremes; firstly, on directed learning where people actively seek information to answers to problems, and secondly, passive learning whereby people absorb information and knowledge from their contact and interact with information landscape around them in an accidental or unplanned way.

The Attributes of Information Literate Person

Bundy (2004) considered the information literate people as an individual who knows when he/she needs information and is able to identify, locate, evaluate, organize, and effectively use the information to address and help resolve personal, job-related, or broader social issues and problems. On the other hand, Wolf (2007, p.1) states that "information literate students are those

who recognize when information is needed to solve problems, who can frame information needs in the form of questions or decisions, and those who can acquire quality information from a variety of sources". Meanwhile, Hepworth and Walton (2013) consider information literate as not just having an ability to define needs, to access information and use that information, but also capacity to think about problems from information perspectives that involves a change in outlook. Furthermore, the Society of College, National, and University Libraries 'SCONUL' (2011) views information literate people as those who demonstrate an awareness of how they gather, use, manage, synthesize and create information and data in an ethical manner and will have the information skills to do so effectively.

Doyle (1994) equate the attributes of information literate person with ability to recognize the need for information, formulate questions based on information needs, identify potential sources of information, evaluate information, organize information, and integrate new information into an existing body of knowledge, as well as using information in critical thinking and problem solving. Thus, learning to be information literate involves acquiring and demonstrating the identified above information literacy skills. Johnston and Webber, (2003) identify key areas of the desirable behavior of information literate person, arguing that information literate student should be able to: (i) Determine the nature and extent of information needed (ii) Access needed information effectively and efficiently (iii) Evaluate information and its sources critically and incorporates selected information into his or her knowledge base and value system (iv) Uses information effectively to accomplish a specific purpose (vi) Understands many of economic, legal, and social issues surrounding the use of information and accesses and use information ethically and legally.

Information Literacy and Teaching and Learning in the Context of SDL

Bruce (2002) states that the adoption of information literacy education emphasizes a broader shift from a content orientation to process orientation and a shift from a teacher-centered to the learner-centered view of learning, and an increased emphasis on understanding the perceptual world of students and their pedagogical implications. The author adds that students who possess information literacy skills are likely to construct their own knowledge and work independently. To promote information literacy for self-directed learning,

Iannuzzi (2000) argues that education should be restructured to meet the information society needs in the ICT development.

Likewise, Hepworth and Walton (2013) emphasizes instructors to use instructional strategies that help learners to become independently informed rather than being given or directed to the information they need. Bundy (2004) adds that using motivating instructional strategies enables learners to understand information gaps and use variety sources of information to construct knowledge, ask informed questions and sharpen their critical thinking skills. The author emphasizes on student-centered constructivist pedagogy such as inquiry-based, problem-based and resource-based learning.

Scholars such as Sanga, Sife, and Lwoga (2007) recommend the use of electronic devices in teaching and learning processes, suggesting that the use of advanced technologies can encourage e-learning especially in the self-directed learning context. They further encourage the use of variety of ICT facilities such as televisions and radios, Compact Discs (CDs) and Digital Versatile Discs (DVDs), video conferencing, mobile technologies, web-based technologies, and electronic learning platforms. The authors argue that in the self-directed learning contexts, technology takes place as a major medium of instruction.

Institutional Support to Students' Development of SDL Skills

Given the wider application of information literacy resources in teaching and learning processes, it seems important for institutions to review their missions and educational goals to determine how information literacy would be supported (Iannuzzi, 2000). As recommended by the author institutions should develop an assessment plan that measures students' information literacy competencies level and help students with lower levels. Moreover, Bruce (2002) argues that Institutions which support information literacy education produce self-directed and lifelong learning skilled graduates. Supporting this view, Lau (2006) argues that institutions should create applicable policies that influence and trade the advantage of information literacy skills in teaching and learning processes.

Furthermore, Andretta (2012) recommend that institutions should support students by providing access to the learning resources available, and teaching and learning processes should go beyond the physical limitations of the traditional library. Apart from that the author emphasizes students, faculty, and staff to have access to remote as well as on-site information resources so as to

fill gaps found in open and distance learning mode. Meanwhile, Bundy (2004) suggests that institutions should incorporate information literacy across curricula in all programs offered. Furthermore, the author emphasizes each institution to develop human resources who possess information literacy skills and those could offer technical support to overcome information problems that facing students and other staffs in an academic environment.

With regard to the issue related to technical problems, Sanga *et al.* (2007) argues that academic institutions should provide technical support services to students where necessary, these support services should include software installation, operation, maintenance, network administration and security. The authors see the provision of technical support services as an important part of the integration of information literacy skills in teaching and learning processes.

 Lastly, Lwoga (2013) conducted a study on faculty perceptions and practices in information literacy at Muhimbili University of Health and Allied Science in Tanzania. The findings show that there was a general support for information literacy development and its importance in enabling students to do library-based research. In assessing faculty perceptions' to a large extent, faculty believed that the information literacy competencies of students were relatively lower (especially the first and second-year students), and improved at the upper levels (third-year undergraduates, and all postgraduates). The study also revealed that students fail to do their assignments due to insufficiency of library use caused by inadequate of information literacy skills.

Knowledge Gap

It is evident that Information literacy skills are the foundation of learning in all level of education system and lack of these skills could hinder students to achieve the intended goals. Despite the availability of information search tools, gateways, databases, search engines and librarians as described by some existing studies, the extent to which open and distance learners at the Open University of Tanzania optimally use these tools effectively to become self-directed learners has less or not been determined. However, researcher found that, most of existing studies in Tanzania on students' information literacy skills focus on Universities that run conventional face to face mode of teaching. Thus, the development of information literacy skills and self-directed learning is crucial to ODL students. Though a number of studies had been conducted in

the field of education in Tanzania context, but still there was few, if any, that had focused on the concept of ODL context. It's against this background that a study of this nature was seemed necessary.

Material and Methods

This study adopted a mixed methods approach. Given the complexity of the study on assessing students' information literacy skills for self-directed learning, a mixed methods approach that allows the use of evidence from different sources is appropriate as argued by Plano-Clark and Creswell (2015). The study employed a sequential exploratory design because the study under investigation needed detailed exploration to understand how students possess information literacy skills and how those skills could facilitate self-directed learning. Two-phase mixed method design was used (See figure 1). The research adopted Plano-Clark and Creswell (2015) model to build qualitative and quantitative data.
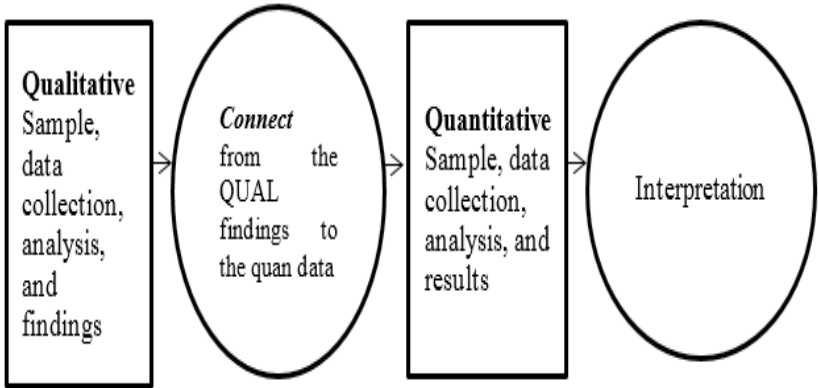
Figure 1. The sequential Exploratory QUAL quan Mixed Methods Research Design

Source: Adapted from Plano-Clark & Creswell (2015, p.398) (*Note:* QUAL qualitative; QUAN quantitative)

The study was conducted at the Open University of Tanzania covering the Kinondoni Regional centre in Kinondoni Municipality in Dar es Salaam Region. The OUT was selected as the research area because it constitutes one of oldest open and distance learning institutions in the country, which has pioneered the use of information literacy resources in teaching and learning.

The sample for the study included 114 participants, the qualitative phase included

24 participants and the quantitative phase involved 90 students. In order to gather reliable data the researcher used two phases of multilevel sampling technique as suggested by Onwuegbuzie and Collins, (2007). The first phase referred to purposive sampling under the qualitative phase of data collection, while the second was simple random sampling. Through purposive sampling, a smaller qualitative sample of 18 students, two facilitators, two librarians, and two IT specialists was obtained. On the other hand, simple random sampling was used to obtain 90 students who were required for the larger quantitative sample.

The study employed five data collection methods; interviews, observations, focus group discussion, documents review, and questionnaires. On the other hand, to ensure reliability of the research instruments, the researcher conducted a pilot study before the actual data collection. To enhance the trustworthiness of data in the qualitative component of the study, the researcher used multiple data analysis procedures to analyze the same information. For instance, the data gathered from facilitators and students were analysed differently to establish correlations. Confirmation was also used to compare the students' interviews and focus group discussion responses if they matched.

Considering the nature of the study, data collected from this study were analysed both qualitatively and quantitatively. All qualitative data were manually transcribed and subjected to content analysis based on the research questions. On top of that direct quotations as expressed by respondents were analysed and checked for grammatical errors before presented to the findings. The quantitative data were gathered by questionnaires and analysed using Statistical Package of Social Sciences (SPSS) Version 20. The researcher analysed data by using descriptive statistics. The responses were presented using frequencies, percentages as well as clustered bar graphs in order to compare the results. The analysed data were used to supplement the findings from the qualitative findings.

Results

The findings from this study were sought based on the following three objectives: To assess students' pre-university information literacy skills; to examine the variations of information literacy skills among ODL students; and to investigate facilitators' support in developing students' information literacy skills.

Student pre-University Information Literacy Skills

The first analysis based on the students' pre-University information skills and its application with future skills in learning at a distance. From the analysis of findings, it was noted that some students had pre-university information literacy skills acquired at advanced secondary, Diploma and workplaces that could help them to learn more effectively and confidently. Some of the interviewed students with good background in using information literacy resources for example reported its usefulness.

> *I often use materials from 'open courseware' to supplement my study material. This is because of the information literacy experiences I had from Diploma education that helps me to use Online Public Access Catalog 'OPAC' for searching information. (Interview, third-year student no.12)*

The above quote suggests that prior information literacy knowledge helped its bearer to pursue studies conveniently. Subsequent analysis from the focus group discussion conducted with students supported the findings in relating to the role of previous experience in helping one to develop future capacity for learning, as reported.

> *Some of us we have background knowledge in using information literacy resources. We can easily find materials from different sources. We normally use reference books that we find in study materials for searching other materials. (Focus Group Discussion, student no. 2, 5 and 6)*

The foregoing quotes suggest the importance of prior information literacy experience in ensuring good self-directed learning practices. However, further analysis suggested that being information literate only does not necessarily determine that one could practice all learning and information activities because some of the functions require advanced skills. The analysis of the study suggested further that, the lack of practices in using information literacy resources could lead into some students relapsing into information illiteracy even if they learned such skills before, as illustrated in the interview quote.

> *I learned information literacy education when I was pursuing Diploma where we were introduced to knowledge on how to use search engines and tools like keywords and Boolean operators. I am relapsed into information illiteracy due to poor and lack of frequent practices. I often request support from my husband for searching online information. (Interview, first-year student no. 3)*

The quote above suggests that the lack of or poor practices could lead some students relapsing into information illiteracy even though they had background knowledge on information literacy skills. However, it was noted further that not all interviewed students had background in using information literacy resources. From the analysis, it was noted that some students with no prior knowledge on information literacy skills use could not use information literacy resources effectively, as illustrated in the quote.

> *I had no prior experience on information literacy resources use. I cannot operate a computer and use internet. Since I registered in this course, I have never used computers to write or search information. I always depend on hard copies and group discussion materials. (Interview, first-year student no. 9)*

The foregoing quote suggests that students with poor information literacy skills background found it difficult to use some information literacy resources when learning such as searching information compared to those with good background knowledge of information literacy skills. The analysis suggests further that the majority of information illiterate student (almost 25%) tended to use the hardcopies, a practice that could lead into poor or under-utilization of online materials.

With regard to quantitative data on the status information literacy resources and students' levels of information literacy skills, the analysis indicated that about 65% students could use information literacy resources effectively while 35% could not use properly. Furthermore, the analysis indicated that out of 90 students (73.3%) indicated that they could use the database to search for materials, and 88.9% were able to store information in computers, mobile phones, and flash disks. Additionally, (70.0%) of students indicated they were able to use materials found in open courseware, while 61.1% indicated they were able to use OPAC for searching information (see table 1). From these data, it was noted that some students had skills in using technological devices that could enable them to access information easily in self-directed learning processes.

Table 2: STUDENTS' UTILIZATION OF SELECTED INFORMATION LITERACY RESOURCES

Information literacy practices	Respondents views (*n=90*)	
	Disagree	**Agree**
I use library database to gather materials	24(26.7%)	66(73.3%)
I store information in computer, mobile phone or flash disk	10(11.1%)	80(88.9%)
I use material from open courseware	27(30.0%)	63(70.0%)
I always use search strategies such as keywords and Boolean operators in searching information	40(44.4%)	50(55.6%)
I access full-text materials, both softcopy and hardcopy materials	13(14.4%)	77(85.6%)
I use OPAC for searching information	35(38.9%)	55(61.1%)

Table 2 shows levels of students' utilization of some selected information literacy resources. The data indicated that some students had moderate abilities to skills like access to full-text materials, both softcopy, and hardcopy. Further analysis indicated that almost 44.4% students were unaware of search strategies such as Boolean operators.

The examination of the influence of students' pre-university experience in using information literacy resources was also analyzed using graphs. Figure 2, 3 and 4 indicate the student pre-university qualifications predicting their prior information literacy skills. The results indicate that students who joined the university with Diploma and A-level qualifications seemed to have relatively higher levels of information literacy skills than those who joined with foundation courses.
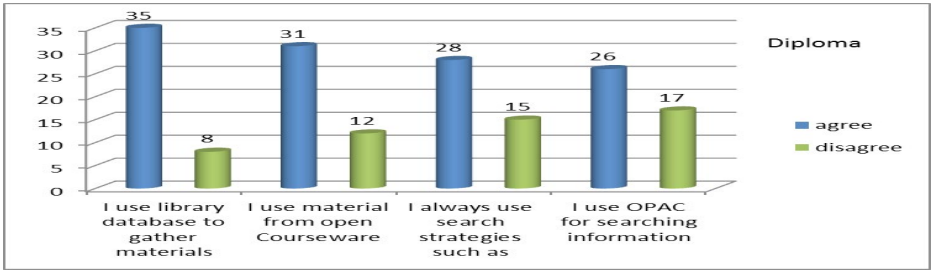
Figure 2: Students with Diploma Qualifications at Joining the University
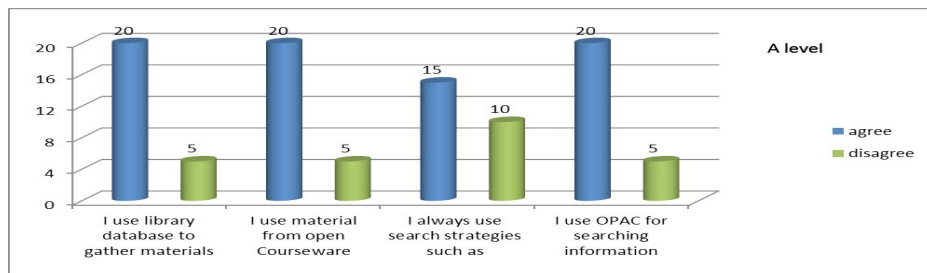
Figure 3: Students with A-level Qualifications at Joining the University
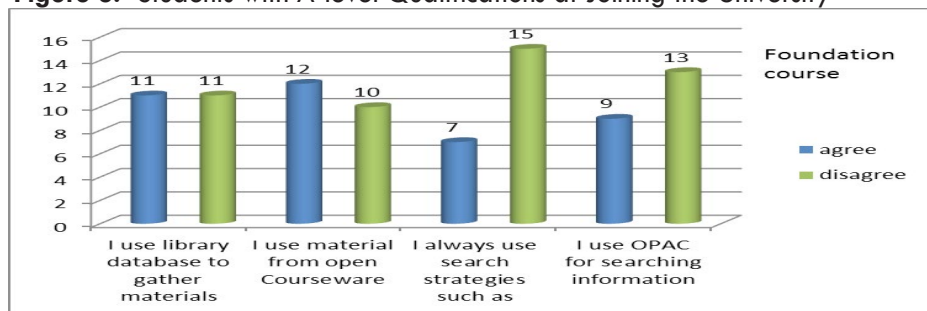
Figure 4: Students with Foundation Courses Qualifications at Joining the University

Figure 2, 3 and 4 indicate the students' pre-university variation in entrance qualification and prior information literacy skills. Again, the study revealed that students differed in their prior information literacy levels on the basis of their education background and foundational skills.

Variation of Information Literacy Skills among Students

It was noted that there were no relatively significant differences in some skills. However, it was noted also that some students' possess higher capacity for recognizing sources while fewer had lower level of skills, as suggested.

> *I often identify information required through the topics recommended in the class to be covered in the academic semester and from the proposed study materials. (Interview, third-year student no. 6)*

> *I am aware of some information sources. When I do not recognize the required information, I request support to my colleagues. (Interview, second-year student no. 18)*

The quotes above suggest that some student possessed some information literacy skills and only few could not identify sources properly. Further analysis suggested that even though some students could recognize proper information needed, still others seemed to have no adequate skills. Inability to recognize sources also was noted during FGD sessions with students in which some participants (especially first year students) claimed to face difficulties in recognizing information need as illustrated.

> *We face challenges in searching information and it is time-consuming to identify the appropriate materials from various sources. The only alternative way we use is to borrow or photocopy materials from colleagues. (Focus Group Discussion, first year students)*

The foregoing quote suggests that some students could easily find hard copies than softcopies due to their inabilities to use online sources. The study in addition, examined variation in students' abilities to distinguish information, in which the analysis of data suggested that some students could distinguish information as they agreed to statement such as most of the online materials contain accurate contents than hardcopy study materials. It was noted further that almost 45% students could distinguish hardcopy materials from online materials. The findings, in addition, suggested that some of the students (almost 55%) could not distinguish information that suit course needs as reported.

> *I often get hard time to identify information gaps found in online learning materials. To fill the gaps I find support from colleagues who assist me to differentiate appropriate types of material that meet topics mentioned in the course needs. (Interview, first-year student no. 5)*
>
> *When I joined the University, I find it difficult to distinguish online information sources. However, recently, I can somehow distinguish information found from different sources. (Interview, third year student no. 2)*

The above quotes show variations among first and third year students in distinguishing gaps in information. One of the possible explanation for the differences between first year and third year students could be because at the beginning (first year) normally some students face challenges in using information literacy resources and they gradually develop skills as they continue with studies at the upper levels (second and third year).

With regard to students' variation in abilities for evaluating information, the findings suggested that students' ability for comparing and evaluating differed

according to factors such as educational background and previous exposure they had, as illustrated.

> *I access material from different sources. The challenge I get is assessing the credibility of materials I gather from those sources. (Interview, first-year student no. 11 with A-level background)*

> *Sometimes we have trouble in identifying suitable search strategies. Once we had a topic or question, we write the whole topic statement or question and start searching using Google. We often find it difficult to choose the right information. (Focus group discussion, students with foundation course background)*

> *I always prefer to read materials from different sources that are relevant for our study materials. Before I use those materials I assess the quality and accuracy if meet our course needs. (Interview, second-year student no. 8 with diploma background)*

The above quotes suggest some variations among students in abilities to evaluate and filtering information.

Facilitators' Support to Students' Information Literacy Skills

Qualitative findings indicated that many students did not receive required support from tutors. Further findings show most of the interviewed students reported to meet their facilitators only during face to face sessions and few of them find support via e-mail contacts and mobile phones, as illustrated.

> *Only few students visit my office in the academic semester. Most of them call me via the mobile phone for academic support. I experience a hard time to support students who didn't attend orientation course and those with poor IT and library skills background. (Interview, facilitator no. 1)*

> *We visit the lecturer office for academic support. He teaches us how to identify various source of information. Also, He helps us to download e-books, articles, and journals which are in the form of PDF's files. (Focus group discussion, second year students)*

The foregoing quotes suggest the role of support in helping students processing and identifying information through online searching. By using observation schedule and documents review it was noted that two out of five computer laboratories at the Kinondoni region center had insufficient facilities and students had to use the OUT headquarters' computer laboratories which were just nearby. Again, during the focus group discussion with 6 students, some

participants reported that most of computers at the OUT headquarters were not connected to internet and those with internet had poor connectivity. Participants also reported that there was no wireless internet connectivity and in most cases they had to rely on mobile phones, as illustrated.

> There is no wireless connectivity at the OUT compound and the available internet network in the library is too slow. We use too much time in searching information. (Focus Group Discussion students)
>
> My phone is everything in studying since it enables me to search for materials from online PDF's files and e-books. I read material from those documents and write short notes guided my course outline; I create folders and store documents. I normally send those materials and documents to my colleagues through e-mail. (Focus Group Discussion, student 6)

The above quotes illustrate some kind of problems faced by students in using information literacy resources. The analysis of findings from IT specialists suggests that some kind of support services were available to students with obstacles in getting internet connection. As reported by IT specialist, this was the main reason that led to fewer resources and network overload as well as overcrowded library, as suggested.

> During weekends and evenings, we experience a big number of students who seek assistance due to network problems. Although we have three large computer laboratories here at the HQ, sometimes this service fails to accommodate a large number of students. We also experience power interruptions and network breakdown. (Interview, IT specialist 1)

The foregoing quote suggests the status of information literacy resources at the OUT. From the analysis it was noted further that computer rooms at the Kinondoni centre had a capacity to accommodate only 30 students and had inadequate facilities. Similar findings were also noted during the focus group discussion, which suggested that students were experiencing challenges in accessing both printed and online materials, including a shortage of relevant books.

Further analysis from observation schedule suggested that only few printed books were in the library. For example, it was noted that the library had only six bookshelves. Also, during the focus group discussion the analysis noted the shortage of books and insufficient of library venue to accommodate a large number of students. Furthermore, some participants reported that sometimes they could not find the intended books in the library as illustrated.

We normally visit the OUT library during evening and in the weekends. Sometimes, we do not find books that are relevant to my course. When we find them using the databases like Amazon, they normally require payment. The purchasing costs limit us from accessing the books because they are sold in terms of US dollars and we are not familiar with terms and conditions for online purchasing. (Focus group discussion students)

As the above quote illustrates, even though students were aware of the material found from different sources still they could not access relevant materials. Further analysis suggested that more than 50% of interviewed students could not find relevant material from the library but they could find such materials in other online databases like Amazon which demanded payments.

A subsequent interview with academic staffs and librarians also suggested that there were many challenges related to resources, including poor internet and information literacy resources with insufficient support services. The analysis of findings from interviewed librarians, suggested further that all three regional centres (Kinondoni, Ilala, and Temeke) had no library services, they depended on the headquarters. Given the insufficient support services, the OUT headquarter library could not accommodate large numbers of students who visited the centre for books review and other information resources services. Further analysis of data from interview with librarians indicated that the capacity of the library was only 200 students. Using observation schedules however, it was noted that there were only 160 chairs in the library.

The status of information literacy resources and accessibility was also examined using quantitative data using questionnaires in which the analysis show that many students (almost 90%) reported had access to full-text hardcopy materials (see table 2 above). From the qualitative findings however, it was noted that most students were unaware of free online libraries such as libGen and Bookzz which could offer free ebooks and PDF documents.

Again, through the use of observation schedules, it was noted that not all electronic resources were accessible but most of the electronic databases services were operating and some were completely or temporarily closed (see Figure 5).
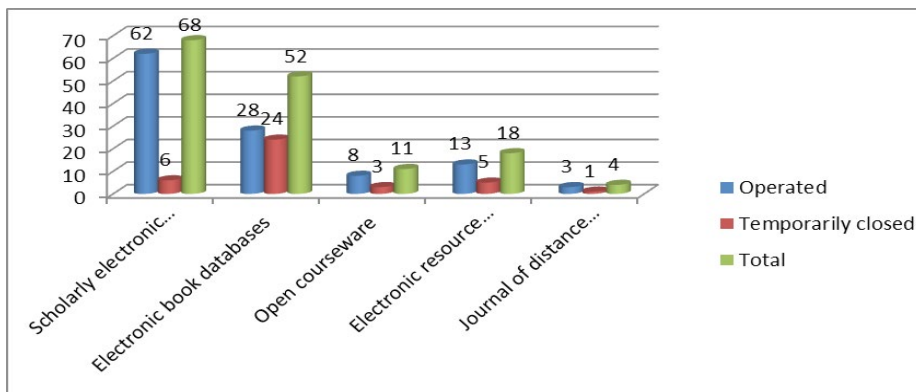
Figure 5. Status of Electronic Materials at the OUT

Figure 5 suggest that scholarly electronic database had many sources of information than others. On the other hand the Journal of Distance had fewer information sources than others. Further findings of interview indicated that the OUT encouraged students to use open courseware which was free and had open digital publication of high-quality from respectable Colleges and Universities around the world.

Discussion

The purpose of this study was to explore the extent to which students' information literacy skills at the OUT facilitate or limit students' capacity for self-directed learning. The findings from the interview indicated that although some students reported that they were computer illiterate, also they were not able to use some functions such as search engines like Google to download e-books and PDF's documents. Some students for example reported that they could not read online materials then write short notes, create folders and store documents in their phones or print out. These findings are similar with those of Lwoga (2013), who noted that information literacy for students including their ability to find, compare, use and evaluate information was average while at the lower levels (first and second-year students) and could improve at the upper levels of their study (third-year undergraduates and all postgraduates).

Furthermore, the results in the present study show that most students who join the University without foundational courses are unfamiliar with materials and uses of online search tools. Meanwhile, the results from the interview showed further that, some students faced challenges in using resources such as OPAC

search tool and their levels had relatively lower information literacy skills foundation. These findings are also consistent with those of Edward (2006) who noted that undergraduate students could have confidence in using information literacy resources when they join a university with a background in the use of information literacy resources. Similar findings are also reported in a previous study by Wema (2006) who noted that University students who have poor skills in locating information through tools such as the library OPAC, online database, and search engines could have poor information literacy skills background. Meanwhile, related findings are also reported by Jiyane and Onyancha (2010) who revealed that students who join universities for the first time lack basic information handling skills, including basic computer skills.

The findings on variation in students' abilities to evaluate information indicated that some students had a higher capacity for recognizing sources while fewer had lower level of skills. The results are also consistent with findings in a study by Andretta (2012) who reported a variation in evaluating information critically, in which students with relatively poor information literacy skills background could not perform well. These findings also are consistent with the findings in the previous study by Bruce (1997) which indicates that learners who previously possess information competencies could evaluate information from both hard copies and could enable them to interact with the world of knowledge and technology hence it becomes easily for them to be self-directed learners.

The results from facilitators' support to students' information literacy skills indicates that support service from lecturers could be essential for strengthening students' information literacy skills. From the analysis, the study revealed lack or poor effective academic support between lecturers and students caused by two factors; Firstly, orientation programs facilitated for few days and do not meet a high number of students. Secondly, face to face session is scheduled for students to meet with their instructor for portfolio assessment only and no room for critical discussions. The findings on poor communications between learners and facilitators are also reported in a study by Edward (2006) who indicates that students cannot access information needed if they are not supported. Furthermore, the findings on student support and accessibility to information resources were consistent with those of Lwoga (2013) which indicated that the lack of familiarity with some online resources could lead into students failing to do their assignments and other academic works effectively.

Generally, in the light of research findings, it can be concluded that, the high or low of information literacy skills among ODL students contributes towards making distance learning an easier or complex learning process in the contemporary digital age respectively.

The findings of this study have proved the adequate of information literacy resources is central for the development of self-directed learning capacity among students. This is due to fact ODL students with access to information literacy resources had a greater chance for distance learning. Furthermore, the findings have revealed that students' ability to search for information independently can enhance the development of generic skills such as critical thinking, decision-making, and problem-solving skills, hence self-directed learning.

Lastly, the current study was based on undergraduate students and the study has revealed that the students were limited to information practices such as assignments and projects contrary to postgraduate students who do assignments and conduct research works. The study recommends for further studies at the same institution aimed exploring the capability of postgraduate students' information literacy skills.

References

Andretta, S. (2012). Ways of experiencing information literacy. http://doi.org/10.1016/B978-1-84334-680-7.50004-8

Brookfield, D.S. (2006). The skillful teacher: On technique, trust and responsiveness in the classroom (2nd ed.). San Francisco, CA: Jossey-Bass

Bruce, C. (2002). Information literacy as a catalyst for educational change: A background paper. Paper presented at the white paper prepared for UNESCO, the U.S. National Commision on Libraries and Information Science, and the National Forum on Information Literacy. Retrieved from http://www.nclis.gov/libinter/infolitconfe&meet/papers/bruce-fullpaper.pdf

Bruce, C. (2013). Keynote address: Information literacy research and practice: An experiential perspective. In S. Kurbanoglu, E. Grassian, D. Mizrachi, R. Catts, & S. Spiranec (Eds.) Worldwide commonalities and challenges in information literacy research and *practices*: European Conference on Information Literacy. Revised selected papers (pp.11-30). (Communications in Computer and Information Science Series: 397). Heidelberg, NY: Springer

Bruce, C. (2016). Information literacy research: dimensions of the emerging collective consciousness. A reflection, Australian Academic & Research Libraries, 47:4, 239-244, DOI: 10.1080/00048623.2016.1248236

Bruce, C., Demasson, A., Hughes, H,. Lupton, M., Abdi, S., Maybee, C., Somerville, M. & Mirajimdotter, A. (2017). Information literacy and informed learning: conceptual innovations for IL research and practice futures. Journal of Information Literacy, 11(1), pp.4-22. http://dx.doi.org/10.11645/11.1.2184

Bundy, A. (2004). Australian and New Zealand information literacy framework, 48. Retrieved from http://www.library.unisa.edu.au/learn/infolit/infolit-2nd-edition.pdf

Candy, P.C. (1991). Self-direction for lifelong learning. A comprehensive guide to theory and practice. San Francisco, CA: Jossey-Bass

Carré, P. (2012). The double dimension of self-directed learning: learners experiment with freedom. In L. M. Guglielmino (ed) International Journal of Self-directed Learning, 9(2), 1 - 10. Retrieved from http://www.sdlglobal.com

Catts, R., Lau, J., Lee, A. Y. L., & Chang, H. H. (2012). Theoretical and Conceptual Framework for Media and Information Literacy (MIL) Indicators. Draft paper submitted to the Communication and Information Sector, UNESCO.

Doyle, C. (1994). Information literacy in an information society: A concept for the information age. New York: Eric Clearinghouse on Information Resources

Edwards, S. (2006). Panning for Gold: Information literacy and the net lenses model. Adelaide: Auslib Press

Gibbons, M. (2002). The self-directed learning handbook. San Francisco, CA: Jossey-Bass

Hepworth, M. (1999). 'A study of undergraduate information literacy and skills: the inclusion of information literacy and skills in the undergraduate curriculum'. 65th IFLA Council and General Conference. Bangkok. Retrieved from htpp://www.ifla.org/IV/ifla65/papers/107-12e.htm

Hepworth, M. & Walton, G. (eds) (2013). Introduction – information literacy and information behaviour, complementary approaches for building capability. In Hepworth, M. & Walton, G. (eds) Developing people's information capabilities: fostering IL in educational, workplace and community contexts. Bingley: Emerald Group Publishing Ltd.

Iannuzzi, P. (2000). Information Literacy Competency Standards for Higher Education. Community & Junior College Libraries, 16. http://doi.org/10.1300/J107v09n04_09

Ilogho, J. E. & Nkiko, C. (2014). Information Literacy Search Skills of Students in Five Selected Private Universities in Ogun State, Nigeria: A Survey. Library Philosophy and Practice (e-journal) . 1040. https://digitalcommons.unl.edu/libphilprac/1040

Jiyane, G. V., & Onyancha, O. B. (2010). Information literacy education and instruction in academic libraries and LIS schools in institutions of higher education in South Africa. South African Journal of Libraries & Information Science, 76(1), 11–23. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=54403710&site=ehost-live

Johnston, B., & Webber, S. (2003). Information Literacy in Higher Education: A review and case study. Studies in Higher Education, 28(3), 335–352. http://doi.org/10.1080/03075070309295

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2005). The adult learner (8th ed.). New York: Routledge

Lau, J. (2006). Guidelines on information literacy for lifelong learning. Boca del

Rio, Veracruz, Mexico: IFLA.Retrieved from http://www.jesuslau.com/docs/publicaciones/doc2/Iflaguidelines.pdf

Loeng, S. (2020). Self-Directed Learning: A Core Concept in Adult Education. Education Research International, 2020, 12. http://doi.org/10.1155/2020/3816132

Lwehabura, M., & Stilwell, C. (2008). Information literacy in Tanzanian universities: Challenges and potential opportunities. Journal of Librarianship and Information Science, 40(3), 179–191. http://doi.org/10.1177/0961000608092553

Lwoga, E. (2013). Faculty perceptions and practices in health sciences information literacy instruction in Tanzania. Library Philosophy *and Practice*, 1017, 1–19

Lwoga, E. (2014). Mapping information literacy outcomes and learning experiences of health sciences undergraduate students. Partnership : The Canadian Journal of Library and Information Practice and Research, 9(1), 1–17. Retrieved from http://criticalvoices.lib.uoguelph.ca/index.php/perj/article/view/2695

Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. The Qualitative Report, 12(2), 281–316. Retrieved from http://www.nova.edu/ssss/QR/QR12-2/onwuegbuzie2.pdf

Peters, K., Jones, R., & Mathews, D. (2007). InfoSkills: Training for independent learning. Library & Information Update, 5 (1), 4 - 8. Retrieved from http://www.celt.mmu.ac.uk/ltia/issue12/peters.pdf

Plano-Clark, L.V. & Creswell, W. J. (2015). Understanding research: A consumer's guide (2nd ed.). New York: PEARSON

Sanga.C., Sife, A. S., & Lwoga, E. T. (2007). New technologies for teaching and learning : Challenges for higher learning institutions in developing countries. International Journal of Education and Development Using Information and Communication Technology, 3(2), 57–67

SCONUL core model (2011). The Society of College, National and University Libraries. Seven Pillars of Information Literacy. (April), 1–14. http://doi.org/10.1108/00907320610716486

Shapiro, J. J., & Hughes, S. K. (1996). Information Literacy as a Liberal Art Enlightenment proposals for a new curriculum. Educom Review, 31(2),

1–6. http://doi.org/10.1016/j.tics.2005.02.002

Thomas, L. J. (2012). Do-It-Yourself Information Literacy: Self-Directed Learning at a Distance, Journal of Library & Information Services in Distance Learning, 6:3-4, 376-386, DOI: 10.1080/1533290X.2012.705168

Wema, E. F. (2006). Developing information literacy programs fo public university libraries in Tanzania : a case study of the University of Dar es Salaam. (Unpublished Ph.D. thesis) Loughborough University Institutional Repository

Wolf, S. (2007). Information literacy and self-regulation: A convergence of disciplines. School Library Media Research, 10, 1-1. Retrieved from www.ala.org/aasl/s/r.

The Effects of Home Environment on Students' Academic Achievement in Selected Ward Secondary Schools in Longido District - Arusha Region

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Abstract

This study explored the effects of home environment on students' academic achievement in selected ward secondary school students at Longido District in Tanzania. Specifically, the study sought to examine the effects of home-work habits on students' academic achievement across the gender, to explore the degree to which parental support and guidance affect students' academic achievement. The study employed quantitative methods with some element of qualitative approach for the discussion of results. The study was conducted in four ward secondary schools in Longido district. A total of 144 participants were involved in the study. Categorically, 80 of them were students, 60 were parents and four were secondary school teachers. Data were collected through questionnaire, interview and observation. The study established that students with high degree of homework activities performed poorly in their subjects compared to students with moderate and low homework burden who scored average and high on their academic tasks respectively. Moreover, female students were occupied more with home-work activities before and after school hours compared to male students. It was also found that parents had very little support and guidance towards their children school related activities. It was concluded the home environment exerts significantly influence on students' performance. In order to improve students' academic performance, parents should give their children time to study at home by relieving them from burden of home chores.

Keywords: *Academic achievement, family, home environment*

Introduction

A home is a place where students live with their parents/guardians and it is the place where they are groomed. The home environment entails; provision of stimulating and learning experiences in the home and emotional warmth displayed by parents while interacting with their children (Kimaro, & Machumu, 2015; Komba & Jonathan, 2014). Arguably, home environment not only provides hereditary transmission of the basic potentials that influence child development but also it is place where a child begins to learn the norms and values of the society in which he/she find him/herself. Hence, the environment plays a very important role in one's personal growth (Jayanthi & Srinivasan, 2015).

In brief, family is a social unit of society and it is the source of early stimulation and experience in children (Cleophas, 2014). Basically, it is in the family where very young children typically acquire language, knowledge, skills, and behaviour. This has the potential to shape child's readiness for school, attitudes towards learning, and his/her later academic attainment (Chohan, 2010; Machana *et al.,* 2017). Principally, parents who provide a warm, responsive and supporting healthy environment, encourage exploration, and learning materials accelerate their children's intellectual development. Children need supportive social environment, access to resources within the home to support cognitive, emotional and physical development and stable home environment. Alternatively, noisy, chaotic and unstable environments have negative effects on children's health Edwards (2010) and development. Children are motivated to work on activities and learn new information and skills when their environments are rich in interesting activities that arouse their curiosity and offer moderate challenges (Jagero, *et.al.* 2010; Slaughter & Epps, 2012).

It has been assumed that academic achievement of any child may not only depend on the quality of the teachers and schools, rather the home environment in which the child lives; a healthy and supportive home environment offers emotional security to a child (Kamuti, 2015). Academic performance of students is a key feature in education (Masabo, *et al.*, 2017). It is considered to be the centre around which the whole education system revolves. In brief, Academic performance refers to the level of learning outcomes or achievement of students. According to Obeta (2014) academic performance is the knowledge gained which is assessed by marks by a teacher and/or educational goals set by students and teachers to be achieved over a specific period of time. These goals are measured by using continuous assessment or examinations results. He opined that the academic performance of students determines the success

or failure of any academic institution. Siraj (2010) also asserted that students' academic performance serves as bedrock for knowledge acquisition and the development of skills. In the same vein, Mudassir and Abubakar (2015) argued that academic performance of students has an influence on the socio-economic development of a country. More so, Farooq (2011) emphases that the top most priority of all educators is academic performance of students. Therefore, performance tests are instruments used to measure learning abilities.

According to Khan et al. (2019) individual differences in academic performance is due to differences in intelligence and personality. He asserted that students with higher mental abilities as demonstrated by IQ tests and those who are higher in conscientiousness (linked to effort and achievement motivation) tend to achieve highly in academic settings. However, a number of factors contribute to such students. Such factors emanate from curriculum planning and implementation, school environment, parents, socialization patterns in the home, location of the home, siblings or peer group influence and so on (Ali, et al.,2014).

In the view of Siraj (2010), from the parental support to family income, home factors can make the significant difference between a child's academic success or failure. Numerous studies in this area have acknowledged the importance of home facilities in enabling and restraining children in practicing educational activities at home. Class preparation and practice at home are fundamental for child, as a child spends only five and six hours at school and the remaining time is spent at home which needs to be utilized properly (Ali, *et al.*,2014; Barnard, 2014; Awasthi, 2017). The proper utilization of home time of children means provision of educational environment at home, which plays a dominant role in improving the educational performances of children.

Apart from home facilities, family income and education occupation are linked to students' school academic success. For example, Kamuti (2015) asserts that parents with higher socio-economic status are able to provide their children with the (often necessary) financial support and home resources for individual learning. They are also more likely to provide a more stimulating environment to promote cognitive development. Parents face major challenges when it comes to providing optimal care and education for their children. However, the challenges are acutely devastating among the poor income families struggling to provide the basic needs to sustain the family. Families with low socio-economic status often lack the financial, social and educational supports that characterized families with high socio-economic status. For example, Malley (2001) study conducted at Meru district, found that parental economic background determined students'

academic achievement. Particularly, the study found that children whose parents or guardians were keeping livestock, farmers, or worked in mines were more likely to perform poorly.

Based on this background, the present study investigated on the influence of home environment on students' academic achievement in order to recommend what should be done to increase academic achievement of students in Longido District. Majority of people who live in Longido District are Maasai whose most of the time are used to migrate with their herds to different parts of the regions where pastures and water for their animals are available. According to Ngusa and Gundula (2019) Maasai are Nilotic ethnic groups inhabiting in Central and Southern Kenya and Northern Tanzania. The Maasai society is patriarchal in nature with the elders and family heads deciding most matters for each Maasai group.

Various efforts have been made by Tanzanian government and other educational stakeholders in order to increase educational achievement amongst pastoralists such as setting up of boarding schools, introducing school feeding programme, establishment of mobile schools, free education policy and non-formal programs (Ngusa & Gundula, 2019). More important, the Tanzanian government has instituted specific plans to encourage the Maasai to abandon their traditional lifestyles that prevent their children's academic achievement. One of the strategies used was to increase number of secondary schools in every ward or administrative unit to increase access and equity in education (Ngusa & Gundula, 2019) but still there seems to be academic under achievement by secondary school students from Maasai Community where Longido district belongs. Table 1 present the summary of secondary school students' academic performance in form four national examination from 2015 to 2018 in Longido district.

Table 1: FORM FOUR NATIONAL EXAMINATIONS PERFORMANCE IN PERCENTAGES IN LONGIDO DISTRICT (2014-2017)

Years	2015	2016	2017	2018
% obtained I-III	27.5	25.9	33.7	31.3
%obtained IV & O	72.5	74.1	66.3	68.7

Source: Longido district data,

The data in the table 1 shows that only 27.5%, 25.9%, 33.7% and 31.3% students had pass rate of division I, II and III in 2015, 2016, 2017 and 2018 respectively whereas the rest had pass rate of division IV & O. There are many homes environmentally related factors which are likely to influence students' academic performance in Longido District. However, the variables under investigation in this study included home activities and parental support and guidance. These two variables comprised the independent variables whereas students' performance comprised of the dependent variable.

Literature Review

The home environment refers to aspects of peoples domestic lives that contribute to their living conditions; this includes all the human and material resources present at home that affects the student's education and living, such as socializing facilities available in the house, nature of home activities, socio-economic status, parent's occupation, parent's level of education and (Edwards, 2020). Thus, the home is the basic institution for providing the child's primary socialization and laying the educational foundation for the child upon which other agents of socialization are built. In view of Parveen (2017), the education received by a child from parents and others at home is most likely to have highly significant and dominant effects on the behaviors of the child later in life.

Slaughter and Epps (2012), refer to home environment as the characteristics of societal component created by members of the family living together in one area and do activities that are directly related to the duties of the family. According to Slaughter and Epps (2012), academic performance of students is also influenced by the kind of environment that student is directly involved in at home. In a similar observation, Barnard (2014), observed that the performance in students' academics strongly relies on the manner in which the parents are involved in matters concerning their children academics. In recognizing this, in 1980 Bloom developed the model which identified aspects of home environment that have significant influence on child's academic achievement:

- Intellectual stimulation: refers to the activities done by family members to provide intellectual interest. For example, the nature and extent of conversation about ideas and the nature of the intellectual models which parents provide.
- Academic aspirations and expectations: the parents' aspirations for the child, the standards they set for their children school achievement and their interest and knowledge of the child school experience.

- Work habits of the family: the degree of routine in the home management, the emphasis on regularity in the use of space and time, and the priority given to schoolwork over other more pleasurable activities, especially before and after school hours and during holidays.
- Language development: opportunities at home for the development of correct and effective language usage through language model and quality of language used by the parents and taught either directly or indirectly to the child.
- Academic guidance and support: the availability and quality of the help and encouragement that parents give to the child for his or her schoolwork and the conditions they provide to support child's schoolwork. These include the availability and quality of help provided at home for school related work, parent frequent encouragement on schoolwork and other knowledge of child development at school (Bernard, 2014:17).

Studies from different countries have indicated the place of parental involvement on children's academic achievement. Hafiz (2013) conducted a descriptive survey study in Pakistan using a total of 150 students (boys and girls) of 9th class of secondary schools both public and private. Four schools were selected through simple random sampling which include one boy and one girl from each of the public and private schools. Survey questionnaire was used as a tool for data collection. The study found that parental involvement has significance effect in better academic performance of children. However, this study did not examine how extensive home activities may affect students' academic achievement.

Another study was conducted by Zhang (2012) using a cross-sectional design with 407 Chinese children aged 3–5 years and their parents to examine the effects of socioeconomic status. The results showed that low income children exhibited lower levels of cognitive-linguistic skills, lower verbal interactions and lower phonological awareness and generally lower academic performance than their counterparts from high - and middle-income families. However, this study did not focus on how parent's guidance and involvement influence their children academic performance.

Study findings of Gustaffsson, (2011) in East, Central and Southern African countries, reported parental expectations as an important mediating mechanism to account for pupil's achievement. In Nigeria, Obeta (2014) conducted a study with the aim to explore the experiences of 1535 Nigerian children in the age

group of 8 to 14 years with their parents. These children carried out work for earning their bread and butter first and then preferred to attend the school. The results indicated that home work habits had detrimental effects on learning at times even to the level of dropout. In addition, extensive chores at home were a strong reason for children attending school late, consequently, leading to negative academic performance. The chores included: cleaning the house, working in family farm or business, cooking, looking after young children, casual labour to earn money for them or family, and drawing water or firewood. The study had policy implications for child labour regulation and poverty alleviation in Nigeria, where many children from poor households contribute to the economic sustenance of the family. However, this study was mainly quantitative study, to overcome this shortfall, the present study used both qualitative and quantitative approaches.

A study by Jagero et al., (2010) focused on establishing home environment factors affecting boys' and girls' excellence in Kenyan secondary schools. A sample size of five head teachers, 40 form four teachers and 609 form four students were included in the study. It was revealed that domestic chores at home was the main challenge faced by students. It was also unveiled that girls are expected to help their mothers with labour-intensive household chores before going to school and therefore arrive to class late and exhausted. Because of such responsibilities, girls are less likely than boys to perform well. However, this study used only quantitative approach, hence, respondents' voices are missing.

Another study was conducted by Nghambi (2014) on factors leading to poor academic performance in community secondary schools in Urambo district using both qualitative and quantitative methods. Purposive and simple random procedures were used to obtain a sample size of 99 respondents. The findings revealed that poor academic performance in form four national examinations was due to poor teachers working environment, inadequate supply of teaching and learning materials, high teacher-students ratio and poor teaching methodology. It was also established that the effects of parental involvement on student academic achievement depend on both school characteristics and the nature of parental involvement in that.

By using descriptive design, Ngusa and Gundula (2019) conducted a study on the effect of home environmental factors on students' academic achievement among secondary schools in Monduli District, Tanzania. A sample of 318 students

from seven schools participated by filling the questionnaire. The study revealed that parents were involved in their children academic affairs. The study also established that parents' social economic status afforded to facilitate school needs of their children. However, this study did not capture whether or not magnitude of home work habits affects students' school academic performance. Ugulumu (2016) conducted a study on the influence of home and school on students' academic achievement in Wanging'ombe district. A total of 300 respondents were selected. The study used interview, focused group discussion and questionnaire to collect research data. The study revealed that parents were not adequately participated in their children education matters. It was also revealed that parents with low income faced challenges in supporting education of their children.

At this present, most of the researchers have limited focus on the context of addressing influence of home-work habits on students' academic achievement across the gender and the degree to which parental guidance affect students' academic achievement across gender.

Material and Methods

Mixed methods approach was used in this study. This comprised both qualitative and quantitative approaches. Creswell (2005) describes eclectic research method as a procedure for collecting, analyzing and mixing both quantitative and qualitative data in a single study in order to understand the research problem comprehensively. The qualitative approach is concerned with subjective assessment of attitudes, opinions and behaviour explored through interview (Kothari, 2009). In the present study qualitative research approach is employed in order to generate information relating to home environment on academic achievement whereas the quantitative approach is used to generate data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. In this study, descriptive statistics like mean, standard deviation, frequencies and percentage calculations have been applied to understand and interpret respondents` views associated with the study central theme.

This study was conducted at Longido district in Arusha region. This area was selected because of its rural nature and poor performance of the ordinary secondary school students in Final National Exams for four years consecutively

since 2014 to 2017. Systematic and simple random technique was used to select 4 ward secondary schools.

In order to ensure truthful generalization of the findings, the researcher divided the students in each sampled secondary school into two groups basing on 2018 form two national examinations results. The first category involved students who had average scores of 30 or above and second, those who had average score below 30. Finally, from these two groups, the researcher selected an equal number of representative samples by using the stratified random sampling technique. Initially, a sample of 120 students was selected from the four selected ward secondary schools. However, during data cleaning, researcher discovered that some students did not return their questionnaire or attempted the questionnaire recklessly. Therefore, responses of 80 respondents (40 boys and 40 girls) were taken for analysis.

In this study parents were considered as important respondents because children spent most of their time at home with the parents; in fact, parents were best evaluators of the home environment and their children. Hence, 60 parents (i.e. 15 parents from each sampled school) were also selected to form the study sample size. Last, simple random procedure was used to select four (4) teachers, one from each of the sampled four public secondary schools were also included in the study sample size. The study used questionnaire for students, interview for parents and teachers, document review and observation schedule as tools for collecting data.

Hence, quantitative data obtained through questionnaires (closed ended questions) were analysed by using descriptive statistics with the aid of SPSS, while qualitative data obtained by using interview and document review were subjected to content analysis procedures for making valid inferences from the data.

Results

Demographic Characteristics of Respondents

The study revealed that out of 80 secondary school students who participated in this study 40(50%) were female students whereas 40(50%) were male students. In terms of age, about 28(35%) had age between 10-14 years and others 52(65%) had age between 15-19 years. With regard to parents, a total of 60 parents were involved in this study. Twenty-eight were females and 32 were

males. Further, 47(78.3%) had primary education level whereas 13(21.6%) had secondary education level. In terms of teachers, a total of 4 teachers participated in the study whereby 3 were male and one was a female. Besides, three teachers had degree education and only one had a master's degree.

Academic Achievement of Students in Relation to Homework Habits

Under this objective, data related to homework habits are interpreted under three categories: (i) based on the variables of high, moderate and low homework habits; (ii) based on the patterns and rate of homework habits between female and male students; and (iii) based on the reference to the achievement of female and male students who were involved in home work habits.

Academic achievement of students with high, average and low homework habits

In this section students' level of academic performance is described basing on their level of involvement in homework before and after going to school. For this purpose, the students' homework habits were categorized into three groups basing on their level of involvement. By using Mean $^1/_2$ SD criteria, groups were categorized into three major groups namely High, Moderate and Low. Hence, all students who scored Mean $^1/_2$ SD (7.00 and above) were included in the high-level homework habit group; those scored Mean $^1/_2$SD (4.57 and below) were included in the low level of homework habit group; and those scored between these two limits (7.00 and 4.57) were included in the Moderate level of homework habit group as described in Table 2.

Table 2: MEAN SCORE OF ACADEMIC ACHIEVEMENT AND HOMEWORK HABITS FOR THE STUDENTS WITH HIGH, MODERATE AND LOW HOMEWORK HABITS

Variables	High Group (n=30)	Moderate Group (n=23)	Low Group (n=27)
Homework habits (independent variable)	M=8.35	M=5.37	M=8.39
Academic achievement (dependent variable)	M=205.7	M=266.2	M=389.7

The data in the table 2 shows that the mean values of homework habits of students with high, moderate and low homework habits are 8.35, 5.37 and 8.39 respectively. Further, analysis shows that the mean value on academic achievement of students with high, moderate and low homework habits are 205.7, 266.2 and 389.72 respectively. The finding suggests that students with high degree of homework activities performed poorly in their subjects whereas students with moderate homework scores performed average on academic tasks and students with low homework burden scored high on their academic tasks. This implies that students who are overwhelmed with home chores are at risk of performing low in their school academic activities. This questionnaire findings corroborated with interview findings from one parent whose child was among of the students who performed poor in form two exams:

> I have two children studying in this nearby secondary school. One is in form three and senior one is in form four class. Speaking on their school performance, generally is not promising at all. If you ask me why, I will simply say, they don't have much time to study at home because I am real using them in farming activities and pasturing my cattle.

This finding also was supported by interview finding as one experience teacher complained:

> In this area most of the parents are cattle keepers and farmers…. hence most of the parents depend on their children in doing these activities…. Besides, at home they do no regard their children as students…they never give them time to complete school assignments or self-study as they occupied them with plenty of domestic chores which affect their academic progress at school.

Responding to the same question, one experience teachers, show her concern as she said that:

> Parents are not willing to educate their children in this area. Sometimes, they come here asking permission for their children to go for farm activities even for two or three days consecutively. Do you think that they will be able to emphasize their children to study hard? Really, this situation brings a challenge in promoting academic performance. In turn, it enhances poor academic performance.

Assertions suggest that students used most of the time in helping their parents in various activities and hence having less time in doing school activities something which make them not completing home assignments and engage in self-studies while they are at home. Consequently, lower their academic performance.

The Patterns and Rate of Homework Habits between Female and Male Students

Table 3 present the summary of the activities sampled students engaged before and after school hours in selected public secondary schools.

Table 3: PATTERNS OF HOME-WORK BETWEEN FEMALE AND MALE STUDENTS

	Activities students engaged before school hours	Female students n n=40		Male students n=40	
		f	%	f	%
1	Household chores	36	90	22	55
2	Fetching water and firewood	26	65	08	20
3	Milking cattle	31	77.5	16	40
4	Feeding cattle	19	47.5	32	80
	Activities students engage after school hours	Female students n=40		Male students n=40	
		f	%	f	%
1	House hold chores	38	95	17	42.5
2	Cattle feeding	26	65	34	85
3	Fetching water and firewood	34	85	9	22.5
4	Farm work	18	45	33	82.5

It could be observed from table 3 that, the prominent work activities female students engaged in before leaving to school in the morning were: household chores 36(90%) and milking cattle 31(77.5%). Further analysis of the data in the table 3 shows that, after school hours female students were more engaged in household chores 38(95%) and water fetching 34(85%). With regards to male students were more engaged in cattle keeping 34(85%) and farm work 33(82.5%). This implies that female students were occupied more with home-work activities before and after school hours compared to male students as data in Table 4 indicates.

Table 4: THE FREQUENCIES OF HOMEWORK LOAD ON FEMALE AND MALE STUDENTS

Degree of involvement in homework	Gender			
	Female students		Male students	
	f	%	f	%
High Involvement	22	55	09	22.5
Moderate involvement	11	27.5	10	25
Low involvement	07	17.5	21	52.5
Total	40	100	40	100

It could be observed in Table 4 data that 55% female students and 22.5% were highly involved in homework; 27.5% and 25% males were moderately involved; and 17.5% and 52.2% had low involvement. This shows that most of female students had high involvement in homework than male students. This kept them busy in the morning and evening depriving them opportunities for study and completing take-home assignments. Interview findings corroborated with questionnaire finding, as one experience teachers from school A, narrated that:

> In this area, parents pay little attention to their children education. They rarely give their children time to study at home. Male students spend much of their time looking after cattle, searching pasture land and water for their cattle. This is even worse to female students because most of them are occupied with house chores activities and looking after siblings and old people. This makes them to have no time to study at home and sometimes come to school very tired or exhausted with home activities.

Commenting on the same issue during interviews, most of the parents argued that they cannot let their children study at home when there are a lot of activities to do. For example, a parent from village "A" said:

> My children have to spend their time wisely. To me, there is time for school and time to do home activities. When they are at school they have to study hard. But at home they have to help me in doing home activities such as feeding cattle and farming activities. Most of the time, female children help their mothers in domestic activities such as cooking, fetching water, firewood and looking after siblings.

Assertions suggest that female students use most of the time in helping their mothers with domestic activities something which consumes time that could be used to do school homework and studies leading low academic performance as table 5 indicates.

Table 5: MEAN ACADEMIC ACHIEVEMENT SCORES AND MEAN HOME WORK HABITS SCORES FOR FEMALE AND MALE STUDENTS

Variable	Gender	
	Female (n=40)	Male (n=40)
Homework habits	M=5.75	M=5.64
Academic achievement	M=281	M=308

It can be observed in the Table 5 that the mean score of homework habits for female and male students are 5.75 and 5.64 respectively. Likewise, mean score of the academic achievement for female and male students are 281 and 305 respectively. This finding implies that performance of female students is low compared to their counterpart male students due to greater demand impose on them to assist with household chores such as collecting firewood, fetching water, helping with the cooking and caring for the young before and after school hours.

Academic Achievement of Students with High, Moderate and Low Parental Guidance and Support

Students' level of academic achievement was examined based on their parents' level of guidance and support they received in academic matters. To obtain relevant information, the parents' level of guidance and support was categorized into three groups namely basing on their level of involvement in helping their children in academic matters. The groups formed were High, Moderate and Low by applying the criteria of Mean 1/2 SD i.e. students scoring Mean 1/2 SD (2.70 and above) were included in the high-level parental involvement group; those scoring mean 1/2SD (1.25 and below) were included in the low level of parental involvement group; and those scoring between these two limits (2.70 and 1.25) were included in the Moderate level of parental support group.

Table 6: MEAN ACADEMIC ACHIEVEMENT SCORES FOR THE STUDENTS WITH DIFFERENT LEVELS OF PARENTAL GUIDANCE AND SUPPORT

Variable	High group (n=17)	Moderate group (n=16)	Low group (n=27)
Parental Guidance and Support	M=3.3	M=2.6	M=0.4
Academic Achievement	M=425.7	M=268.9	M=214.7

As it is observed in Table 6 that mean values of students with high, moderate and low parental guidance and support are 3.3, 2.6 and 0.4 respectively whereas the mean value on academic performance of students with high, moderate and low parental guidance and support are 425.7, 268.9 and 214.7 respectively. This information suggests that parental guidance and support have positive impact on students' academic performance, since students with high degree of parental guidance and support scored high in academic achievement, students

with moderate parental guidance and support scored average and low mean scores respectively. This implies that the higher parental guidance and support will lead to high academic achievement and vice versa also is truth.

The follow up question, students were asked to list the kinds of parental guidance and support they received from their parents and Table 7 summarizes the data.

Table 7: TYPES OF PARENTAL GUIDANCE AND SUPPORT

S/N	Nature of parental guidance and support	Students (n=80)	
		f	%
1	Check homework	07	8.7
2	Encourage their children to attend school and give time to complete school assignments	35	43.5
3	Buying textbooks and remedial books	29	36.2
4	Direct helping/teaching their children school work	04	5
5	Buying school uniforms, exercise books, pens	77	96.2
6	Prepare study room and give time to study	14	23.3
7	Tuition during holidays	15	18.5

It could be observed in the table 7 that buying school uniforms, exercise books, pens 77(96.2%) and encouraging their children to attend school and give time to complete school assignments 35(43.5%) were the most parental support and guidance parents provided to their children. However, only few parents 4(5%) direct helping/teaching their children school work, check school work 7(8.7%) or prepare study room and give time to study to their children 14(23.3%). This implies that, neither parents provide direct help to their children school work nor check school work of their children. One parent provides what could be the reasons for this challenge as he said:

> *I cannot read English language or even comprehend it well, let alone teach him biology or mathematics, but I know the importance of education to him and his future. So, every time I do encourage him to attend school and complete his school assignments.*

The assertion shows that parents do not have confidence to check school work of their children or helping their children to complete school assignment due to language difficult.

Discussion

The study has revealed that secondary school students with high level of home activities had low academic performance compared to their counterpart with moderate and low level of home activities. This finding suggests that the secondary school students with high level of home activities are at risk of poor performance. This study is in line with Obeta (2014) study who found that the higher the household activities the lower the students' academic performance. They also found that extensive chores at home were a strong reason for children attending school late, consequently, leading to negative academic performance. They further added that teaching and learning process carried out at school is incomplete without the support of home environment. Another study by Kapinga (2014) found that children who engage in child labour do not perform well in school because it affects their concentration in class thus resulting to poor performance. Sigh et al. (2016) study also found that work interferes with schooling because it requires too much of children's time balancing the demands of work and education which places physical and psycho-social strain on children and often leads to poor academic performance and drop out.

In addition, female students were involved more in household responsibilities compared to male students, something which deprive them chance and time to focus on their studies or accomplishing take home assignments. This finding is supported by Hamad (2009) who found in his study in Zanzibar Secondary Schools that girls were more involved in domestic chores than boys and this negatively affected their academic achievement. In supporting the result, study by Jagero et al. (2010) found that the main challenges faced by female students were domestic chores. In this study, female students were expected to help their mothers with labour-intensive household chores before going to school and therefore arrive to class late and exhausted. Because of such responsibilities, girls are less likely than boys to perform well. Another study by Ugulumu (2016) found that in many areas of Tanzania there are greater obligations for girls to perform domestic chores at home than for boys. Most girls are expected to carry out work in domestic households and agriculture, while their parents themselves often work far from home in order to sustain the family. Most families will expect boys to watch over animals during the day, and when the animal's comeback home boys will be sitting in the dining room or studying while waiting for food. But due to their domestic responsibilities, girls may not be able to attend school regularly thus leading to poor academic performance on national exams.

The study also revealed that parents supported their children with school uniform, exercise books and other school contribution but they have very little support and guidance towards school related activities such as assignment or checking their children exercise books or giving study time at home. Writing on the importance of parental support Farooq (2011) found that children with parents who are actively organize and monitor their child time and ensure that route are followed such as helping with homework by discussing the specific nature of assignments and papers; explaining problems and discussing school matters with the child, constantly have good performance at school. Another study by Khan et al. (2019) found a close relationship between achievement, motivation and intelligence with indexes of parent stimulation of the student in the home. It was concluded the home environment exerts significantly influence on students' academic performance. In order to improve students' academic performance, parents should give their children time to study at home by relieving them from burden of home chores.

References

Ali, N., Jusoff, K., Ali, S., Mokhtar, N., & Salamat, A. S. A. (2014). The factors influencing students' performance at University Teknologi MARA Kedah, Malaysia. Management Science and Engineering, 3(4), 81 – 96. https//swsu.ru/sbornik-statey/pdf/812-812-PB%20(1)pdf

Awasthi, S. (2017). Perceived parenting styles as correlates of achievement. The International journal of Indian psychology, 4(3),175-194.

Barnard, W. M. (2014). Parent involvement in elementary school and educational attainment. Children and youth services review, 2(6), 39-62. https:/ijip.in/wp-content/uploads/Articles PDF.

Chohan, I. B. (2010). Impact of parental support on the performance and self-concept of the student: Journal of research and reflections in education, 4, (1), 14-26.

Cleophas, O. S. (2014). Impact of parents' involvement on students' academic success in secondary evaluation: University of Nairobi.

Edwards M.C. (2010). Creating a Home Environment for Learning. The Journal of Science, 18(6):107-131. https://www.oecd.org/education/school/43023606

Farooq, M. S. A. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. Journal of Quality and Technology Management, Vol 7(2), 0114.

Gustaffsson, J. E. (2011). Effect of home background on student's achievement in reading Mathematics fourth grade. Relationship report TMSS & PIRL International study center, 101-288. https:// timssandpirls. bc.edu / timss pirls 2011.

Hafiz, M. A. (2013). Parental involvement and academic performance. A study on secondary school of Lahore. International journal of humanity and social science 3(8) 209-221, https://www.ijhssnet.com/journals/Vol_3_No_8_ Special_Issue_April_2013/22.pdf

Jagero, N. O., Agak, J. & Ayodo, T.M. (2010). An evaluation of home environmental factors affecting performance of boarding secondary school students in Kenya. Analytical Reports in International Education, 39(1) 47-62. https://www. academia.edu/5004492.

Jayanthi, J. & Srinivasan, K. (2015). Influence of home environment on academic achievement in mathematics. IOSR Journal of Mathematics, 11(4), 26-

31. https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-4-issue-5/305-308.pdf

Kamuti, J. M. (2015). Influence of home environment on academic performance of students in public secondary schools in Kenya. Doctoral dissertation, Kenyatta University.

Kapinga O, S. (2014). The impact of parental socio-economic status on students' academic achievement in secondary schools in Tanzania. Unpublished dissertation. Retrieved from http://www.dx.doi.org/10.5296/ije.v/6i4.6420.

Khan K.F. Gegun M & Imad M (2019). Relationship between students' home environment and their academic achievement at secondary school level. Pakistan Journal of Distance & Online Learning, 5(3), 223-234. https://files.eric.ed.gov/ fulltext/EJ1266643.pdf.

Kimaro, R. A, & Machumu, J.H. (2015). Impacts of parental of involvement in school activities on academic achievement of primary school children in Tanzania. International Journal of Education and Research, 3(8), 11-24. https://www.ijern.com/journal/2015/August-2015/40.pdf.

Komba, C. K., H., & Jonathan, W. T. Y. (2014). Factors influencing academic performance of ward secondary schools: A case of selected schools in Moshi Municipality and Moshi District. MUCCOBs, Moshi: Tanzania.

Machana, T. Kevogo, N., & Mwebi, B. (2017). Influence of selected home environmental factors on pupils' academic performance in public primary schools in Kenya. International Journal of Novel Research in Education and Learning, 4(2), 1 – 28. https://www.noveltyjournals.com/upload.

Malley, S. A. (2001). The effects of Parents Social-Economic Status on Students drop out from community secondary school in Meru District. Arusha Region Tanzania.

Masabo, P.L. Muchopa, E. & Kuoth, B.W. (2017). Parental involvement in school activities in Kibondo District, Tanzania: Challenges and remedies. International Journal of Education and Research. 5(10) 45-58. https://ijern.com/journal/08.pdf.

Mudassir, A., & Abubakar, G. (2015). The Impact of Parent Occupation on Academic Performance of Secondary School Students. Multilingual Academic Journal of Social Science, 3(1). https://doi.org/10.6007/MAJESS/v3-i1/1899.

Nghambi, H.G. (2014). Factors contributing to poor academic performance in certificate of secondary education examination for community secondary schools at Urambo District in Tabora, Tanzania. Unpublished dissertation. https://core.ac.uk/download/pdf/44684818.pdf

Ngusa B & Gundula A.J. (2019). The Effect of Home Environmental Factors on Students' Academic Achievement: A Case of Community Secondary Schools in Monduli District, Tanzania. World Journal of Educational Research, 6(3), 354-366. https://doi.org/10.22158/wjer.v6n3p354.

Obeta, A. O. (2014). Home environment factors affecting students' academic performance in Abia State. Michael Okpara University of Agriculture Umudike: Abia State Nigeria.

Obeta, A. O. (2014). Home environmental factors affecting students' academic performance in Abia State, Nigeria. In Rural Environment. Education. Personality. (REEP). Proceedings of the International Scientific Conference (Latvia). Latvia University of Agriculture.

Parveen, A. (2017). Effect of home environment on personality and academic achievement of students of grade 12 in Rawalpindi division (Master's Project, National University of Modern Languages, Islamabad).https://www. semanticscholar.org/paper.

Siraj, B. I. (2010). Learning in the home and at school: How working-class children succeed against the odds. British Educational Research Journal, 36 (3), 463-82. https://www.semanticscholar.org/paper.

Slaughter, D. T., & Epps, E. G. (2012). The home environment and academic achievement of Black American children and youth: An overview. The Journal of Negro Education, 56(1), 3- 20.

Ugulumu S.W. (2016). The influence of home and school on students' academic performance: a case study of Wanging'ombe district, Tanzania. Unpublished dissertation.

Zhang, K. (2012). The effects of parental education and family income on mother-child relationship and family environment in People's Republic of Ghana. Family Process, 51(4), 483-497. https://doi.org/10.3102/00346543075003417

Influence of Credit Risk on SACCOS' Performance on Mainland Tanzania and Implications for TEWW SACCOS Ltd

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Abstract

This paper reports the findings of a study that explored the influence of credit risk on SACCOS' performance on Mainland Tanzania and attendant implications for TEWW SACCOS LTD. Specifically, the study had investigated relationship between the non-performing loan over total loan ratio (NPL/TL) and Return on Assets (ROA) among SACCOS. Second, it set out to determine the relationship between the Total loan over total deposits ratio (TL/TD) and (ROA) among SACCOS. Finally, it compared the influence of the two afore mentioned specific objectives among SACCOS. The study population comprised all SACCOS on Mainland Tanzania. A systematic random sampling was employed to select a sample of 15 SACCOS from Dar es Salaam, Arusha, Dodoma, Mwanza and Tanga regions. Both qualitative and quantitative research approaches were applied in data collection. Analysis of Moment Structure, simple regression analysis and descriptive statistics were used in analysis. The findings indicate that (NPL/TL) had a strong negative (-0.89) and significant influence with the ROA at p=0.001. In fact, when NPL/TL was significantly lower, the ROA on average stood at 45.7 percent. Moreover, there is a positive relationship (+0.91, influence) between (TL/TD) and (ROA) and significant at P<0.001. These results imply that loan recipients used to deposit more in their savings accounts but failed to repay the loan. Thus, TEWW SACCOS LTD should be prepared to improvise a special grant mechanism for bad loan provisions or creating discounting sort of mechanism to facilitate the loan repayment before loan crisis.

Key words: Profitability, Credit risk, financial ratios

Introduction

Recently the demand for financial loans among people of different educational backgrounds has grown drastically under the Savings and Credit Co-operative Communities (SACCOS) members mainly due to their low costs for opening accounts, collateral provided by groups, rapidity of loan processing and competitive interest rate levels (Chipembere, 2010). The global experience has shown that Micro Finance Institutions (MFIs), which include SACCOS, have significantly changed and developed. In fact, the scale and scope of their operations is also growing beyond their traditional portfolio of delivering credit services—savings, deposits, and insurance services. Meanwhile, the value of disbursed loans from SACCOS has generally revealed a larger proportional of the total assets relative to the rest of the assets a given SACCOS owns. The assumption is that the more a SACCOS disbursed loans to its loan beneficiaries, the better position of that SACCOS to realise more benefits accruing from interest, which leads to higher profitability.

Though interest benefits realisable from the disbursed loans are the main sources of SACCOS' revenue besides savings and minor investments, the disbursed loans subjected SACCOS to various risks such as capital adequacy risk, liquidity risk and credit risk to mention a few. Of these risks, the credit risk appeared to be more serious and most venerable to the SACCOS as it can result in bankruptcy. Credit risk refers to the loss incurred through a defaulter that fails to meet contractual obligations and, thus, causes the creditor's loss. These obligations arise from lending activities, trade and investment activities, payment and settlement of securities trading on its own (Jílek, 2000). There are also cases where a borrower fails to honour his or her obligations including failing to repay fully or partially the due principal and interest on time. Credit risk is part of most balance sheet assets and off-balance sheet transections series (FIs acceptances or FIs guarantee) (Kašparovská, 2006). Credit risk includes credit risk default, risk of the guarantor or counterparties of the derivatives. This type of the risk exists in all financial sectors, but most often in banks and bank derivatives such as SACCOS.

Credit risk also arises by entering derivative transactions, securities lending, repurchasing transactions and negotiation. In case of derivative transactions, analysis helps to identify the creditworthiness of counterparties and looking out for changes (Erika et el., 2015). In the context of this study, credit risk refers to

the potentiality of a SACCOS' loan beneficiary or counterparty failing to meet obligations as stipulated under agreed upon terms and conditions attached to the disbursed loan (Mbowe, 2013).

Since a large proportion of the assets SACCOS own are loans and a substantial part of their revenues stems from interest earned from disbursed loans, the assets tend to be compromised in the face of weak loan policy and criteria for loans disbursement. Eventually, such SACCOS automatically experiences a huge loss. In case of a loan beneficiary fails to repay a disbursed loan, the SACCOS loses both the principal amount lent out and the interest benefit expected on that disbursed loan. Under this circumstance, financing agreements must create contractual obligations, which simply means the disbursed loan to any beneficiary solely depends on whether contracts in place create appropriate incentives for both the loan provider and loan beneficiaries to accomplish the contract (principal agent-problem). In such business financing (SACCOS loans), the principal is the loan provider (SACCOS) and the agent is the loan beneficiary (borrowers – SACCOS members). Furthermore, for the contract to be ideal it should persuade the agent to act in the best interests of the loan provider. In case the contract is created and observed by the loan beneficiaries, then the disbursed loan and demand for such loan are brought into an equilibrium with one another and, therefore, a mutually beneficial relationship between the loan provider and loan beneficiary would emerge. This study, therefore, explored the influence of credit risk on SACCOS' performance on Mainland Tanzania and implications for TEWW SACCOS Ltd. Specifically, the study sought to:

i)   Investigate the relationship between the non-performing loans over to-tal loan ratio (NPL/TL) and Return on Assets (ROA) among the SACCOS on Tanzania mainland.

ii)   Determine the relationship between the Total loan over total deposits ratio (TL/TD) and Return on Assets (ROA) among the SACCOS on Main-land Tanzania.

iii) To compare the influence of the relationships between the non-perform-ing loans over the total loan ratio (NPL/TL) and Return on Assets (ROA) versus relationship between the Total loan over total deposits ratio (TL/TD) and Return on Assets (ROA) among the SACCOS on Mainland Tanzania.

The study is guided by hypothesis that the profitability of the SACCOS negatively related to the credit risk. Among the chief risks that SACCOS contend with include credit risk (Kasyoka, 2016). Such credit risk can easily and will most likely induce SACCOS failure (Boating, 2008).Thus, all these concerns culminated in the hypothesis: *"Profitability of the SACCOS is negatively related to the credit risk."* This hypothesis was subjected to testing based on the performance indicator—ROA ratio, as a dependent variable, and credit risk based on risk indicators measured by NPL/TL and TL/TD ratios as independent variables within a fixed five-year interval from 2015 to 2020.

Literature Review

Usually, loan contracts among SACCOS' loan beneficiaries failed because of *moral hazard* problems arising from the possibility that the borrower may take actions that may not be observable to the loan provider, SACCOS in this case. For example, a borrower (SACCOS' loan beneficiary) may borrow to enhance his/her business activities. However, the loan provider may have no means of verifying whether the borrower used the loan for the declared objectives (Mensah, 2014). When the lender or loan provider is unable to realise and monitor the borrower's behaviour, the loan provider's money are most likely a default risk. In addition to the difficulty inherent in monitoring the actions of the borrower, other problems include *adverse selection,* relating to the information requirements in a borrowing contract. For sound lending decision, the lender needs to know the borrower's financial status and characteristics that would give the borrower confidence to repay the loan. Other problems include learning what the loan provider can do when the borrower declares his/her inability to repay, and methods to force the borrower reluctant to act on the agreed contractual agreements to repay the loan (Mensah, 2014).

These justifications for contracts failure or difficulties inherent in fulfilling the contractual agreements calls for revisiting the 5Cs of credit before a loan is disbursed to the applicant. These 5Cs are: (C_1) Character of the applicant, (C_2) Capacity to borrow, (C_3) Capital (as back up), (C_4) Collateral (as security), (C_5) Condition (economic condition). These assessment criteria are based upon the lenders own experience which considers not only personal historical information but also the projected borrowers' prospects (MacDonald et al., 2006).

This study is guided by a "Theory of Default" as advanced by Robert Merton in

credit risk analysis in the context of financial options. Default as an embedded put option (an option contract that gives the buyer the right to sell underlying asset at the strike price at any time up to the expiration date - is bought if the trader expects the price of the underlying to *fall* within a certain time frame) available to the borrower when circumstances are economically attractive for the borrower to "exercise" their option to default. This option-theoretic framework can apply to any type of borrower and serve as the basis for default modelling. Credit loss estimates are formed by combining the borrower's probability of default (or default frequency) with their loss given default (LGD), or loss severity.

Moreover, the Merton default model provides a way to determine conceptually both loss components, with a basic theory of credit risk established. Furthermore, the introduction of the Merton model focused on corporate defaults, however, to illustrate how adaptable the theory is to a range of credit risks, including in the context of the current study's need to understand the credit risk profile of a SACCOS loan portfolio to determine how to hedge it against borrowers' default exposure. Applying these concepts to SACCOS loan default, in this case a borrower who has taken out a loan in thousands of Tanzanian shillings from a SACCOS on a collateral of a bit higher than the loan applied for, at a specified period, the borrower's equity stake in the collateral can be an option in the standard Merton default model. Specifically, the borrower's option may be represented as:

$E = MAX [0, A_T - L]$

Where inline is the property value (price) of the collateral at time T and L is the disbursed loan amount at origination ($t = 0$). Expressed this way, the disbursed loan amount, L is an equivalent of the strike price (Is the set price at which a derivative contract can be bought or sold when it is exercised for call options, the strike price occurs when the security can be bought by the option holder; for put options, the strike price is the price at which the security can be sold. Strike price is also known as the exercise price) and inline is the asset value. Under this form, the borrower's equity is a call option (an option contract that give the buyer the right to buy the underlying asset at the strike price at any time up to the expiration date—and is bought if the trader expects the price of the underlying to *rise* within a certain timeframe).

In essence, the collateral is a fixed-income security that has two components:

A default-free bondless value of an embedded put option provided to the borrower, which allows them to default when economically attractive to do so. Once a borrower defaults, the question how much of the disbursed loan is recovered (or conversely, lost) as a percent of its original value completes the credit risk picture in determining expected loss. The variations in disbursed loan value could reflect differences in collateral value provided by the borrowers elsewhere. For instance, collateral for borrower A may exhibit higher collateral value volatility than, similarly, another borrower B elsewhere depending on some factors. Other assumptions are that the risk-free interest rate (small interest rate) and the time horizon in years the loan taken. With these assumptions the Merton model helped to generate comparative credit risk estimates in this study. The important ratios in the current study for discussion were ROA, ROE and CAR, which need brief explanations prior to discussions. The return on assets (ROA) is a profitability ratio that determines how much profit a financial institution or a company can generate from its assets. In other words, ROA measures how efficient a financial institution's or company's management is in using its assets to generate earnings. ROA is displayed as a percentage. In this regard, the higher the ROA the better.

The return on equity (ROE) is a ratio that provides investors with insight into how efficiently a company (financial institution for the case of the current study or more specifically, its management team) is handling the money that shareholders have contributed to it. In other words, it measures the profitability of a corporation (financial institution) in relation to the stockholders' equity. Return on equity (ROE) is a measure of financial performance calculated by dividing net income by the shareholder's equity. Because shareholders' equity is equal to a financial institution's assets minus its debt, ROE is a return on net assets.

The final important indicator in the current study's discussions is CAR or the capital adequacy ratio, which is a measurement of a financial institution's available capital expressed as a percentage of its risk-weighted credit exposures. A financial institution that has a good CAR has enough capital to absorb potential losses.

Kolapo et al. (2012) argued that when interest rate are high or subject to variations the chance that the borrower will default increase. Similarly, Drehman et al. (2008) documented that credit risk and interest rate risk are linked to each

other and inseparable. The two risks mentioned are related in the following manner. When interest rates charged on loans are high, the loan obligation becomes unbearable to a borrower in terms of monthly or quarterly payments of the interest plus the principal amount and as result a borrower could end up failing to honour his obligation, hence the defaulting.

The name given to the percentage of loan values that are not serviced for three months and above is known as non-performing loans (Ahmad & Ariff, 2007), as it was happened in the SACCOS found in adult learning institutions such as TEWW SACCOS Ltd, which failed to comply with the contractual agreement of the loans disbursed to its members from the PPF pension funds in 2018. Therefore, credit risk increases the level of non-performing loans. All financial institutions including SACCOS are supposed to abide by the Bank of Tanzania (BoT)'s "Risk Management Guidelines" issued since 2010. The document lays down the techniques for combating and managing different types of risks for the smooth running of any financial institution in Tanzania.

A study conducted by Ntangekinshala (2017) revealed that there was a negative and significant relationship between the NPL/TL ratio and ROE. In other words, the more nonperforming loans increase, the more they erode the financial institution's profit. Moreover, the study found that the NPL/TL ratio affects the ROA significantly and, crucially, negatively. This study has also observed that the Capital Adequacy Ratio (CAR) has a positive but insignificant impact on ROE but a positive and significant impact on ROA. Implicitly, the higher the capital adequacy ratio, the more the financial institution become profitable. Though the study focused on the banks' performance and not necessarily on SACCOS, this study did not establish any significant relationship between the TL/TD ratio and either ROA or ROE. Yet, the LLP/NPL ratio revealed a significant negative relationship with ROE and ROA. Apparently, any increase in the provision of bad debts affect financial institution's profits directly.

Hosna et al. (2009) researched on the credit risk management and profitability in Sweden's commercial Banks with a focus on four major commercial banks. Their study used ROE as a performance indicator and CAR and NPL/TL as credit risk variables. This study found that NPL/TL ratio has a significant negative effect on profitability (ROE) whereas CAR had an insignificant positive effect on ROE. The study, however, did not establish a relationship between the performance indicator ROA and credit risk variables NPL/TP and TL/TD. Also, the study was confined to the banks' performance but not that of SACCOS.

Another study that was conducted by (Kasyoka, (2016) had focused on the credit risk management on financial performance in savings and co-operative societies in Kitui County in Kenya. The research was based on the financial performance of the Savings and Credit Co-operative Societies (SACCOs). The researcher had used a descriptive research design and employed self-administered questionnaires to extract primary data from the SACCO managements. The study, which used quantitative method to analyse the data and examine the simultaneous impact of the independent variables on the dependent variable, found a strong positive relationship between credit monitoring and financial performance of SACCOs. Moreover, it found a strong positive relationship between loan policy in mitigation of risk and financial performance of SACCOs, and a strong positive relationship between loan defaulters and financial performance of SACCOs. Despite the important facts generated in this study, it did not utilise all the important tools required in measuring financial performance such Return on assets (ROA), Return on equity (ROE) versus credit risk variables such as non-performing loan over total loan ratio (NPL/TD) and Total loan over total deposits ratio (TL/TD).

On the other hand, Li and Zou (2014) carried out a study in Europe on the impact of credit risk management on profitability of commercial banks. The study involved 47 largest European commercial banks and used ROE and ROA as performance indicators and CAR and the NPL/TL ratio as credit risk indicator. Using the panel data regression analysis model, their findings indicate a significant negative relationship between NPL/TL ratios whereas CAR was insignificant. Even though the performance indicators ROA and ROE were used verses credit risk indicators, the study based on banks and not on SACCOS. Additionally, the study did not employ the risk indicator TL/TD ratio.

Gizaw et al. (2015), who studied the impact of credit risk on profitability performance of commercial banks in Ethiopia, found that NPL/TL and CAR were significant and negative relative to ROE and ROA. The study also found that LLP/ NPL was significant and positive when it came to performance whereas TL/TD had an insignificant effect on performance. Although all important performance indicators and credit risk indicators were fully employed in the study, there was silence on the comparisons between the relationships established among the performance indicators and credit indicators. In addition, the study was basically confined to the banks' performance but not that of SACCO in relation to credit risk.

Kithinji's (2010) study in Kenya on credit risk management and profitability of commercial banks in Kenya used ROA as the performance indicator and NPL/TL and TL/TA ratios as credit risk indicators. The regression results indicated no relationship among profits, amount of credit, and the level of non-performing loans. Though study used all the important performance indicators and credit risk indicators, it failed to address the issue of comparing the relationships established among performance indicators and credit risk indicators. Also, the study was limited to banks' performance and not that of SACCOS in relation to credit risk.

Kodithuwakku (2015) carried out a study on the impact of credit risk management on the performance of commercial banks in Sri Lanka. The results showed that non-performing loans and provisions had an adverse impact on profitability. Yet, the study had also failed to address the issue of comparisons that exist between the relationships established among the performance indicators and credit risk indicators. Moreover, like many of the previously reviewed studies it was confined to commercial banks' performance and not that of SACCOS in relation to credit risk.

Kaaya and Pastory's (2013) study on credit risk and commercial banks in Tanzania used panel data analysis to establish that the increase in credit risk tends to lower firm performance. In fact, both indicators produced negative coefficients signalling lower profit levels. This study also failed to address the comparisons that exist between the relationships established among performance indicators and credit risk indicators. Also, the study was confined to banks' and not SACCOSs' performance in relation to credit risk.

A study by Murug (2010) on the effect of credit risk management practices on the performance of SACCOS in Kenya found that such co-operative entities heavily relied on credit risk techniques, which are too inadequate to mitigate against loan losses in a dynamic and competitive lending environment. In this study, Murugu (2010) found adequate credit risk monitoring and control mechanisms to be lacking in most of the SACCOs, hence resulting in late detection and determination of non-performing and loan defaults. This study used some important performance indicators and credit risk indicators, yet failed to address the relationship between the profitability ratio (ROA) and credit risk indicators (NPL/TL and TL/TD).

A study that carried out on four Swedish banks by Purda (2008) established that better credit risk management results in better bank performance. In addition, the study found banks with good or sound credit risk management policies to have lower loan default ratios (bad loans) and, naturally, with higher interest income (profitability). The study also found banks with higher profit potentials can better absorb credit losses when they crop up and, hence, record better performances than those with lower profits margins. Furthermore, the study established a direct but inverse relationship between profitability (ROE, ROA) and the ratio of non-performing loans to capital (NPL\C). The study used some vital performance indicators and credit risk indicators; however, it failed to address the relationship between the profitability ratio ROA and both credit risk indicators TL/TD and NPL/TL. The study was also confined to banks.

A study by Gweyi et,. el. (2017) found that credit risk has a negative and significant bearing on financial performance. The study, however, failed to address the existing relationships between the profitability indicators and credit risk indicators. Also, a study by Nguta and Guya (2013) in Kenya found that loan defaults had characteristics in relation to other variables that differed from the microfinance institution performance based on the profitability aspect. But the study lacked credibility in terms of micro-finance profitability and it was silent on the question of credit risk associated with non-performing loans. Furthermore, Kolapo et al.'s (2012) study on credit risk and commercial banks' performance in Nigeria used a panel data approach to establish a negative relationship between ROA and NPL/TL and LLP/NPL and a positive relationship between ROA and TL/TD ratio. Nevertheless, the study failed to address the issue comparisons of relationships established among performance indicators and credit risk indicators. In addition, the study was confined to banks' and not SACCOS' performance in relation to credit risk.

Also, a study by Macharia (2012) on   the relationship between the level of non-performing loans and the financial performance of commercial banks in Kenya used a cross-sectional research design to determine the level of NPLs and their effect on the ROA. The study found that the amount of credit extended contributed positively to profits but marginally so. Additionally, as the level of non-performing loans increased, the profits decreased, hence revealing a positive relationship between the amount of credit extended and the amount of profits gained. Meanwhile, the study also found a negative relationship between

the level of non-performing loans and profits. Furthermore, t-test indicated that the profits that did not depend on credit and non-performing loans were significant. The test of significance also indicated that there was no association among profits, amount of credit, and the level of non-performing loans. Similarly, this study also failed to address the issue of comparisons that exist between the relationships established among the performance indicators and credit risk indicators. In addition, the study was confined to banks' performance and not SACCOS's performance in relation to credit risk.

Despite the development and use of highly sophisticated tools and models to measure the exposure of financial institutions to credit risk, the default rate in the SACCOs in Tanzania remain unpredictable. For example, the Amount of defaulted loans for SACCOS in the country rose from Tshs 1.5 billion (USD 647,109.58 – exchange rate, Tshs 2,318 per USD on 23rd July 2021) in 2006 to more than Tshs 3 billion (USD 1,294,219.154 – exchange rate, Tshs 2,318 per USD on 23rd July 2021) in 2015 (URT,2016). Meanwhile, SACCOS at adult learning institutions such as the Institute of Adult Education TEWW SACCOS LTD from the time of contract with PPF Pension fund had Tshs 1,071,500,000 (USD 462,251.941 – exchange rate, Tshs 2,318 per USD on 23rd July 2021) and a loan balance of Tshs 480,263,897.95(USD 207,188.912 – exchange rate, Tshs 2,318 per USD on 23rd July 2021) by 31st July 2018. The sum of arrears stood at Tshs 126,324,378.92 (USD 54,497.144 – exchange rate, Tshs 2,318 per USD on 23rd July 2021)for instalments accruing from October 2017 to 2018 (TEWW SACCOS LTD, 2019).

Materials and Methods

The population for this study was all SACCOS based on Mainland Tanzania. The study used cross-sectional study design to collect requisite data to answer the research questions of interest. The data collected were for the 2015 – 2020 period. Systematic random sampling was used to select a sample of 15 largest SACCOS from five regions of Dar es Salaam (the country's commercial hub and largest city), and Dodoma (the country's capital city) , and Arusha Mwanza and Tanga (three other cities). This sample was representative of the SACCOS population on Mainland Tanzania because the selected SACCOS owned more than 50 percent of the total amount of assets the SACCOS sector owned on Mainland Tanzania. The selected sample was chosen to study the SACCOS performance in relation to the credit risk associated.

The study employed both qualitative and quantitative research approaches to analyse the data using the **S**tatistical **P**ackage for **S**ervice **S**olutions (SPSS). It also applied the Pearson correlation and regression analysis and analysis of moment structure. Secondary data (largely audited financial statements of each SACCOS over the study period (five years) were collected from various sources (Company websites, ministries responsible for co-operatives affairs and the SACCOS' head offices). The study adopted the Kargi (2011) model to test the relationship between credit risk and profitability in addition to analysing the moment structure, since "a given variable/ indicator in, this study might serve as an independent variable in one test and the same as a dependent variable in another" (dual role) as well as descriptive statistics. The model expression for these variables was therefore:

$ROA = f\left(\frac{NPL}{TL}, \frac{TL}{TD}\right)$ and the relationship between the two variables mentioned (Profitability and

Credit risk) was tested based on the model $ROA = \beta_O + \beta_1\left(\frac{NPL}{TL}\right) + \beta_2\left(\frac{TL}{TD}\right) + e_i$

Where

ROA: $Ratio\ of\ SACCOS'netincome\ to\ Total\ assets$ (Dependent variable)

$\frac{NPL}{TL}$: $Ratio\ of\ Non-performing\ Loan\ to\ Total\ Loan$ (Independent variable 1)

β_o: $Constant\ term$

$\beta_1 and \beta_2$: $Are\ coefficients\ of\ independent\ variables \left(\frac{NPL}{TL}\right)\ and\ \left(\frac{TL}{TD}\right)\ respectively$

$\frac{TL}{TD}$: $Ratio\ of\ Total\ Loan\ to\ Total\ deposits$ (Independent variable 2)

e_i: $An\ error\ term$

Results

Credit Risk Variables (NPL/TL, TL/TD) and Criterion Variable Performance (Profitability – ROA) on Pearson Correlation Matrix

The Pearson correlation coefficient was performed between ROA (criterion variable) and TL/TD ratio (predictor variable) to show the direction of the relationship between the variables performance based on the profitability aspect measured by the Return on assets (ROA) and credit risk measured by ratio of Total Loan to Total deposit (TL/TD). Also, the Pearson correlation coefficient was executed between ROA and the Non-performing loan to Total loan (NPL/TL) ratio as indicated (Table1). The results show that the variable credit risk measured by TL/TD) positively correlated (0.272) and was significant at   to

ROA. In other words, this predictor variable TL/TD has significant increasing influence on criterion variable ROA. Meanwhile, the results from the Pearson correlation show that the predictor variable NPL/TL negatively correlated (-0.784) and significant at 0.000 to the ROA. This correlation means that the NPL/TL significantly reduces the ROA on average. Furthermore, when we look at the absolute value (without the minus or plus sign of the Pearson correlation) and choose the highest value, NPL/TL (0.784) has the strongest relationship with ROA. This must be the first indicator we need to focus on credit risk to enhance SACCOS' performance (profitability). Table 1 shows the correlation for ROA, TL/TD and NPL/TL:

Table 1: CORRELATION MATRIX FOR ROA, TL/TD, AND NPL/TL

		ROA	TL/TD	NPL/TL	Std	Mean
ROA	Pearson correlation	1	-0.308	0.004	-0.321	-0.0026
	Sig 2-tail test	0.001	0.002**	0.003**		
TL/TD	Pearson correlation	0.272	1	0.321	0.631	0.212
	Sig 2-tail test	0.000	0.008**	0.004**		
NPL/TL	Pearson correlation	-0.784	0.915	1	-0.782	1.234
	Sig 2-tail test	0.000	0.008**	0.004**		

Source: Author's data (2015 -2020) from the SACCOS financial audited statements

Relationship between the Return on Assets (ROA) and Non-performing Loan over Total Loan Ratio (NPL/TL) among the SACCOS on Mainland Tanzania

Basically the results indicate that the Non-performing loan over total loan ratio (NPL/TL) is negatively related to the Return on Assets (ROA) (-.534). This predictor is significant at p=0.001 and has a strong negative influence as the beta value (-.457) in Table 2 further illustrates.

Relationship between the Return on Assets (ROA) and Total Loan over Total Deposits Ratio (TL/TD) among SACCOS on Mainland Tanzania

The results from regression analysis indicate that the total loan over total deposit ratio (TL/TD) is positively related to the Return on assets (ROA) (1.285) Table 2. This predictor is significant at   and has a strong positive influence as the beta value (0.306) presented in Table 2 further illustrates:

Table 2: COEFFICIENTS OF PREDICTORS

Model	Unstandardized Coefficients		Standardized coefficients	t	Sig
	B	Standardised error	Beta		
1 Constant	232.076	30.500		- 5.608	.000
TL/TD	1.285	.326	3.06	6.059	.000
NPL/TL	-.534	.0156	-.457	3.393	.001

Source: Author's data (2015-2020) from the SACCOS financial audited statements

[a] Dependent variable performance/profitability- ROA

Profitability of the SACCOS Negatively Related to the Credit Risk

This hypothesis was subjected to the test through Analysis of Moment Structure (Amos) - Hypothesis testing. The result shows that the regression weight for credit risk measured by NPL/TL in the prediction of SACCOS performance based on profitability aspect measured by ROA significantly differs from zero at p 0.001 (see Table 3). This result is supported by the critical ratio (CR) value of less than 0.001. Moreover, the credit risk measured by the ratio of Total Loan to Total deposit (TL/TD) in the prediction of SACCOS performance based on profitability aspect measured by Return on assets (ROA) is also significant at p 0.001. Results further show that the regression weight for credit risk measured by NLP/TL and TL/TD in predicting the SACCOS performance based on the profitability aspect measured by ROA to predict the credit risk explain about 78 percent and 27 percent of their variances, respectively.

Profitability of the SACCOS Negatively Related to the Credit Risk

Table 3: REGRESSION WEIGHT –DEFAULT MODEL

	Estimate	SE	CR	P	Label
NPL/TL ⟵ ROA	-.0781	.0022	.002**	.001**	Par 1
TL/TD ⟵ ROA	.273	.0061	.001**	.006*	Par 2

Source: Author's Data (2020) from SACCOS financial audited statements.
credit risk measured by the NPL/TL ratio and SACCOS' performance (measured

by ROA), implying that the change of a unit of non-performing loan over total loan ratio will influence ROA by 45.7 percent standard deviations. Thus, the increase in non-performing loan erodes the profitability of the SACCOS by 45.7 percent. The study revealed further that there is a positive relationship between credit risk (measured by TL/TD ratio and SACCOS' performance measured by ROA) implying that loan recipients deposited in their saving accounts but failed to repay the loan, hence the increase in the return on assets (profitability) of SACCOS by marginal estimates. Moreover, the relationships between the Return on assets (ROA) and Non-performing loan over total loan ratio (NPL/TL) bears more influence than the relationship between the Return on assets (ROA) and Total loan over total deposits ratio (TL/TD) among SACCOS on Mainland Tanzania.

Based on these findings, the study recommends that the SACCOS, as loans providers, should make a grant for a normal share of non-performing loan recipients as mechanism for cushioning off bad loan, or blowing out the ripple effect of risk by captivating insurance sort mechanism. Meanwhile, timely, proper and adequate appraisal strategies should be put in place to control or minimise default instances during the lending process. Furthermore, participatory involvement is essential for fostering checks and balances in monetary policy, which should be coupled with the introduction of creative new loan products. All these findings observed should be considered in efforts aimed to enhance the operations of SACCOS operating in adult learning institutions.

Discussions

Relationship between the Return on Assets (ROA) and Total Loan over Total Deposits Ratio (TL/TD) among the SACCOS on Mainland Tanzania

Based on the results in presented Table 2, the statistics indicate that the change of a unit of Non-performing loan over total loan ratio will influence Return on asset ratio by 45.7 percent standard deviations decrease. Meanwhile, the increase of a unit of Non-performing loan over total loan will decrease the profitability of the SACCOS by 45.7 percent. In other words, as the SACCOS keep on disbursing more loans to its members, there will be a possibility of losing 45.7 of expected profit. This finding is significant at 0.001. The study findings, on the one hand, render support and, on the other hand, they contradict the findings by Macharia (2012) on the relationship between the level of non-performing loans

and the financial performance of commercial banks in Kenya using a cross-sectional research design to determine the level of NPLs and their effect on the ROA. This study found that the amount of credit extended contributes positively to profits but marginally.

Additionally, as the level of nonperforming loans increase, the profits slump. Therefore, a positive relationship exists between the amount of credit extended and the amount of profits. In the current study, on the other hand, a negative relationship between the level of non-performing loans and profits emerged. The notable difference might be caused by the methodological approach adopted and the different context (Kenya commercial banks versus Tanzania SACOOS) in which the study conducted.

The study findings concur with Kolapo et al. (2012) whose research on credit risk and commercial bank's performance in Nigeria found that there was a negative relationship between ROA and NPL/TL. The current study also support the research that was conducted by Kaaya and Pastory (2013) on credit risk and commercial banks in Tanzania using panel data analysis. The study concluded that the increase in credit risk lowers a firm's performance, with indicators producing negative coefficients, which tend to lower profit level. In this case, there is a negative relationship between profitability (measured by ROA) and credit risk (measured by NPL/TL).

The study findings further contradict those of Kithinji (2010) whose regression results in Kenya found no relationship among profits, amount of credit and the level of nonperforming loans Moreover, the current study is congruent with results by Li and Zou (2014) who used the panel data regression analysis model to establish the presence of a significant negative relationship between NPL/TL the performance indicators ROA.

Moreover, the current study contradicts Kasyoka (2016) findings on the credit risk management on financial performance in savings and co-operative societies in Kitui County, Kenya, which found a strong positive relationship between loan defaulters and financial performance of SACCOs. The current study findings, on the other hand, found a strong negative relationship between loan defaulters (NPL/TL) and financial performance (ROA) of SACCOs. In essence, this finding implies that the SACCOS management did not consider well the Merton default model, which provides a way to determine conceptually both loss components, with a basic theory of credit risk. In the context of the current study, there was a

need to grasp the credit risk profile of the SACCOS loan portfolio to determine how it can be hedged against borrowers' (SACCOS loan beneficiaries) default exposure, especially by establishing some collateral cushioning mechanisms.

Relationship between the Return on Assets (ROA) and Total Loan over Total Deposits Ratio (TL/TD) among SACCOS on Mainland Tanzania

The results presented in Table 2 imply that the change of a unit of Total loan over total deposit ratio influences ROA by 0.306 percent standard deviation. Thus, the increase of total loan increases the profitability of the SACCOS by 0.306 percent. However, the correlation between credit risks measured by the ratio of Loan to total deposit (TL/TD) is positively related at p 0.001 to SACCOS' performance based on profitability aspect measured by Return on assets (ROA), though the correlation value seems not strong enough. This result implies that loan recipients deposit more in their savings accounts but fail to repay the loan, hence leading to an increase in the return on assets (profitability) of SACCOS. As the Return of total assets (ROA) considers the return on investment (ROI) and indicates the effectiveness in generating profits with its available assets, the higher deposits mobilisation could lead to better performance of the SACCOS. The current study findings also concur with the findings of Kolapo et,. al.'s (2012) research on credit risk and commercial banks' performance in Nigeria. The study used a panel data approach to determine the credit risk and found a positive relationship between ROA and TL/TD ratio. Furthermore, the study findings of the current study contradicts those of research conducted by Gizaw et al. (2015) in Ethiopia and revealed that TL/TD had an insignificant effect on performance.

Profitability of the SACCOS Negatively Related to the Credit Risk

The results from the test presented in Table 3 clearly articulate the structural equation modelling as it displays the link between ROA and Credit risk. These results imply that the error variance of SACCOS performance is about 22 percent for NPL/TL and 73 percent for TL/TD. This test confirmed the negative significant influence of credit risk on SACCOS' performance based on NPL/TL ratio, that is, it was stronger than TL/TD.

Influence of the Relationships between ROA and NPL/TL versus Relationship between ROA and TL/TD among the SACCOS on Mainland Tanzania

The result of the regression analysis shows that mean of ROA is - 0.0026 (Table 1). In general, the rule of thumb is that the banking sector expects not to be less than 5% of ROA. In this case, the SACCOS under review did not reach the expected level of ROA. Information from the analysis revealed further that the SACCOS had a negative mean value for the study period. The standard deviation of ROA indicates that the SACCOS have negative value. There is negative standard deviation (-0.782) among the SACCOS in the case of NPL/TL (Table 1). The mean value is less in NPL/TL ratio than TL/TD ratio in this study. Based on the general rule, which states that the higher value of standard deviation implies greater spread of data, the smaller the standard deviation shows the data is concentrated around mean. As such, the standard deviation is negative as well as small for NPL/TL, positive as well as small for TL/TD. In general, the data in the current study spread away from the mean value. This justifies the influence of Non-performing loans on SACCOS' performance. Thus the influence of the relationships between the Return on assets (ROA) and Non-performing loan over total loan ratio (NPL/TL) has more bearing than the relationship between the Return on Assets (ROA) and Total loan over total deposits ratio (TL/TD) among the SACCOS on Mainland Tanzania. The results further imply that the loan recipients deposited more in their savings accounts but, nevertheless, failed to repay the loan, hence resulting in SACCOS' management failure to hedge properly the loan against anticipated credit risk. Thus, implicitly the TEWW SACCOS LTD should be prepare to improvise a special grant mechanism for cushioning off bad loan or creating discounting sort of mechanism and collateral to facilitate the loan repayment before it falls upon the financial loan crisis among its members.

References

Ahmad, N., & Ariff, M. (2007). Multi-country study of bank credit risk determinants. International Journal of Banking and Finance (IJBF), 5(1), 35-52. 10.32890/ijbf 2008.5.8362. http://e-journal.uum.edu.my./index.php/ijbf/article/view8362

Boateng, G. (2008). Credit risk Management in Financial Institutions: The case of Scandinaviska Enskilda Banking (SEB) Stockholm, Dissertation university of Skovde press.

Chipembere, R. (2010). Unlocking Funding opportunities for farmers through grassroots saving and Credit Cooperative (SACCOS) Strategy paper, Mozambique. https://docpler.net.1870084-1unlocking-funding-oppotunitities-for-farmers-through-grassroots-savings

Drehmann, M., Steffen, S.S., & Stringa, M. (2008). The Integrated Impact of Credit and Interest Rate Risk on Banks: An Economic Value and Capital Adequacy Perspective. Journal of Banking & Finance, Volume 34 Issue 4, 713-729. https://www.researchgate.net/publication.229026580_

Erika, S. A., Katarina, V., Peter, A. (2015). The credit risk and its measurement, Hedging and monitoring. Procedia Economics and Finance. 26(2015) 167-173. https://www.elsevier.com/locate/procedia

Gizaw, M., Kebede, M. & Selvaraj, S. (2015). The Impact of Credit Risk on Profitability Performance of Commercial Banks in Ethiopia. Africa Journal of Business Management. 9(2), 59-66. 10.5897/AJBM2013.7171. https://www.researchgate.net.publication/289500778_

Gweyi, M., Olweny, T., Oloko, M. (2017). Influence of Credit Risk of Financial performance of Deposit Taking Savings and Credit Co-Operatives in Kenya IOSR Journal of Business and Management (IOSR-JBM). Volume 20, Issue 1. Ver. II (January. 2018) 2319-7668.76-91 www.iosrjournals.org

Hosna, A., Manzura, B., & Juanjuan, S. (2009). Credit Risk Management and Profitability in Commercial Banks in Sweden, School of Business, Economics and Law. https://www.semanticscholar.org

Jílek, J., (2000) Finanční rizika. 1. vyd. Prague: GRADA Publishing, pp. 635.

Kaaya, I., & Pastory, D. (2013). Credit risk and commercial banks performance in Tanzania: A panel data analysis, Research Journal of Finance and Accounting International peer reviewed. Volume 4, Issue, 16. 2222-

1697. Srivastava 2020:507. https://dspace.cbe.ac.tz

Kargi, H. (2011). Credit Risk and the Performance of Nigerian Banks, journal of academia of education. Vol 15(2). 8637351. https://www.academia.edu/8637351/paper_

Kasparovska, V. (2006). Rizeni obchodni bank: Vybrane kapitoly nakladatelstvi, C.H.Beck

Kasyoka, R. (2016). Impact of credit management on financial performance of SACCOS in Kitui County, A research project report submitted to the department of Business and entrepreneurship in the school of business and Economics in partial fulfilment of the requirement of the award in master's degree in business Administration, south-eastern Kenya-University press.

Kithinji, A. (2010). Credit risk management and profitability of commercial banks in Kenya: A dissertation, school of business, university of Nairobi.

Kodithuwakku, S. (2015). Impact of Credit Risk Management on the Performance of Commercial Banks in Sri Lanka, International Journal of Scientific Research and Innovative Technology, 2 (7) , 24 -29. https://mgt.sjp.ac.lk

Kolapo, T.F., Ayeni, R.K., & Oke, M.O. (2012). Credit Risk and commercial Banks' Performance in Nigeria. A Panel Model Approach. Australian Journal of Business and Management Research, Vol. 2 (02).31-38. https://www.scrip.org=2853710.

Li, F. & Zou, Y. (2014). The Impact of Credit Risk Management on Profitability of commercial banks: A study of Europe, Umea School of Business and Economics, Umea University press.

MacDonald, S., & Timith. W. (2006), Management of Banking, 6th Edition Published by Pre- Press Comm. Inc.

Macharia, J.N. (2012). The Relationship between the level of non-performing loans and the financial performance of commercial banks in Kenya: A management research project submitted in partial fulfilment of the degree of Master of Business Administration (MBA), school of business, university of Nairobi

Mbowe, R. K. (2013). Microfinancing Influence on SMES' Performance in Tanzania: A study of individual traits and Entrepreneurial characteristics among SACCOS loan beneficiaries, A thesis submitted in fulfilment of

the requirements for the degree of Doctor of Philosophy of the open University of Tanzania

Mensah, S. (2004). A review of SMEs Financing schemes in Ghana. Accra-Ghana, Sem International Associates Limited.

Murugu, H. (2010). Effect of credit risk management practices on the performance of SACCOS in Kenya: A case of Nairobi based SACCOS. Master of Business Administration, School of Business, Kenyatta University"

Nguta, M., & Guyo, H. (2013). Factors Influencing loan repayment Default in Microfinance Institutions. The experience of Imenti North District, Kenya. International Journal of Applied Sciences and technology. Vol.3, issue 3. https://www.aijcrnet.com.

Ntangekinshala, A. (2017). The effect of credit risk management on the financial performance of commercial banks in Tanzania: A dissertation submitted in partial fulfilment of the requirements for the degree of Master of Business Administration of the open university of Tanzania.

Purda, L. (2008) Risk perception and the financial system. Journal of International Business Studies volume 39, 1178–1196. 10.1057/palgrave. jibs.8400411. https://www.researchgate.net/publication/522339

TEWW SACCOS LTD,. (2019). Taarifa ya utendaji kwa kipindi cha kuanzia mwezi January 2019 hadi Disemba 2019: TEWW, Dar-es-salaam

United Republic of Tanzania URT. (2016). BOT, Financial report. BOT.

Factors Influencing Deposit Mobilisation in Higher Learning Institutions' Financial Entities: A Case Study of TEWW-SACCOS Ltd

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Abstract

This paper reports the study findings that had assessed the factors influencing deposit mobilisation in Tanzania's higher learning institutions' financial entities a case of TEWW SACCOS LTD. The specific objectives of the study were to determine the factors mostly influencing the TEWW SACCOS LTD deposit mobilisation; establish the effect of interest rates on a variety of services on its deposit mobilisation; and determine the extent to which employees' salary levels affect its deposit mobilisation. The study was conducted on three campuses and eight centres of the IAE. Purposive sampling was used to draw a sample of 45 respondents from a population of 85 TEWW SACCOS' members from whom primary data was collected. Data analysis used descriptive statistics processed under SPSS version 20. The findings indicate that most of the respondents (42.2% and 22.2%, respectively) confirmed that the employee's salary levels and the varying services rendered adversely affected the TEWW SACCOS LTD deposit mobilisation. The interest rates, are also, insignificantly affected the variety of services and TEWW SACCOS's deposit mobilisation. The effects of employees' salary levels emerged to be three times more adverse than any other factor on TEWW SACCOS LTD deposit mobilization. Thus, it is recommended that the TEWW SACCOS LTD needs to increase number or service varieties rendered while rethinking the applicable collateral. Moreover, the TEWW SACCOS LTD management through the employer should endeavoured into reformation and encourage more members to join the TEWW SACCOS LTD to boost the deposit mobilisation.

Keywords: Deposit Mobilisation, SACCOS, Interest rate, Salary

Introduction

Financial institution such as the Savings and Credit Co-operative Society (SACCOS) acts as financial intermediary in a global economy. They use loan and deposit services to channel idle funds of the members into valuable production and other investment projects serving its members to attain their socio-economic goals. Simply put, such financial societies enable members to save for the future. The growth of individual economy depends on capital accumulation, which in turn depends on investment and proportional savings to match it. This study, therefore, assessed factors influencing deposit mobilisation in higher learning institutions' financial institutions using a case of the Institute of Adult Education, which is better known by its Kiswahili name of Taasisi ya Elimu ya Watu Wazima SACCOS LTD, hence TEWW SACCOS LTD.

Most of the SACCOS members at the Institute of Adult Education opened bank accounts for their monthly salary deposits from the employer. Meanwhile, a few of the employees also voluntarily belong to the TEWW SACCOS LTD operating in their domicile at work. This non-mandatory approach to SACCOS creates a problem of limited number of accounts opened in TEWW SACCOS LTD and relatively slow down deposits and servicing of the TEWW SACCOS LTD undertakings. As a result, though the TEWW SACCOS LTD had been in existence for 42 years the membership remained constricted since registered for operations.

It was registered on 29th May 1979 under the saving and Credit Co-operative Society Act of 1968, with registration number DSR. 205. Currently, TEWW SACCOS LTD operates under new amendment Act No: 6 of 2013 for savings and credit co-operative society. However, the operating mechanism for TEWW SACCOS LTD is likely to end up with failure to mobilise adequate deposits from the members, which affect the disbursement of loan or invite higher interest rate is possible to make the SACCOS' operations sustainable.

In consequence, the SACCOS in higher learning institutions concentrated less on tapping the members' salaries as deposits, but more on general (side) income accumulated by its members through entrepreneurial activities. Mobilising deposits from a single economic segment limits sources of money for lending, which is an integral part for improving their financial performance capable of translating into SACCOS growth. Also members are encouraged to buy shares, which expand the client base and raise in savings with the growth of membership.

Other higher learning institutions have introduced material gifts to members who save regularly and relatively more than others in the SACCOS. Sometimes, motivators entailed awarding the best savers with certificates (Amiry, 2013).

The TEWW SACCOS LTD caters for three campuses of the Institute of Adult Education, in addition to 61 educational centres spread out in different parts of the country. In all, the Institute has 258 employees composed of 114 academic and 144 non-academic staff. The SACCOS' operations revealed an ultimatum on possible default for loanable funds disbursed to its members. The TEWW SACCOS LTD's records indicate that some members delayed their loan repayments and sometimes even failed to comply with the loan agreement schedules. The delayed loan repayments attracted additional interest charges of about 6% per annum, which accrued monthly as per loan agreement between PPF Pensions Fund and TEWW SACCOS LTD, which consign the loan contract agreement with PPF Pension fund on behalf of its members.

Studies on SACCOS deposit mobilisation in higher learning institutions were rarely conducted by different actors of financial institutions, apart from non-higher learning institutions indicating alarming drastic drops of deposit mobilisation in SACCOS operating in both public and non-public sectors. Despite the interventions undertaken over the last 10 years to promote financial inclusion, in most parts of the world people are still not saving enough, or they do so through informal channels. According to the Global Findex 2 (Demirguc - Kunt et al., 2015) about 56 percent of the adults in the world saved a certain amount of money between 2013 and 2014, whereas only 27.4 percent saved in a formal institution during the period under review. This phenomenon is especially more pronounced in developing than in developed countries. In contrast, some evidence suggests that the poor do save and have a small surplus that they do not use for essential expenditures (Collins,. et al., 2009).

However, the channels that they use for saving are mainly informal, such as keeping the money at home or with friends and family, buying jewellery or livestock, lending to others, or investing in family businesses. In Latin America and the Caribbean, according to the Global Findex database, 48 percent of households reported saving in one form or another, 45 percent reported having a savings account in a formal institution, whereas only 16 percent reported saving in a financial institution. These percentages are like those of Sub-

Saharan Africa and extremely low in relative to the emerging and developed economies.

The SACCOS' credit and deposits are closely related in the sense that they represent almost two sides of the same coin. Likewise, the question of whether loans make deposits or deposits make loans attract two kinds of answers depending on which side of the coin one is looking at. The financial institutions, the world over, thrive on their ability to generate income through their lending activities. For SACCOS, the lending activity only becomes possible when the entity can mobilise enough funds from the customer base.

Since SACCOS depend much on depositor's money as a primary source of funds, there are some possible relationships between the ability of the SACCOS to mobilise deposits and the amount of loan granted to its members. Deposit mobilisation depends on the cost of deposits. It is the size of the deposits that largely decide the lending potential of a financial institution such as SACCOS (Rajeshwari, 2014). Indeed, SACCOS must have adequate deposits to meet the lending volume required by its members while maintaining extra cash for loans and other services for its members (depositors). The SACCOS cannot achieve this funds mobilisation to support service provision without clear strategies for mobilising more people to deposit funds and save. Yet, as Collins et al. (2009) have documented, low-income households in developing countries save resources in a wide variety of informal and semi-formal savings devices, though such alternative savings can be quite costly.

Literature Review

Theoretical foundations governed the current study based on the three theories deployed to assess the factors influencing deposits mobilisation in TEWW SACCOS Ltd. These three theories are the loanable fund theory, lifecycle theory, and Keynesian theory of Absolute Income Hypothesis.

The loanable fund theory (LFT) applies the law of supply and demand. This theory stipulates that, the demand for supply of loanable funds are the roots that determine the interest rates. It uses a classical market analysis to describe the supply, demand, and interest rates for loans in the market for loanable funds. Ideally, based on these early proponents, the supply of a loanable fund comes from the firms or individuals who want to save; these are the lenders. The demand for loanable funds originates from the entrepreneurs or investors who want to buy capital assets (i.e., to invest); these and are the borrowers.

Negotiations in the loanable market are made in terms of the real interest rate. The market interest rate is, therefore, determined when there is an equilibrium between the demand for and supply of loanable funds. in other words, the loanable funds market works on the principle of equilibrium. At equilibrium requires both savers and investors and the interest rate spread not to be so wide that one party feels discouraged. After all, the increase in interest rates on loan increases makes it more expensive to borrow, and the demand for the loan decreases. On the contrary, as the interest rate on savings decreases, the supply of loanable funds drops because lower interest rate discourages net savers.

This theory was deemed appropriate for the current study since it explains well the importance of TEWW SACCOS Ltd as an example of SACCOS in higher learning institutions to observe the trend of demand for and supply of loanable funds among the loan beneficiaries to determine the correct interest rate to charge. Any change in the interest rate that might occur can have a different impact on both short and long-run in various magnitudes for either side of stakeholder. The decrease in interest rate change in the short run would cause aggregate demand for loanable funds to increase because there would be more investment spending. Contrary, in the long run, more investment spending will cause the long run aggregate supply curve to increase as well. This theory informs the study on how the TEWW SACCOS Ltd's income must be either saved or disbursed. This implies that a decrease in loanable fund consumption will lead to an increase in savings; otherwise an increase in loanable fund savings will cause the supply of loanable funds to increase tremendously.

The second relevant theory is the lifecycle theory (LCT), which postulates financing through the institutional lifecycle. The market mix classifies the age of micro-finance institutions (MFIs) into new, young, and mature. According to LCT, Microfinance Finance Institutions (MFIs) are expected to be financially sustainable when they attain the age of maturity. New MFIs are not typically self-sufficient and the mature ones are usually profitable. Young MFIs are mainly operationally sustainable while financially sustainable and profitable.

This theory is also appropriate for the current study to explain the existing stage in under which TEWW SACCOS Ltd, as an example of SACCOS in Tanzania's higher learning institutions, falls. The LCT connotes that, the management of TEWW SACCOS LTD would have gained experience over time, hence sharpening its capacity to mobilise deposits and disburse loans to its members

efficiently. Such potentialities can facilitate TEWW SACCOS Ltd's navigation from being a small, inefficient and un-sustainable SACCOS to large, sustainable and financially sustainable SACCOS. Financial sustainability is celebrated by financial regulators authority for enhancing outreach to the poor in a consistent way. This would make financial sustainability a supreme SACCOS' development lag necessary for every SACCOS in higher learning institutions. Notably, the role of micro financial institution financing structure and efficiency measures in defining financial sustainability. Low-cost financing sources (equity) support financial sustainability. Regulatory costs linked with deposit collection also constrain financial sustainability (Bayai et al., 2016).

The third and most related theory in this study was the Keynesian theory of Absolute Income Hypothesis (1970). This theory focuses on current income to explain changes in savings and consumption behaviour of the economic agents. The income of interest under this theory is the absolute/disposable income. Keynes postulates that consumption will increase at a decreasing rate as the income increases other things remaining constant. This implies that part of the income will be saved at an increasing rate as the disposable income increases. Thus, consumption and savings are functions of disposable income. Other things being constant, the assumption is that rich people will save more than poor people or those with higher income (salary) will likely save more than their counterparts with less income (salary).

The current study applied the Keynesian theory of Absolute Income Hypothesis as consumption was an inactive residual of the amount of income remaining after saving. Under this view, the decision of any TEWW SACCOS Ltd's loan beneficiary member to save will be determined by the income (salary) for the utility lost from consuming.

By implication, consumption is dependent variable influenced by the interest rate (a key factor of saving behaviour). Thus, it is assumed that an individual TEWW SACCOS Ltd loan beneficiary's savings are positively associated with an increase in his/her absolute income (salary) increases because more excess in income (salary) entails a higher saving rate in his/her SACCOS account. Based on this assumption, we applied this theory to understand the prevailing TEWW SACCOS Ltd circumstance.

In a study conducted in Nigeria by Nwanchuku et al. (2011) entitled "What Drives Private Saving in Nigeria" found that private savings fluctuated in

relation to interest rate on deposit. Meanwhile, the growth rate of real per capita and degree of financial depth impacted positively the private savings whereas fiscal balance negatively influenced private savings in Nigeria. This study, however, was confined to private savings fluctuating in relation to interest rate on deposit but not on the effect of interest rates/charges on a variety of services provided by financial institutions such as SACCOS deposit mobilisation at higher learning institution.

Similarly, a study by Ndanshau (2012) entitled "Interest rates and other Determinants of financial savings: An empirical investigation in Tanzania" found no strong evidence on real interest rate to influence national savings in Tanzania. However, the interest rate reform has had a positive impact on financial deepening which ultimately affects saving rate. Though the study managed to depict the real interest rate versus its influence on national savings and financial deepening effects on the savings rate, it did not highlight the effect of interest rates/charges on the variety SACCOS services pertaining to deposit mobilisation, specifically in higher learning institutions.

Furthermore, a study by Luvate et al. (2016) entitled "Assessment of interest rates influence on deposit mobilisation for selected savings and credit co-operative societies in western Kenya" revealed that most of the respondents (59.6%) agreed that the prevailing interest rates helped respondents in deciding where to save their money, 21.9 percent were uncertain, 16.7 percent disagreed, 2.2 percent strongly agreed with the statement whereas a fraction (1.3%) strongly disagreed with the statement.

The scenario indicates that most of the customers agreed that the prevailing interest rates helped respondents in deciding where to save their money. The study, however, was confined to the prevailing interest rates and decisions regarding where to save the money depending on whether the interest was low or high, contrary to the effect of interest rates/charges on a variety of services on financial institutions such as SACCOS in case of deposit mobilisation for higher learning institutions.

Audu (2015) examined the impact of target deposit mobilisation on the banking industry by focusing on selected banks in Maiduguri Metropolis. The study found that deposit mobilisation practice of "target deposit" given to bank staff has several social and financial implications for the banks and their marketers. Whereas "target deposit" has resulted in an increase in the size

of bank deposits coupled with financial gain and promotion of marketers, the concomitant negative impact as exemplified in unethical practices and the health implication of marketers chasing, deposits leaves much to be desired. The study only focused on the "target deposit for bank industry" and not necessarily on the factor mostly influencing SACCOS deposit mobilisation in Tanzania's higher learning institutions.

Chelangat et al. (2018) conducted a study entitled "Savings Mobilisation Strategies and the Growth of Savings and Credit Co-operative Societies in Nairobi City County, Kenya." The study specifically had examined the effect of product development on the strategic growth of SACCOs in Kenya. The study revealed that product development/diversification affects the growth of savings and credit co-operatives significantly. The study also found that group lending significantly affected the growth of savings and credit co-operatives. Meanwhile, new product development/ product line extension significantly affected the growth of savings and credit co-operatives. The study also showed that the mode of disbursement, savings products range as expressed and interest on loan/ interest rates also significantly affected the growth of savings and credit co-operatives greatly. However, the study neither linked the most influential factors on the SACCOS deposit mobilisation nor did it establish the effect of interest rates/charges on the variety of SACCOS services on deposit mobilisation as well as the extent to which employees' salary levels/amounts affected the SACCOS deposit mobilisation elsewhere. In fact, the study fully revolved around saving mobilisation.

Ina study conducted by Mansour (2012) that had assessed the factors that influence deposit mobilisation in Tanzania using a case of commercial banks (NBC, NMB, CRDB, PBZ, Barclays and BOA) based in Dar es Salaam, Tanzania, found that the level of banking charges ranked first among the ten factors considered in the study in deposit mobilisation in financial institutions supported by 97.2 percent of the respondents. This factor was followed by location of the bank, which was supported by 97.1 percent respondents and the third factor was marketing strategies backed up by 91.5 percent respondents. The fourth factor was quality of the service rendered, supported by 88.6 percent respondents; the fifth factor was the level of technology back-up (76.1%); the sixth factor was level of interest rate (73.3%); then came level of internet banking (71%) in seventh factor. The eighth factor ranked was the variety

of the services rendered (66.6%). The ninth factor was level of ATM charges 59.4 percent respondents and the tenth factor ranked was level of employee's compliance backed-up by 50 percent respondents. Although the study ranked the factors influencing deposit mobilisation in financial institutions, it was confined to the bank industry and overlooked other micro and macro financial institutions such as SACCOS.

Nkuru (2015) in a study entitled "Factors Affecting growth of SACCOs within the Agricultural Sector in Kenya: A Case of Meru Farmers SACCOs" established that most   of the respondents interviewed (40%, n=80) had income level between (Kshs11, 000 and Kshs30, 000). Meanwhile, the respondents with the highest income level were 15 (7.5%). This might have negative implication for the growth of the SACCOS since low levels of income translate into low sums of money contributed to the SACCOS (in terms of deposits) each month as supported by the most of the respondents (44.5%, n=89) who contributed amounts of below Kshs 5,000 as opposed to only 25(12.5%) respondents who contributed Kshs16, 000-20,000 per month. In addition, other SACCOS members had quietly borrowed from commercial banks with SACCOS loans still outstanding. Furthermore, 77.7 percent of the respondents indicated that the amount of income they contributed affected the growth of the Meru Farmers' SACCOs and, thus, the SACCOS might fail to meet adequately its obligations of providing loans to members. Though study concentrated on the effects of income levels on the growth of SACCOS it did not consider the most influencing factors on the SACCOS deposit mobilisation nor the extent to which the employees' salary levels/amount affected the SACCOS deposit mobilisation in higher learning institutions.

Materials and Methods

The study population consisted of TEWW SACCOS Ltd.'s members from the Institute of Adult Education (IAE) in Tanzania. The IAE comprised three campuses, and 61 educational centres spread out country-wide. It had a workforce of 258 made up of 114 academic and 144 non-academic staff (IAE, 2021). Yet, it was only 85 employees who were TEWW SACCO Ltd members. The reasons for the TEWW SACCOS Ltd choice based on some unsustainability indicators to manage its operations in the short-run in terms of performance and policy. Moreover, the branches IAE with its headquarters in Dar es Salaam were

scattered all over the country with a substantial number of SACCOS' members having broader experience than any other members elsewhere in the country as per its lifelong from the time its start.

Purposive sampling techniques was used to obtain the required members from TEWW SACCOS Ltd. The choice enabled the researcher to obtain those respondents who were useful in data collection for this study. The purposive sampling employed in the study was judgmental. Subsequently, a sample size of 45 TEWW SACCOS Ltd.'s members was generated from a population of 85 members, hence representing 52.94 percent of the TEWW SACCOS Ltd members at IAE. The distribution of the respondents for the selected purposive sampling were obtained from Mwanza campus (5 members), Dar es Salaam campus (15) members and Morogoro campus (6 members).

Other respondents were obtained from the IAE centres comprising four members from the Kigoma centre, three from Singida, two from Kagera, two members from Pwani (Coast) centre, one from Tabora, four from the Mbeya centre, 1 from Arusha and two provided useful information for assessing factors influencing deposit mobilisation in higher learning institutions' financial institutions using a case study of TEWW SACCOS Ltd.

The study collected both primary and secondary data. Primary data was gathered from respondents using a structured questionnaire. The questionnaire was administered physically or via the telephone. The secondary data, on the other hand, was obtained from various TEWW SACCOS and IAE records sources. The rationale of employing these data collection methods was to collect enough information for the research to achieve its objectives as the study was exploratory in nature.

Data collected using self-administered structured and telephone-administered questionnaires were coded into SPSS before running descriptive statistics with frequency tables to achieve the first specific objective. The subsequent descriptive statistics with cross tabulation helped to achieve the second and third objectives of the study. Descriptive statistics with frequency tables based on the first specific objective targeted helped to identify the factors mostly influencing the TEWW SACCOS Ltd deposit mobilisation. Meanwhile, descriptive statistics with cross tabulations were ran to establish the effect of interest rates/charges on a variety of services on SACCOS deposit mobilization and determine the extent to which the employees' salary levels/amount affected the TEWW SACCOS

Ltd deposit mobilisation to achieve the second and third objectives of the study, respectively. This app roach was consistent with Mansour (2012) and Luvate et el. (2016). In addition, the t-statistic test was conducted for the second and third objectives to establish whether there were significantly different effects for some important factors or not after ranking based on the deposit mobilisation strength in TEWW SACCOS Ltd.

Results

The study sought to determine the factor influencing the TEWW SACCOS Ltd deposit mobilisation the most. The study found that most of the respondents (42.2% and 22.2%, respectively) confirmed that employees' salary levels and a variety of the service rendered most adversely affected the TEWW SACCOS Ltd deposit mobilisation at IAE. The other factors include interest rate (13.3%), dividend level (8.9%) and the last two factors were quality of the service and location of SACCOS (which tied at 6.7%) respondents, as Table 1 illustrates:

Table 01: FACTORS INFLUENCING SACCOS DEPOSIT MOBILISATION

Considered factor	Frequency	Percentage	Rank
Employees Salary Level	19	(42.2)	1
Variety of Services	10	(22.2)	2
Rate of Interest Level	6	(13.3)	3
Dividends Level	4	(8.9)	4
Quality of Services	3	(6.7)	5.5
Location of SACCOS	3	(6.7)	5.5
	45	(100)	----

Source: Field Data, 2021

The study further sought to establish the effect of interest rates/charges for the variety of services on TEWW SACCOS Ltd deposit mobilisation and to determine the extent to which the employees' salary levels/amount affected the SACCOS deposit mobilisation. The results show effect of the interest charges TEWW SACCOS Ltd imposes on services (Table 02). Regarding the effect of TEWW SACCOS Ltd interest rates on its members, 4.44 out of 60 percent of those who strongly agreed with perceptions cited interest charges over the rest

of the factors as affecting TEWW SACCOS' deposit mobilisation. Conversely, none strongly disagreed with perceptions. The implication is that that the interest rate factor had no effect on TEWW SACCOS Ltd deposit mobilisation. The study also found that for the employees' salary amount (levels) in TEWW SACCOS Ltd 37.78 percent of the respondents strongly agreed with this factor relative to the rest of the factors, out of the 60 percent of the strongly agreed with the perceptions provided.

Table 02: PERCEPTION OF SACCOS'S CUSTOMERS ON DEPOSIT MOBILISATION

Factors considered	5	4	3	2	1	Total
SACCOS's location	1(2.22%)	1(2.22%)	0(0%)	2(4.44%)	1(2.22%)	5(11.11%)
Services variety	6(13.33%)	1(2.22%)	0(0%)	1(2.22%)	1(2.22%)	9(19.99%)
Interest rate Level	2(4.44%)	1(2.22%)	0(0%)	0(0%)	0(0%)	3(6.66%)
Service quality	1(2.22%)	0(0%)	1(2.22%)	1(2.22%)	1(2.22%)	4(8.88%)
Employees' salary levels	17(37.78%)	2(4.44%)	1(2.22%)	1(2.22%)	0(0%)	21(46.66%)
Dividend Level	0(0%)	0(0%)	0(0%)	1(2.22%)	2(4.44%)	3(6.66%)
Total	27(60%)	5(11.11%)	3(6.67%)	6(13.33%)	4(8.89%)	45(100%)

Source: Field Data, 2021
Where: 5: Strongly agree, 4: Agree, 3: Neutral, 2: Disagree, 1: Strongly disagree

The study also checked for significance level of some factors considered under specific objectives two and three. The output shows that the average for interest charge on facilities offered by TEWW SACCOS LTD is 1.45 versus 1.74 for employee salary. We read the value in the second row labelled "Equal variances not assumed". We will use the second row since we almost never have any reason to consider a *priori* that the amount of variation within each group will be the same (the p-value in the two rows is usually almost the same anyway). In the output a column labelled "Sig. (2-tailed)"is the p-value, which is .006, implying that the difference in the mean score is statistically insignificant (p> .005) as indicated in Table 03:

Table 03: GROUP STATISTICS AND INDEPENDENT SAMPLE TEST

Factors considered	N	Mean	Standard deviation	Standard error
Facilities				
Interest charges	45	1.45	2.146	3.742
Employee's salary	45	1.74	3.024	5.635

	Leven's test for quality Variance			t-test for quality of means			
	F	Sig	t	df	Sig 2 tail	Mean dif	std err 95%
Equal variance assumed	12.213	.000	1.251	4	.006	92.6	7.421
Equal variance not assumed			1.001	6	.006	92.6	8.213

Source: Field data 2021

Discussions

The study sought to determine the most influential factors on SACCOS deposit mobilisation at TEWW SACCOS Ltd. The results indicate that employees' salary levels ranked first with a 42.2 percent response rate. Indeed, it emerged to which is most adversely affect the SACCOS deposit mobilisation at TEWW SACCOS Ltd. This finding implies that as the level of salary increases, it induces savings. Other things being constant, it is assumed that those TEWW SACCOS Ltd members with higher salaries can save more in their TEWW SACCOS Ltd account than their low-income earners or those who own much in terms of income (salary) will likely save more than their fellows with less income (salary). This finding is in line with the Keynesian theory of Absolute Income Hypothesis, which stipulates that consumption will increase at a decreasing rate as the income increases, other things being constant. In other words, part of the income would be saved at an increasing rate as the disposable income short up. Therefore, consumption and savings are functions of disposable income.

These findings contradict those by Mansour (2012), who had found the level of banking charges to rank first among the ten factors considered in the study to affect deposit mobilisation. His findings was supported by 97.2 percent respondents. The difference if the most influential factor in the two studies could be attributable to the size of the sample taken (the current study had 45 respondents whereas the comparative study had 72). Moreover, the contexts of the two studies differ: SACCOS for the current study and banks for the comparative study. Furthermore, the factors considered in the current study are

limited compared to those in comparison study. The current study considered only six factors some are like those in the comparison study (Location, Variety of services rendered, Level of interest rate/charges and quality of services rendered) whereas others are different (Employees' salary amount /level and dividend).

The second factor influencing the TEWW SACCOS Ltd deposit mobilisation emerged to be variety of the services (22.2%). This finding implies that having different types of services other than loan issuance may add value to TEWW SACCOS Ltd deposit mobilisation. In other words, abnormalities found in deposit mobilisation in TEWW SACCOS Ltd appears to be associated with limited services offered by the SACCOS to its members. This finding is contrary to Mansour (2012), whose the second most significant factor influencing deposit mobilisation in his study was the location of the bank, which was supported by 97.1 percent of the respondents. The factor of variety of the services rendered was ranked as eighth factor in his study and was supported by 66.6 percentage of the respondents, the differences emerged in this ranking maybe attributable to the different contexts of the two studies (banks and SACCOS) and the sample sizes.

The third most significant factor established in the current study that influenced the TEWW SACCOS Ltd deposit mobilisation is interest rate as expressed by 13.3 percent of the respondents. This finding implies that the interest charges attached either to the disbursed loan or deposits are not user-friendly to the TEWW SACCOS Ltd members who might shy away from the SACCOS, which in turn could affect the members' deposits or increasing the burden to repay the loan. This finding also is opposite to those of Mansour (2012), who ranked marketing strategies third among the factors influencing deposit mobilisation in financial institutions, with 91.5 percent of the respondents in that study indicating so. The reasons for the observed ranking differences may be resulted out of the context in which the two studies were conducted (bank &SACCOS) and the sample sizes used (45 Staffs for SACCOS & 72 Staff for banks).

The fourth most significant factor emerged to dividend level, which in the current study was supported by 8.9 percent of the respondents. This factor appears to be less influential when it comes to TEWW SACCOS Ltd deposit mobilisation that other factors. The explanation is that dividends were rarely or completely not observed in the TEWW SACCOS Ltd. Thus this neglect could have led to a

decrease in TEWW SACCOS Ltd's deposit mobilisation. This finding contradicts to those by Mansour (2012) who had ranked the quality of the service rendered fourth, with 88.6 percent of the respondents in that study backing it up. These ranking differences might stem from the different contexts of the two studies (banks &SACCOS), sample sizes used (45 for SACCOS & 72 for banks) and the reason that the Mansour's study did not use the dividend factor.

The least ranked factors in the current study were the quality of services and location of TEWW SACCOS Ltd. These were ranked fifth by only 6.7 percent respondents ——the lowest——hence having hardly any impact on deposit mobilisation in TEWW SACCOS Ltd. This finding could signal that with the advancement in technology the location cannot influence the decision to deposit or otherwise. Meanwhile, the quality of services provided by TEWW SACCOS Ltd seems not that preferable to the members. This finding challenges those found by Mansour (2012) which ranked as fifth factor the level of technology. These differences could emanate from the different contexts of the two studies (banks &SACCOS), sample sizes used (45 for SACCOS & 72 for banks). Also, the current study did not consider the level of technology factor as.

The study further sought to establish the effect of interest rate/charges for a variety of services on TEWW SACCOS Ltd deposit mobilisation and to determine the extent to which the employees' salary levels/amount effect the TEWW SACCOS Ltd deposit mobilisation. The study found that the interest charges on TEWW SACCOS Ltd- offered facilities services are insignificant at $p > .005$ Table 03. This implies that the interest charged does not affect the deposit mobilisation of   the SACCOS Ltd. As Table 02 illustrates, only 4.44 percent out of 60 percent of those who strongly agreed with perceptions opted for this effect over the rest of the factors. Implicitly its effect are insignificant when it comes to inducing deposit mobilization in IAE SACCOS Ltd. This finding is inconsistent with the loanable fund theory since there is no need for negotiations in the loanable market. In essence, the market interest rate is not adhered to determine whether the demand for and supply of loanable funds has not been equal. Any increase or decrease the interest rate that might not impact on TEWW SACCOS Ltd members in both short and long-term, since to them the factor was largely inconsequential. In this regard, the current study's finding contradicts the Luvate et al. (2016) who found that most of the respondents (59.6%) agreed that the prevailing interest rates helped respondents to decide where to save their money.

The findings of the current study further disagree with study those by Chelangat et al. (2018), whose study established that interest on loan/ Interest rates also significantly affected the growth of savings and credit co-operatives. Like the current study Ndanshau (2012) also concluded that there was no strong and conclusive evidence on real interest rate influencing national savings in Tanzania. On the other hand, as Ndanshau (2012) observed, the interest rate reform has had a positive impact on financial deepening generally, which ultimately affects the savings rate contrary to the current study findings.

The current study also found that the effects of employees' salaries in TEWW SACCOS Ltd were three times stronger than any other factor in affecting deposit mobilisation for the SACCOs under review. As Table 02 illustrates, the respondents strongly agreed that employees' salary level affected the TEWW SACCOS Ltd's deposit mobilization as reported by 38 percent respondents. In other words, the effects brought about by this factor on deposit mobilisation is more than triple the times of any other singular factor when it comes to deposit mobilization in TEWW SACCOS Ltd. Indeed, the salary cap tends to positively or negatively influence the SACCOS members' participation in such co-operative entities.

The findings of the current study partly support and partly disagree with Nkuru (2015) whose research indicated a negative implication for the growth of SACCO since low levels of income translates into paltry sums contributed to the SACCOS each month as supported by the majority of respondents in that study. In addition, other SACCOS' members secretly borrowed from commercial banks while still owing SACCOs loans.

Overall, the current study concluded that most of respondents (42.2% and 22.2% respectively) confirmed that the employees' salary levels and variety of the service rendered are the most significant factors that adversely affected TEWW SACCOS Ltd deposit mobilisation. These two factors are followed by interest rate, whose influence was on the low side and was articulated by only13.3 percent of the respondents. On the other hand, the study found insignificant effects on deposit mobilisation in TEWW SACCOS Ltd engendered by interest rate. Finally, the study found that the effects of the employees' salaries on TEWW SACCOS Ltd deposit mobilisation were three times more than any other singular factor. In fact, the records from TEWW SACCOS Ltd (COASCO, 2017) indicate that its operations contradict the life-cycle theory,

which requires Microfinance Finance Institutions (MFIs) are expected to be financially sustainable when they attain the age of maturity. After all, new MFIs are not typically self-sufficient and matured ones are usually profitable. Yet, the TEWW SACCOS Ltd had been in operations for more than four decades having been in launched in 1979 but without necessarily attaining the required maturity and membership numbers that would make it even more sustainable.

Based on the age-wise analysis criteria developed in a study conducted by Rupa (2018), the MFIs have been divided into three categories: 'New', 'Young' and 'Mature' based on the maturity of their microfinance operations. The MFIs are classified based on their age as follows: (i) Age less than 10 years – New MFI; (ii) Age between 10 to 15 years – Young MFI; and (iii) Age more than 15 years – Mature MFIs. As such, TEWW SACCOS Ltd with 42 years under its belt falls under the Mature MFI. In this regard, the management of TEWW SACCOS Ltd would have gained ample experience over time, hence sharpening their potentials to mobilise deposits and disburse loans to its members efficiently. Such potentials could also have allowed TEWW SACCOS Ltd to navigate from being a small or young, inefficient and unsustainable SACCOS to mature, sustainable and financially sustainable entity. Paradoxically, all these positive attributes have never been achieved by TEWW SACCOS Ltd as the findings of the current study illustrate. Thus, the study recommends that the TEWW SACCOS Ltd increase the variety and quality of service rendered and, simultaneously, rethink the collateral appended to its loan portfolio. Moreover, the TEWW SACCOS Ltd management, through the employer should venture into reformation and encourage more members to join the TEWW SACCOS Ltd to boost the deposit mobilisation and minimise the possible loan default rate, which led to the collapsing of the otherwise veteran TEWW SACCOS Ltd.

References

Amiry, A. (2013). Effect of SACCOS to social economic improvement of its member's income: The case study of Kinondoni district. Mzumbe University.

Audu, M. A., Oghoyone, A. S., & Gulani, G. M. (2015). The Impact of Target Deposit Mobilization on the Banking Industry. A Study of Selected Banks in Maiduguri Metropolis. Journal of Business and Management (IOSR-JBM), 17(5), 36-52. 10.9790/487X-17533652. https://www.josrjournals.org

Bayai, I., & Ikhide, S. (2016). Life cycle theory and financial sustainability of selected SADC microfinance institutions (MFIs). RePEc journl.vol 50(6), 121-132. https://ideas.repec.org

Chelangat, B., L. & Namusonge, M. (2018). Savings Mobilization Strategies and the Growth of Savings and Credit Cooperative Societies in Nairobi City County, Kenya, International Academic Journal of Human Resource and Business Administration 3(2), 48-78. http://www.iajournals.org

COASCO (2017), Taarifa ya mkaguzi na taarifa za fedha za chama cha akiba na mikopo TEWW kwa miaka minne kuishia tarehe 31.12.2017. Dar es Salaam.

Collins, D. Jonathan, M., Rutherford, S., & Ruthven, O. (2009). Portfolios of the Poor: How the World's Poor Live on $2 a Day. Princeton, NJ: Princeton University Press.

Demirguc - Kunt, A., Klapper, L., Singer, D. & Van Oudheusden, .P. (2015). The Global Findex Database 2014: Measuring Financial Inclusion around the world. Policy Research.https://www.pubdocs.worldbank.org/en6e136146618485443/2014-Global-Findex-Report.DKSV.

Luvate, G., & Oscar, S., Mwau, J. (2016). Assessment of interest rates influence on deposit mobilization for selected savings and credit co-operative societies in western Kenya. 2(11), 11-30. IJRDO-Journal of Business Management. https://www.ijrdo.org/index.php/bm/article/view/1511

Mansour, M. (2012). Assessment of the Factors that Influence Deposit Mobilization in Tanzania: The Case Study of Commercial Banks, Dar es Salaam, the Open University of Tanzania

Ndanshau, M. O. (2012). On interest rates and other Determinants of financial savings: An empirical investigation in Tanzania, 12(5) 10.2139/SSRN.2142356. https:www.ssrn.com/abstruct=2142356

Nkuru, N.F. (2015). Factors Affecting growth of SACCOs within the Agricultural Sector in Kenya: A Case of Meru Farmers SACCOs a global journal of

commerce and management perspective J.C.M.P., 4(1), 34-45. https://www.gifre.org/abstruct.2667.html

Nwachukwu, T., & Odigie, P. (2011), What Drives Private Saving in Nigeria,' Paper Presented at Workshop Organized by AERC, Nairobi, Kenya. https://www.scholar.google.com/scholar?q=Nwachukwu

Rajeshwari, M. (2014). Deposit Mobilization and Socio -Economic Impact. A Case Study of Union Bank of India. IOSR Journal of Engineering (IOSRJEN). 4(5), 21-26. https://www.iosrjen.org/papers/vol4_issue 5 (part-4)/D04542126

Rupa, R. (2018) Is Age a Criterion for Sustenance of Microfinance Institutions? Journal of Finance and Accounting 4(1),86-101 10.17492/mudra.v4i01.9783. https://www.journalpressindia.com

IAE, (2021)   Department of human resources records, Institute of Adult Education head quarter Dar es Salaam.

COASCO (2017), Taarifa ya mkaguzi na Taarifa za fedha za chama cha akiba na mikopo TEWW kwa miaka minne kuishia tarehe 31.12.2017. Dar es Salaam.

Communication Skills Confidence, Employability Skills and Workplace Preparedness: Perceptions of Finalist-Undergraduate Students at the Institute of Adult Education in Tanzania

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Abstract

The purpose of this study was to determine if students are confident in their communication skills and well prepared for employment. The study utilized a descriptive research design. The target population included all 125 finalist-undergraduate students at the Institute of Adult Education. A purposive sampling technique was used in this study because all final-year undergraduate students were involved in providing reliable information. Data were collected using questionnaires and a 5 point Likert-scale were administered to respondents while focus group interviews were conducted with 10 respondents. Data were analysed using SPSS version 20. Descriptive statistics technique was used for data analysis. Results indicated that, the courses in adult and community development prepared them most for future jobs (M = 4.93). Of the respondents, 62.4% reported to work in an adult education organization and 25.6% planned to attend post-graduate course after graduation. Students were very confident in their communication skills (51.4%). Respondents considered BSc. in Entrepreneurship and Adult Education (36%) and Bachelor degree in Mathematics and other Teaching Science Subject (24%), Bachelor degree in Information Technology (20%) to be most needed programmes. Based on the findings, it was suggested that, curriculum revision should always be informed by findings from different studies as well as being guided by assessment for competencies and skills including student's reflections on the curriculum they went through and how much they find it useful/not useful during their learning practices.

Keywords: Communication skills, Confidence, Employability, Preparedness, Students

Introduction

Higher education (HE) discourse has long been dominated by the employability debate because the major aim of HE is to generate graduates who are workplace ready (Jackson 2017; McGunagle & Zizka, 2020). Due to its great importance, the employability of university graduates is a subject of much interest to researchers, policymakers and curriculum planners around the world. The effects of graduate unemployability range from poor economic development and psychological problems (Bilgic & Yilmaz, 2012; Paul and Moser, 2009) to social unrest in some countries (Pervaiz, Saleem & Sajjad, 2012).

Higher education institutions are increasingly expected to engage with the challenges of the contemporary world. Policymakers have repeatedly asked for investment in personal skills as a route to building resilience and aiding recovery following the economic recession of 2008 (OECD, 2012; Okay-Somerville & Scholarios, 2019). The industry reinforces this call by requiring professionals who can fulfil the demands of the new contexts and trends, such as the Fourth Industrial Revolution (Schwab, 2016). However, higher education institutions are often criticized for not preparing graduates for the real contexts involved in their professional practice (Abelha, Fernandes, Mesquita, Seabra & Ferreira-Oliveira, 2020). The ill-preparation of university graduates is considered the result of the out-dated and irrelevant curriculum in the higher education system, the traditional teaching methods and the absent of career guidance in most universities (Knight & Yorke (2004). For that reason, it is not surprising that graduate employability has become one of the central issues that drive the mission of higher education institutions (Small, Shacklock, & Marchant, 2018). Thus, several efforts have been made by higher education institutions to meet these identified challenges. For instance, a recent report from the Higher Education Academy (Artess, Hooley, & Mellors-Bourne 2017) highlights effective strategies that can be adopted by higher education institutions, gathered from existing literature, in order to embed employability into institutional initiatives namely, development and/or consolidations of services for institutional career guidance; reinforcing employability through curricula (e.g., entrepreneurship courses) and extracurricular activities (e.g., volunteering activities); encouraging networking that enables the students to interact with employers and real experiences in the labour market (e.g., mentoring programs); supporting students in their personal development (e.g. self-confidence); and encouraging international mobility and

critical thinking regarding their learning experiences as a whole. In summary, these kinds of initiatives allow higher education institutions to develop an institutional narrative based on employability (Billet, 2015).

The United Republic of Tanzania, just like the rest of the countries in the world, is beset by increasingly uncertain changes brought by globalization. Cowen (2011) has advanced a similar argument that previous technological advances were far more impactful than recent ones. Atkinson and Wu (2017) provided empirical evidence on this point by showing that recent decades have resulted in lower rates of creation and destruction of new occupations relative to previous eras in economic history. From the point of view of these scholars, the latest wave of advanced technologies (i.e., digital technology, artificial intelligence (AI), and automation) is unlikely to affect labour markets nearly as much as the technological changes of prior generations.

Digitalization is reducing demand for routine and manual tasks while increasing demand for high-skilled tasks and for problem-solving and interpersonal skills (OECD, 2016). Technological change is likely to require workers in science, technology and innovation (the so-called STEM skills) and workers who can embrace technologies in their work. It will also require business management (strategy, marketing) and design skills to deploy technology projects, and skilled workers to operate and maintain technologies (e.g. solar photovoltaic installers, robot technicians). As digital technologies have become more pervasive, the demand for relevant skills has risen. Not only does this include the technical and vocational skills needed to design, operate and maintain digital infrastructure —e.g. computer and electronics knowledge —but also the ICT generic skills for workers to be able to use digital technologies —e.g. the ability to interact with computers.

Some studies have established that globalization partly spurred by technological innovation, has massively disrupted economic trajectories and business models (Walsh, 2018). Such disruption is increasingly displacing jobs and changing the skills needed in the labour market (Nghia, 2019; Oliver, 2015).For example, in Europe, the ongoing shift from a manufacturing to a service economy (Dolphin, 2015) is undeniably disrupting the labour market, requiring more skilled employees in addition to new skills. Similarly, 47% of jobs in the United States (Frey and Osborne, 2017), 40% in Australia (Durrant-Whyte, McCalman, O'Callaghan, Reid & Steinberg, 2015), and 77% and 69% in China and India,

respectively (Frey, Osborne & Holmes, 2016), are at risk due to automation. Peters (2018) has revealed that over the last decade, routine and manual labour have largely been replaced by automated machines through the use of artificial intelligence and robotics. Certainly, these developments are likely to alter the nature of jobs in both occupations and industries, spurring job losses.

In line with this period of globalization, higher education institutions (HEIs) should inspire and enable graduates to develop their capabilities to the highest potential levels throughout their life so that they grow intellectually, contribute effectively to society, achieve personal fulfilment and be well- equipped for work. It becomes essential for HEIs to respond to unpredictable labour market and make parallel adjustments in order to fulfil their mission. One organized way to keep pace with this time of quickening change is for HEIs to provide avenues for the graduates to gain certain general skills and qualities that will make them completely geared up to the real demands of the world of work. OECD (2018) contended that, teaching and learning these generic skills are consistent with the emerging needs of a world economy in a high-performance workplace.

Employability skills are the core skills and traits needed in nearly every job. These are the *general skills* that make someone desirable to an organization (Doyle, 2020). The employability skills have varied classifications like basic academic skills, higher-order thinking skills and personal qualities with more detailed skill sets (UNESCO, 2016). These generic employability skills are useful across all levels of positions from job entrants to chiefs of offices (Singh, Xaviour & Ramly, 2014). Solomon and Nwoko (n.d) asserted that many employers require applicants to have these skills to be seriously considered for employment. Similarly, these skills are crucial for employment and workplace success and serve as basis for lifelong learning needed by graduates to find a job (Clarke, 2008). The significance of employability skills in work settings is then recognized (Sung et al. 2013; Tarvid, 2015).

A new career era has dawned in which a volatile work environment dictates that individuals need to be flexible and adaptable in order to be marketable to various employers. This has resulted in the surfacing of new career forms and new ways of working, which signifies the necessity for more research into employability (Clarke, 2008). Employability, however, remains a contentious topic with conflicting definitions and conceptualizations and a lack of theoretically

informed research (Fugate, Kinicki & Ashforth, 2004). Bridgstock (2009) adds that this contention extends to the attributes that higher learning students need to promote their employability. While graduating students may be enhancing their employability opportunities by achieving a college or university degree, they may not be realizing the payoff of achieving a job upon graduating from college. This problem could be due to lacking, crucial employability skills needed to find employment and be successful. It is unknown if graduates from the Institute of Adult Education possess the employability skills needed in the workplace. Therefore, these college graduates should be assessed in an effort to shed light on the issue. Some scholars (e.g., Mwagonde, 2014) have contended that only 20% of university graduates in Tanzania find employment each year, and employers claim that university graduates lack relevant job competencies (Munishi & Emmanuel, 2016). This suggests an increasing unemployment rate in the country; however Tanzania's official statistics indicate that the rate of unemployment has dropped slightly, falling from 10.3% in 2014 to 9.7% in 2018 (NBS, 2019). This is comparable to the unemployment rate in the neighbouring Kenya, which stood at 9.3% in 2019 (Plecher, 2020).

Attempts to measure employability outcomes have encountered even greater problems than efforts to define the concept (Cranmer, 2006 & Bennett, 2019). There has been a tendency to adopt "narrow" approaches to assess employability based on initial graduate destination indicators (Bridgstock, 2009), while others focus on sets of skills that employers require from graduates entering the new world of work (Bennete, 2019, Mok & Qian, 2018). The massification of HE have resulted in unpredictable transitions from education to the market (Brown, Lauder & Ashton, 2011).The literature has established that preparing employable graduates is a common challenge for HE systems, including those in developed nations (Abou-Setta, 2014; Chistyakova, Semenova, Vladislav, & Paquet, 2015; Sung, Ng, Loke & Ramos 2013; Tarvid, 2015). This is largely due to the dynamics of the graduate labour market, which keep changing and new skills and knowledge.

Employability, however, extends beyond these knowledge, skills and abilities (Fugate & Kinicki, 2008) to include a broader collection of individual attributes and actions (Fugate et al., 2004). There are consequently a limited number of sound measures of employability, and graduate employability in particular. In light of these aspects, as well as the fact that the Tanzania environment has

scant research on the topic in this context, it is necessary to determine if students at the Institute of Adult Education feel prepared for employment and are confident in their communication skills. In this way the characteristics that help individuals be adaptable in a constantly changing economy can be identified and areas of development can be highlighted that will help those yet to start working, or already employed, to be desirable to current and future employers. The purpose of this study was to determine if students at the Institute of Adult Education feel well prepared for employment and if they are confident in their communication skills. The specific objectives of this study were to (a) assess how well the courses at the Institute of Adult Education prepare students for future employment, (b) assess the perceptions of undergraduate students at the Institute of Adult Education regarding post-graduation employment, (c) examine how confident are the current undergraduate students at the Institute of Adult Education in their communication skills, and (d) identify other programmes to be offered at the Institute of Adult Education to prepare professionals for the 21st century. The following research questions guided this study:

i) How well the courses at the Institute of Adult Education prepare students for future employment?

ii) What are the perceptions of undergraduate students at the Institute of Adult Education regarding post-graduation employment?

iii) How confident are the current undergraduate students at the Institute of Adult Education in their communication skills?

iv) What other programmes do you recommend to be offered at the Institute of Adult Education to prepare professionals for the 21st century?

Literature Review

This study focused on human capital theory (HCT), originally proposed in the 18th century by Adam Smith and later popularized by Becker (1962). "Human capital" refers to a collection of individual attributes, such as knowledge, skills, experience, training, abilities, talent, intelligence, and judgment. The fundamental argument of HCT is that education and training are investments that make people more productive. Accordingly, individuals who are more productive will earn more and be more employable. Scholars (see, e.g., Becker, 1962; Sicherman & Galor, 1990) have argued that quality HE (i.e., training) can make it easier for a person to find employment and build a career. The

theory suggests that employability characterizes the way in which a person enhances his or her desirability to the world of work.

Analysing employability using the lens of human capital as a theoretical frame, regular university curriculum reviews, competence development through university—industry partnerships, strengthened quality assurance systems, and the alignment of university education with the country's development plans are important aspects of shaping and improving a person's employability. As a result, the quality of skills, knowledge, training, experiences, abilities, talent, and intelligence developed through HE forms the human capital for obtaining employment. According to HCT, human capital represents the quality of labour (i.e., skills and knowledge), whereas labour denotes employers' perceived factor of production (Mohr & Seymore, 2012). HCT was considered an appropriate theoretical lens for this research, with an emphasis on investing in human capital to enhance graduate employability and reduce unemployment.

Human capital theory addresses the relationship between higher education attributes and labour market outcomes. Human capital theory posits that investment in education and training leads to returns in private and social lives (Tran, 2015). Social benefits include producing highly skilled individuals for economic development of the country. Private returns are highlighted in higher earnings (Adrian, 2017), significant career progression and broader labour market opportunities. Higher education institution, therefore, is viewed as a shared investment between the government and individual graduates. Higher education institutions are under pressure from policymakers to produce employable graduates. However, it remains unclear what constitutes employability and the required graduate employability attributes. Pool and Sewell (2007) suggested a Career EDGE model to understand graduate employability, as shown in *Figure 1*.
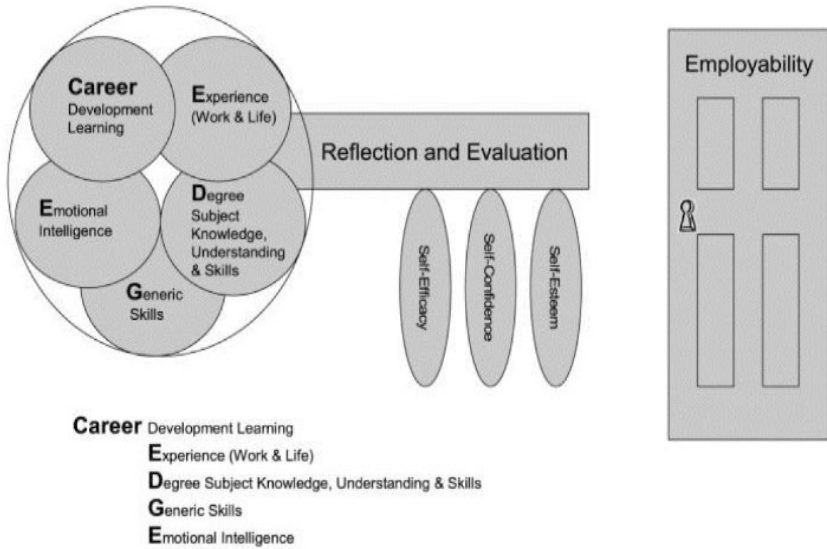
CareerEDGE – The Key to Employability

Career Development Learning
Experience (Work & Life)
Degree Subject Knowledge, Understanding & Skills
Generic Skills
Emotional Intelligence

Figure 1: The Career EDGE Model

Source: Pool and Sewell (2007).

Pool (2017) suggested that missing or overlooking any factor as shown in Figure 1 will result in a negative effect on graduate employability. This model provides guidelines on how employability can be enhanced. Students, however, have high expectations upon completion of their studies, despite missing some of those elements. The perception is that the qualifications will create employment opportunities (Mashigo, 2014; Mncayi, 2016). Employers, however, feel that graduates lack the relevant skills to compete in the open labour market (Goodman & Tredway, 2016; Paadi, 2014), but the graduates have high expectations (Mncayi, 2016). Subsequently, it is vital that students be realistic about their expectations and what they can offer to employers.

Current Thinking on Graduate Skills in Higher Education

Employability operates on several levels but is often discussed at an individual level: a *student's* graduate skills. At an institutional level, employability is a driver of academic policy and a concept that incentivizes resourcing of student services, especially careers services, entrepreneurship activities, and internship/

work experience programmes. Employability activities are also embedded by academics into the curriculum and in-course learning experiences (McWilliams & Allan, 2014). These kinds of initiatives and programmes are becoming more pervasive within HEIs and embedding of employability programmes and related innovations in pedagogic approaches have proliferated across HEIs in recent years (Artess et al., 2017). Indeed, in the UK, only 30% of employers look for specific degree types when recruiting (Williams & Ball, 2015). This reflects a highly flexible job market, which allows graduates from any discipline to apply for a wide range of jobs not directly related to their degree, in so far as they have the required skills (Tomlinson, 2012).

One of the ways that HEIs have responded to this has been to develop graduate skills through Graduate Attributes (GA) frameworks, used to describe the qualities and skills they believe students should develop their studies at their institutions. While there are commonalities across GA frameworks (Artess et al, 2017; Winberg, Staak, Bester, Sabata, Scholtz, Sebolao, Monnapula-Mapesela, Ronald, Makua, Snyman, & Machika, 2018), graduate *attributes* are differentiated from graduate *skills* in that GAs are defined by individual institutions and can risk narrow definitions, excluding wider graduate skills. Educational researchers, policy-makers, and industry bodies have been attempting to define a comprehensive range of graduate skills. These definitions tend to include literacies, soft skills and 'character qualities', such as resilience and autonomy, as well as cognitive skills such as critical thinking (Soffel, 2016). This project focuses on graduate *skills*, developed out of the employability discourse, and investigates whether students are developing the skills they will need to thrive in the changeable and global graduate labour market (Jones & Killick, 2013).

Definition of Employability and Employability Skills

Tan & French-Arnold (2012) define employability as referring to "a wide range of attributes and competencies that enable the job seekers to gain and maintain employment such as communication skills, logical, analytical and problem solving skills, amongst others". According to Schreuder & Coetzee (2011:48) employability refers to an individual's capacity and willingness to become and remain attractive in the labour market, also the individual's capability to be successful in a wide range of jobs. It is about being capable of getting and

creating and keeping fulfilling work and having the knowledge, understanding, skills, experience and personal attributes to move self-sufficiently within the labour market and to realize one's potential through sustainable and fulfilling employment experiences throughout the course of one's life.

The above-mentioned definitions of employability represent a shift from an individual getting a job to a definition that places at its core the individual acquisition of a set of attributes that makes one appealing to a range of employers (Boden & Nedeva, 2010). People are more employable when they have a more expanded basic education and training, basic and transferable high-level skills, including teamwork, problem solving ability, but also skills in information and communication technologies and communication and language skills. This combination of skills, competencies enables the adaptation to changes occurring in the world of work ILO (2013). Employability is perceived as the possession of core skills or as an expanded set of generic attributes, or properties where a specific type of employers (company, sector, legislation) puts or specifies. The concept of employability depends not solely on the forces of the labour market, but also on other factors such as for example the willingness, ability, mobility, increased skills, operational flexibility in changing shifts and the ability to work someone beyond a narrow job description. Ultimately employability is someone's ability to be employable Misra and Mishra (2011). De Vos, De Hauw & Van der (2011) defined employability as, "an individuals' knowledge, skills, and abilities needed to adequately perform various tasks and carry responsibilities within a job, and to their adaptability to changes in the internal and external labour market" (p. 439). One's employability speaks to the probability of job obtainment and successful career management (De Vos et al., 2011).

Material and Methods

This is a descriptive study that utilizes quantitative methods of data collection and analysis. Survey instruments in the form of questionnaires and interviews were utilized. The instrument included questions about how well the courses at the institute of Adult Education (IAE) satisfies undergraduate students for the employment, projected post-graduation employment, students' communication skill confidence and what other programmes are to be offered at the Institute of Adult Education. The instrument contained a 5-point Likert-type scale where

respondents expressed their responses in terms of level categories. Four experts were consulted to review the instrument for face validity preceding the pilot test; two experts were from within the Institute and two were from outside (external). From April 6-10, 2019, the researcher pilot tested the instrument with five undergraduate students who were not included in the sample. Instrument reliability of data was measured post-hoc using SPSS version 20. The constructs related to post-graduation plans and employment had a Cronbach's alpha of 0.86. The construct related to student confidence in communication skills had a Cronbach's alpha of 0.91. The construct related to how well the courses at the IAE is preparing undergraduate students for the employment had Cronbach's alpha of 0.89 and the construct related to other programmes to be offered at the Institute of Adult Education had a Cronbach's alpha of 0.73.

The population for this study were all final year undergraduate students in the year 2019/2020 (N=125). The frame for the undergraduates was accessed from the Adult and Continuing Education Studies (ACES) Department. The sampling technique employed in this study was a purposive technique. Anonymity was guaranteed in completing the questionnaire, as by this means there was a greater likelihood of the responses reflecting honest opinions. The data collected through questionnaire was analysed using Statistical Package for Social Sciences (SPSS) Version 20. The data was screened and treated for errors and missing values. The data was first analysed with a descriptive statistical analysis providing data for frequency and percentage and then mean and standard deviation were computed for the interpretation of respondents' characteristics and their perceptions. The reliability measurement was used to ensure that the developed scales measured consistently what were intended to be measured; the Cronbach's coefficient alpha was employed to test reliability.

Results

Perceptions of Undergraduate Students about How Well Courses at the Institute of Adult Education Prepare them for Employment

To determine how well courses (in general) at IAE prepare the respondents for employment, four questions addressed their feelings of preparation, or confidence, post-graduation employment (Table 1). On a 5-point Likert-type scale where 1 = extremely unprepared and 5=well prepared. Basically the answers provided by respondents (Table 1) indicated that, the courses in adult

and community development (BAECD) prepared them most for future jobs (M = 4.93, SD =0 .87), followed by adult and continuing courses (BACE) (M = 4.52, SD = 0.12), and Entrepreneurship Education, (M = 3.78, SD = 1.21). No one had extremely negative feelings about any of the adult or community development courses. The score for "overall, how well do you feel your courses prepared you for employment" was on the positive side (M = 3.67, SD = 1.16)

Table 1: STUDENT ATTITUDES ABOUT HOW WELL COURSES PREPARE THEM FOR EMPLOYMENT (N=125)

Courses	Extremely unprepared	Unprepared	Neutral	Prepared	Well prepared	Mean	SD
1. Adult and Community Development Courses[a]	0(0%)	4(3.7%)	5(4.6)	40(36%)	60(55.1%	4.93	0.87
2. ICT[ab]	0(0%)	31(24.8%)	5(4.0%)	39(31%)	50(40%)	3.78	0.76
3. Research Methods[ab]	0(0%)	6(4.8%)	4(3.2%)	40(32%)	75(60%)	3.67	0.32
4. Entrepreneurship Education[ab]	0(0%)	28(22.4%)	4(3.2%)	35(28%)	58(46.4%	3.78	1.21
5. Communication skills[ab]	0(0%)	14(11.2%)	11(8%)	45(36%)	55(44%)	3.69	0.32
6. Adult & Continuing Education Courses[a]	0(0%)	2(12.5%)	4(25%)	3(18.8%)	7(43.8%)	4.52	0.12
7. **Overall feelings of preparedness**	**5(4%)**	**6(4.8%)**	**4(3.2%**	**41(32%.)**	**69(55.2%**	**3.67**	**1.16**

[a] n=16, [b] n=109

Source: Field Survey, 2019

Respondents were asked about their post-graduation goals related to employment, higher education, and promotion. Participants could select what type of organization they expected to work for after graduation in a select-all-that apply format. Of the respondents (n = 78), 62.4% reported they expected to work in an adult education organizations/institutions, (n=3), 10% reported they would work for a non-government organization, (n=2), 1.6% self-employed, and (n=10), 8% higher education. 25.6% planned to attend post-graduate course (Figure 1). In an open-ended question, 90 students (72%) provided the type of job they were pursuing, such as teaching. Others were: policeman, 10(8%), community development 7(5.6%) and entrepreneurships 8(6.4%).
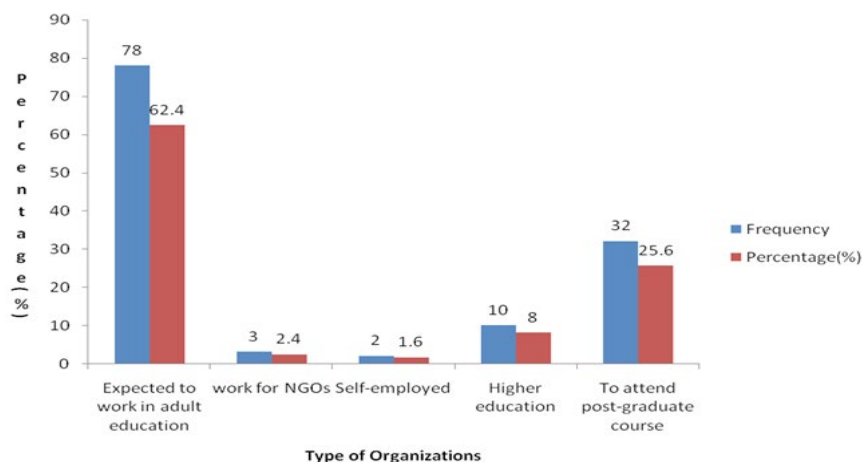
Figure 1: Type of organization Graduates they expected to work for after graduation

On a five-point Likert-type scale with 1= very low and 5 = very high, participants designated their likelihood of pursuing a master's degree. In adult education, respondents reported a mean score of 2.48 (SD = 1.33, n = 60), with 12 reporting likely or very likely. The mean score for the likelihood of students seeking a master's degree in an area other than adult education was higher at 2.80 (SD = 1.45, n = 60) with10 reporting likely or very likely.

Students Confidence Level in Communication Skills

This research question sought to determine the student's confidence level in their communication skills (Table 2). Confidence level was based on a 5-point Likert-type scale ranging from 1 = not confident at all to 5 = very confident. As Table 2 displays, 51.4% of students were very confident in reading Standard English Text, 52% were very confident in conversational speaking and 45.6% very confident with speaking with diverse audience. However, 36.8% % of the total learners' responses revealed scientific report writing as the major difficulty. Furthermore, 25.6% indicated that students were not confident in public speaking, yet another 21.6% of students mentioned trouble with basic writing. Further, 9.6% of the responses substantiated difficulty in speaking with diverse audience. Even reading Standard English Text seems to be a problematic issue for about 6.4% of respondents (Survey Data, 2019). Language proficiency may have a profound effect on an individual's ability to learn and develop, due to its key role in the transmission of information and regulation of cognitive processes (Binder

& Smith, 2013). When focusing on language proficiency, the communicative purpose of language is of primary importance (Baker, 2001). This is because the ability to communicate effectively is vital in the measurement of a person's capability to perform socially and academically (Young, Sercombe, Sachdev, Naeb, & Schartner, 2013).

Table 2: Students Confidence Level in Communication Skills (n=125)

	Not confiden all	Less confid	Neutral	Confiden	Very confid	Mea	SI
1.Reading Standard English Text	7(6.4%)	15(13.8%	5(4.6)	42(38.5%	56(51.4%	3.93	0.87
2. Basic Writing	27(21.6%)	6(4.8%)	8(6.4%)	29(23.2%	27(44%)	3.78	0.7
3. Reading Technica Paper	45(36%)	18(14.4%	7(5.6%)	22(17.6%	33(26.4%	3.67	0.3
4.Basic Conversatio Speaking	8(6.4%)	10(8%)	6(4.8%)	36(28.8%	65(52%)	4.78	0.2
5.Public Speaking	32(25.6%)	18(14.4%	7(5.6%)	33(26.4%	35(28%)	3.52	0.1
6. Extemporaneous	7(5.6%)	4(3.2%)	23(18.4%	34(27.2)	57(45.6%	3.78	0.5
7.Speaking with Diverse Audience	12(9.6%)	7(5.6%)	13(10.4%	36(28.8%	57(45.6%	3.46	0.5
8.Scientific report writing	46(36.8%)	30(24%)	6(4.8%)	18(14.4%	25(20%)	5.05	0.1

Note: Mean Scores on a 5-point Likert-type scale where 1=Not confident at all and 5= very confident.
Source: Survey Data, 2019

Potential Programmes to be Offered at the Institute of Adult Education

Other programmes proposed by respondents to be added in the curriculum are summarized in Table 3. Respondents considered Bachelor degree in Entrepreneurship (36%) and Bachelor degree in Mathematics and other Teaching Science Subject (24%), Bachelor degree in Information Technology (IT) (20%) to be most needed programmes. Others were: Bachelor of Arts in Economic Policy Planning (8%), Bachelor of Business Administration (4.8%), Bachelor of Adult Planning and Management (4%) and Bachelor in Mass Communication (3.2%). This suggests that the knowledge acquired from these programmes have high application in the job market.

Table 3: OTHER PROPOSED PROGRAMMES TO BE OFFERED AT THE INSTITUTE OF ADULT EDUCATION (N=125)

	Programmes	Frequency	Percentage (%
1.	Bachelor of Science in Entrepreneurship and Adult Educatic	45	36
2.	Bachelor of Arts in Economic Policy Planning	10	8
3.	Bachelor degree in Information Technology	25	20
4.	Bachelor of Science in Mathematics and other Science Subj	30	24
5.	Bachelor of Business Administration (BBA)	6	4.8
6.	Bachelor of Adult Planning and Management	5	4
7.	Bachelor of Arts in Mass Communication	4	3.2
	Total	**125**	**100**

Source: Survey Data, 2019

Discussions

Chaudhary (2015) claimed that, students are the major force driving the shaping and moulding of curriculum content. Student characteristics, skills, interests, and expectations should receive close scrutiny when selecting content for a curriculum (Chaudhary, 2015). It is important to note that curriculum implementation cannot take place without the learner. The learner is therefore the central figure in the curriculum implementation process. The characteristics revealed in this study can help adult education stakeholders and administrators understand some areas of improvement or additions to the curriculum. Harrison (2017) noted, "It is the responsibility of higher education to observe and keep pace with the ever-changing workplace to ensure that they can provide the preparation and skills that produce high quality graduates".

In general, students felt their courses are giving them the performance outcomes, or experiences, to prepare them for employment, especially the adult and community development courses (M = 4.93, SD = 0.87). Preparedness for employment relates to self-confidence or self-efficacy, which has been defined as the "beliefs in one's capabilities to organize and execute the course of action required to produce given attainments" (Bandura, 1997). From a more global point of view, self–efficacy has been conceptualized as a more general sense by some researchers (Schwarzer & Jerusalem, 1995) which refers to "a global confidence in one's coping ability across a wide range of demanding or novel situations" (cited in Luszczynska et al., 2005, p. 81). According to Bandura

(1997), lack of confidence or self-efficacy will because workers cannot produce a good performance in carrying out assigned work. From this definition, it can be inferred that students have some level of confidence in their communication skills they have gained at the Institute of Adult Education. The self-reported level of "how well do you feel your courses prepared you for employment?" received a mean score of 3.67(SD = 1.16); however, 4% of the students reported extremely negative feelings towards preparedness, 4.8% had negative feelings, and 3.2% were neutral. This shows potential for improvement. A majority (59%) of respondents stated their primary activity after graduation would be full-time employment, followed by joining with postgraduate courses or professional school (33%). Of the respondents, 20% reported they do not plan to work in the adult education industry (Survey Data, 2019).

Bandura (1977) and Kurbanoglu (2010) identified four specific areas in which individuals judge their efficacy, or confidence: performance outcomes, vicarious experiences, verbal persuasion, and emotional arousal. If one has performed well at a specific task, the individual is more likely to feel competent and perform well in other tasks that are similar (Bandura, 1977 as cited in Redmond, 2010). Respondents reported they felt most confident in English. Specific to adult education, students reported the most confidence in reading Standard English Text and Basic Writing. However, students reported they feel least confident in reading Technical Paper (M=3.67, SD=0.32), but undergraduate students may not have solid performance outcomes, meaning they have not previously performed well in that subject. Although reading Technical paper is an important component in higher learning Education industry, not all undergraduate students have vicarious experiences in reading Technical Paper, and thus confidence in that area is lacking.

The preferred degree programs proposed by students mostly was Bachelor of Science in Entrepreneurship and Adult Education. Educational institutions play a major role in the development of early entrepreneurial competencies which later become manifest in the form of entrepreneurial activity. Research indicates that educational institutions as well as the members of the department if are involved in entrepreneurial activity would play an important role in developing entrepreneurial spirit among students through innovative programs and a research oriented culture (Linan & Chen, 2009). As for the integration of entrepreneurship education into higher education, studies (Yemini & Haddad,

2010; Barba-Sáncheza & Atienza-Sahuquillo, 2018) stress its importance, so that 21st century universities can become important engines of technological development and economic growth. Research suggests that the nature of work will becomes less location specific and the global economy will require graduates to have the life skills to live and work within different cultural contexts (Atkin, Rose, Sharp, Hill, Adams & Sayers, 2015; Hounsell, 2011). The results of this study showed that more than 50% (55.2%) of respondents stated that the current IAE programmes are relevant to the stakeholders since it reflects the needs of the community and provide opportunities to many Tanzanians in attaining further education. Therefore, the solution to graduate employment challenges must include better strategies for directly linking degrees to jobs: for example, through paid placements, occupational licensing, and accreditation.

Further, academic excellence is a key factor in an ever competitive environment. The employability of the graduates in terms of their employability is ultimately their responsibility individually to equip themselves with the planning and strategies to be gainfully employed. Have employability of graduate for employment is a human resource development issue that merits attention as it affects each graduate differently. This explains that students who have high employability skills will develop their skills and become a good worker.

The purpose of this study was to determine if students at the Institute of Adult Education feel well prepared for employment and if they are confident in their communication skills. It also considers how well are the courses at the Institute of Adult Education is preparing undergraduate students for the employment. The paper highlights the relevance of the courses offered at the Institute of Adult Education. The study findings indicated that the courses in adult and community development prepared students most for future jobs. No student had extremely negative feelings about any of the adult or community development courses. Secondly, 52% of the respondents were very confident in communication skills. Respondents considered Bachelor of Science in Entrepreneurship and Adult Education and Bachelor degree in Mathematics and other Teaching Science Subject, Bachelor degree in Information Technology (IT) to be most needed programmes. Graduate employability and competence development around the world call for strong sense of innovation and collaboration practices to be implemented in higher learning institutions including Tanzania. Failure to equip young people with employability skills has far-reaching consequences.

It must be remembered that employment and employability are not the same thing. Being employed means having a job. For the youth or adults who are not adequately prepared, having a job is likely to be in a temporary condition. Being employable means possessing qualities needed to maintain employment and progress in the workplace. Therefore, HE must ensure that their students are well prepared to enter the labour market. The study recommends that; curriculum revision should always be informed by findings from different studies as well as being guided by assessment for competencies and skills including student's reflections on the curriculum they went through and how much they find it useful/not useful during their learning practices. Further research should be conducted to assess how well students are prepared when entering the workforce. This study should be replicated at other higher learning institutions to determine if these issues are areas of concern nationwide. The relevance of study programmes should be improved by encouraging greater cooperation between HEIs and employers in the design of curricula, and by providing work experience opportunities and internships/fieldwork. The government should support entrepreneurial learning within HEIs so as to maximize the opportunities for graduates to set up their own small high technology businesses.

References

Abou-Setta, A. (2014). Towards more employable Egyptian HE graduates: A case study. Education, Business and Society: Contemporary Middle Eastern Issues, 7(4), 229-244. https://doi.org/10.1108/EBS-02-2013-0001.

Adrian, M. (2017). Determining the skills gap for new hires in management: Student perceptions Vs Employer expectations. International Journal of Innovation Education and Research, 5(6), 139-147. https://doi.org/10.31686/ijier.vol5.iss6.732.

Artess, J., Hooley, T., & Mellors-Bourne, R. (2017). Employability: A Review of the Literature 2012-2016. York: Higher Education Academy. Heslington, UK. 52pp.

Atkin, C., Rose, A., Sharp, J., Hill, Y., Adams, K., & Sayers, R. (2015). Internationalising the Curriculum: a developmental resource for initiating transformational change. York: Higher Education Academy.231pp.

Atkinson, R. D., & John, W. (2017). "False alarmism: Technological Disruption and the U.S. Labour Market, 1850–2015." In ITIF @Work, pp 1-28. Information Technology and Innovation Foundation, Washington, D.C. Retrieved from: https://itif.org/publications/2017/05/08/false-alarmism-technological-disruption-and-us-labor-market-1850-2015.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. Psychological Review, 84(2), 191-215. Retrieved from https://www.uky.edu/~eushe2/Bandura/ Bandura1977PR.pdf.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W. H. Freeman and Company. 640pp. https://doi.org/10.5860/choice.35-1826.

Barba-Sáncheza, V., & Atienza-Sahuquillo, C. (2018). Entrepreneurial intention among engineering students: The role of entrepreneurship education. European Research on Management and Business Economics, 24(1), 53–61. https://doi.org/10.1016/ j.iedeen.2017.04.001.

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. Journal of Political Economy, 70(5), 9–49.

Bennett, D. (2019). Meeting society's expectations of graduates: Education for the public good. In J. Higgs, G. Crisp., & Letts, W. (Eds). Education for employability: Learning for future possibilities (pp. xxx). Rotterdam: Sense Publishers.

Bilgic, R., & Yilmaz, N. (2012). The correlates of psychological health among the Turkish unemployed: Psychological burden of financial help during unemployment. International Journal of Psychology, 48(5), 1000-1008. https://doi.org/ 10.1080/00207594.2012.717702.

Billet, S. (2015). Integrating Practice-Based Experiences into Higher Education, Springer, Dordrecht, The Netherlands. 26pp. https://doi.org/10.1007/978-94-017-7230-31.

Binder, P., & Smith, K. (2013). The Language Phenomenon. The Language Phenomenon: Human Communication from Milliseconds to Millennia, The Frontiers Collection. Springer-Verlag Berlin Heidelberg. 260pp.

Boden, R., & Nedeva, M. (2010). Employing discourse: Universities and graduate employability. Journal of Education Policy, 25(1), 37-54.

Bridgstock, R. (2009). The graduate attributes we have overlooked: enhancing graduate employability through career management skills. Higher Education Research & Development 28(1), 31-44. https://doi.org/10.1080/07294360802444347.

Brooks, R., & Everett, G. (2009). 'Post-graduate reflections on the value of a degree', British Educational Research Journal, 35(3), 333–349. https://doi.org/10.1080/ 01411920802044370.

Brown, P., Lauder, H., & Ashton, D. (2011). The global auction: The broken promises of education, jobs and incomes. British Journal of Sociology of Education, 32(2), 293-311. https://doi.org/10.2307/41237662.

Chaudhary, G. K. (2015). Factors affecting curriculum implementation for students. International Journal of Applied Research, 1(12), 984-986. https://www.allresearchjournal.com/archives/2015/vol1issue12/PartN/2-5-158-343.pdf.

Chistyakova, N., Semenova, M., Vladislav, S., & Paquet, P. (2015). Problems of educational processes development and labor market needs analysis in Russia. Procedia-Social and Behavioral Sciences, 166, 309–316. Retrieved from https://cyberleninka.org/article/n/173118.

Cowen, T. (2011). The Great Stagnation: How America Ate all the Low-Hanging Fruit of Modern History, Got Sick, and Will (Eventually) Feel Better. New York: Dutton. 28pp. Retrieved from https://en.wikipedia.org/wiki/The_Great_Stagnation.

De Vos, A., De Hauw, S., & Van der Heijden, B. I. (2011). Competency development

and career success. Journal of Vocational Behavior, 79(2), 438-447.

Doyle, A. (2020). What Are Employability Skills? Retrieved from https://www.thebalancecareers.com/employability-skills-list-and-examples-4143571.

Durrant-Whyte, H., McCalman, L., O'Callaghan, S., Reid, A., & Steinberg, D. (2015). The impact of computerization and automation on future employment. In CEDA Australia's future workforce. Melbourne: Committee for Economic Development of Australia. Retrieved from https://techquarterly.asia/node/64.

Elias, P., & Purcell, K. (2004). The Earnings of Graduates in Their Early Careers: Researching Graduates Seven Years on. Research Paper 1, University of West England and Warwick University, Warwick Institute for Employment Research. 260pp. Retrieved from https://www.hecsu.ac.uk/assets/assets/documents/Class_99_Full.pdf.

Frey, C.B., & Osborne, M. A. (2017). The future of employment: How susceptible are occupations to computerization? Technological Forecasting and Social Change 114 (3), 254-280. https://doi.org/10.1016/j.techfore.2016.08.019.

Frey, C. B., & Osborne, M. A., and Holmes, C. (2016). Technology at work: The future is not what it used to be. Oxford Martin School, 155pp. https://www.voced.edu.au/content/ ngv%%3A76273#text=Oxford%2C%20England%3A%20Oxford%20Martin%20School.

Fugate, M., & Kinicki, A. J. (2008). A dispositional approach to employability: development of a measure and test of implications for employee reactions to organizational change. Journal of Occupational and Organizational Psychology, 81(3), 503-527. https://doi.org/10.1348/096317907X241579.

Fugate, M., Kinicki, A.J., & Ashforth, B.E. (2004) Employability: A Psycho-Social Construct, Its Dimensions, and Applications. Journal of Vocational Behavior, 65(1), 14-38. http://dx.doi.org/10.1016/j.jvb.2003.10.005.

Goodman, S., & Tredway, G. (2016). Antecedents of perceived graduate employability: A study of student volunteers in a community-based organization. South African Journal of Industrial Psychology, 42(1), 1-10. https://doi.org/10.4102/sajip.v42i1.1315.

Green, F., & Zhu, Y. (2010). 'Overqualifcation, job satisfaction, and increasing dispersion in the returns to graduate education', Oxford Economic

Papers, 62(4), 740–763. https://doi.org/10.2139/ssrn.1143459.

Gregson J. A., & Bettis, P. J. (1991). "Secondary Trade and Industrial Education Work Values Instruction: Emancipatory or indoctrinational? A paper presented at: The American Vocational Association Convention, Los Angeles, CA. Retrieved from http://files.eric.ed.gov/full text/ ED341781.pdf.

Harrison, D.F. (2017). The Role of Higher Education in the Changing World of Work. EDUCAUSE Review 52, No. 6 (November/December 2017). Retrieved from https://er.educause.edu/articles/2017/10/the-role-of-higher-education-in-thechanging-world-of-work world-of-work.

Hounsell, D. (2011). Graduates for the 21stCentury: Integrating the Enhancement Themes QAA Scotland. 16pp. Retrieved from https://doi.org/10.1080/ 02188791.2017.1298515.

International Labour Organization (ILO) (2013). "Enhancing youth employability: What? Why? and How? Guide to core work skills" 51pp. Retrieved from https://www.ilo.org/ wcmsp5/groups/public/edemp/ifpskills_213452. pdf.

Jackson, D. (2017). Exploring the challenges experienced by international students during work-integrated learning in Australia. Asia Pacific Journal of Education, 37(3), 344–359.

Jones, E., & Killick, D. (2013). Graduate Attributes and the internationalized curriculum: Embedding a global outlook in disciplinary learning outcomes. Journal of Studies in International Education 17(2), 165-182. https:// doi.org/10.1177 %2F1028315312473655.

Kurbanoglu, S. (2010). Self-Efficacy: An Alternative Approach to the Evaluation of Information Literacy, International Conference, Crete Greece, 26-29 May 2009. https://doi.org/10.1142/9789814299701_0040.

Laalo, H., Kinnari, H., & Silvennoinen, H. (2019). Setting new standards for homo academicus: Entrepreneurial University Graduates on the EU Agenda. European Education, 51(2), 93-110. https://doi.org/ 10.1080/10564934.2018.1489729.

Linan F., & Chen, Y. W. (2009). Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. Entrepreneurship Theory and Practice, 33(3), 593-617. https://doi. org/10.1111/j.1540-6520.2009.00318.x.

Marta Abelha, M., Fernandes, S., Mesquita, D., Seabra, F., & Teresa Ferreira-Oliveira, A. (2020). Graduate Employability and Competence Development in Higher Education—A Systematic Literature Review Using PRISMA. Sustainability Journal, 12(15), 5900. https://doi.

org/10.3390/su12155900.x

Mashigo, A. C. L. (2014). Factors influencing work readiness of graduates: An exploratory study. Masters Dissertation. Cape Town, South Africa: University of Stellenbosch. 178pp. Retrieved from http://hdl.handle.net/10019.1/95884.

McGunagle, D., & Zizka, L. (2020). Employability Skills for 21st Century STEM Students: The Employers' Perspective. Higher Education, Skills and Work-Based Learning, 10 (1), 591–606. https://doi.org/10.1108/HESWBL-10-2019-0148.

McWilliams, R., & Allan, Q. (2014). Embedding academic literacy skills: Towards a best practice model. Journal of University Teaching and Learning Practice, 11(3), 1-8.

Misra, K. R., & Mishra, P. (2011). "Employability Skills: The Conceptual Framework and Scale Development". The Indian Journal of Industrial Relations, 46 (4), 1-11.

Mncayi, N. P. (2016). The determinants of employment status of young graduates from a South African University. Masters Dissertation. South Africa: North West University (Vaal Triangle Campus). 198pp. Retrieved from https://dspace.nwu.ac.za/bitstream/handle/ 10394/17038/Mncayi_NP.pdf?sequence=1.

Mohr, P., & Seymore, R. (2012). Understanding Micro-economics. Van Schaik Publishers. 296pp. Retrieved from https://www.vanschaiknet.com/book/view/419.

Mok, K. H., & Qian, J. (2018). Massification of higher education and youth transition: Skills mismatch, informal sector jobs and implications for China. Journal of Education and Work, 31(4), 339–352. https://doi.org/10.1080/ 13639080.2018.1479838.

Munishi, D., & Emmanuel, J. (2016). Factors contributing to lack of employable skills among technical and vocational education (TVET) graduates in Tanzania. Business Education Journal 1(2), 1-19. Retrieved from https://journals.sagepub.com/doi/pdf/10.1177/21582440211006709.

Mwagonde, H. (2014). Teach students to compete, government told. The Citizen. http://www.thecitizen.co.tz/News/Teach-studentsto-compete-in-labour-market—govt-told/1840340-2373674- o8n3mv/index.html.

National Bureau of Statistics (2019). Tanzania in Figures. Ministry of Finance and Planning. Retrieved from https:// www.nbs.go.tz/index.php/en/

tanzania-in-figures/533-tanzania-in-figures-2019.

Nghia, T. L. H. (2019). Building soft skills for employability: Challenges and practices in Vietnam. Routledge. 264pp. https://doi.org/10.4324/9780429276491.

Okay-Somerville, B., & Scholarios, D. A. (2019). Multilevel examination of skills-oriented human resource management and perceived skill utilization during recession: Implications for the well-being of all workers. Human Resource Management, 58(2), 139–154, https://doi.org/10.1002/hrm.21941.

Oliver, B. (2015). Redefining graduate employability and work integrated learning: proposals for effective higher education in disrupted economies. Journal of Teaching and Learning for Graduate Employability, 6(1), 56-65. https://doi.org/10.21153/ jtlge2015vol6no1art573.

Organisation for Economic Co-operation and Development (OECD) (2016). OECD Employment Outlook 2016. OECD Publishing, Paris. 243pp. Retrieved from https://www.oecd-ilibrary.org/employment/oecd-employment-outlook-2016_empl_outlook-2016-en.

Organisation for Economic Co-operation and Development (OECD) (2018). Global Skills Trends, Training Needs and Lifelong Learning Strategies for the Future of Work. Report prepared by the ILO and OECD for the G20 Employment Working Group, 2nd Meeting of the Employment Working Group Geneva, Switzerland11 –12 June 2018. Retrieved from https://www.ilo.org/global/about-the-ilo/how-the-ilo-works/multilateral-system/g20/reports/WCMS_646038/lang--en/index.htm.

Organisation for Economic Co-operation and Development (OECD) (2012). What Makes Labour Markets Resilient During Recessions? In OECD Employment Outlook 2012; OECD Publishing: Paris, France, pp. 53–107. Retrieved from https:// www.oecdilibrary.org/ employment/oecd-employment-outlook-2012/what-makes-labour-markets-resilient-during-recessions_empl_outlook-2012-3-en.

Paadi, K. (2014). Perceptions on employability skills necessary to enhance Human Resource Management graduates prospects of securing a relevant place in the labour market. European Scientific Journal, 10(10), 129-143. https:// doi.org/10.19044/esj.2014.v10n10p%25p.

Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. Journal of Vocational Behaviour, 74(3) 264-282. https://doi.org/ doi:10.1016/j.jvb.2009.01.001.

Pervaiz, H., Saleem, M. Z., & Sajjad, M. (2012). Relationship of unemployment with social unrest and psychological distress: An empirical study for juveniles. African Journal of Business Management, 6(7), 2557–2564. https://doi.org/10.1177/21582440211006709.

Peters, M. A. (2018). Deep learning, education and the final stage of automation. Educational Philosophy and Theory, 50(7), 549–553. https://doi.org/10.1080/00131857.2017.1348928.

Plecher, H. (2020). Unemployment rate in Nigeria 2019. Retrieved from https://www.statistica.com/statitics/382366/unemployment-rate-in-nigeria/

Pool, L. (2017). Developing graduate employability: The CareerEDGE Model and the importance of emotional intelligence. In M. Tomlinson and L. Holmes (Eds.), Graduate employability in context, London, UK: Palgrave McMillan. pp. 317-338. https://doi.org/10.1057/978-1-137-57168-715.

Pool, L., & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. Education and Training, 49(4), 277-289. http://dx.doi.org/10.1108/00400910710754435.

Robinson, J. P. (2000). What are employability skills? The Workplace, 5(3), 1-3. Retrieved from http://www.aces.edu/crd/workforce/publications/employability-skills.PDF

Schreuder, A., & Coetzee, M. (2011). Careers: an organizational perspective. Cape Town: Juta. Retrieved from https://www.worldcat.org/title/careers-an-organisational-perspective/oclc/864900415

Schwab, K. (2016). Welcome to the Fourth Industrial Revolution. World Economic Forum, Geneva, Switzerland. 184pp. Retrieved from https://www.weforum.org/about/the-fourth-industrial-revolution-by-klaus-schwab

Sicherman, N., & Galor, O. (1990). A theory of career mobility. Journal of Political Economy, 98(1), 169–192.

Singh, P., Xaviour, R., Mohd, T., & Raml, A. (2014). Fit or Unfit? Perspectives of Employers and University Instructors of Graduates' Generic Skills. Procedia-Social and Behavioural Sciences 123(1), 315–324.

Small, L., Shacklock, K., & Marchant, T. (2018). Employability: A contemporary

review for higher education stakeholders. Journal of Vocational Education Training, 70(1), 148–166. https://doi.org/10.1080/13636 820.2017.1394355.

Soffel, J. (2016). What are the 21st-century skills every student needs? World Economic Forum. Retrieved from https://www.weforum.org/agenda/ 2016/03/21st-century-skills-future-jobs-students.Retrieved from https://elimindset.com/resource/ world-economic-forum-what-are-the-21st-century-skills-every-student-needs.

Solomon, I & Nwoko, A. C. (n.d). Issues and insights in employability skills. Retrieved from http://www.globalacademicgroup.com/journals/knowledge%20 review/Iheonunekwu.pdf.

Sung, J., Ng, M. C. M., Loke, F., & Ramos, C. (2013). The nature of employability skills: Empirical evidence from Singapore. International Journal of Training and Development, 17(3), 176–193. https://doi.org/10.1111/ ijtd.12008.

Tan, L.C., & French-Arnold, E. (2012). Graduate employability in Asia: An overview of case studies. Bangkok, Thailand: UNESCO. 281pp. Retrieved from https://core.ac.uk/ download/pdf/56726645.pdf.

Tarvid, A. (2015). The effectiveness of access restriction to higher education in decreasing overeducation. Economic Analysis and Policy, 45(1), 11–26. https://doi.org/10.1016/j.eap.2014.12.003.

Tomlinson, M. (2012). Graduate Employability: A Review of Conceptual and Empirical Themes. Higher Education Policy, 25(4), 407–431. https://doi. org/10.1057/hep.2011.26.

Tran, T. T. (2015). Is graduate employability the 'whole-of-higher-education-issue'? Journal of Education and Work, 28(3), 207-227. https://doi. org/ 10.1080/13639080.2014.900167.

UNESCO (2016). School and teaching practices for twenty first century challenges: Lessons from the Asia Pacific region (Phase II): Regional synthesis report. Paris, France: UNESCO. Retrieved from https:// bangkok.unesco.org/content/school-and-teaching-practices-twenty-first-century-challengeslessons-asia-pacific-region.

US Department of Labor (1999). Future work: Trends and challenges for work in the 21st century, Retrieved from https://wdr.doleta.gov/opr/fulltext/ document.cfm?docn=6020.

Walsh, T. (2018). Expert and non-expert opinion about technological unemployment. International Journal of Automation and Computing, 15(5), 637-642. https://doi.org/ 10.1007/s11633-018-1127-x.

Wilton, N. (2008). Do employability skills really matter in the UK graduate labour market? The case of business and management graduates. Paper presented at Paris International Conference on Education, Economy & Society in Paris, France, 7-10 June, 2008. Retrieved from http:// education-confernce.org/default.aspx.

Winberg, C., Staak, A., Bester, M., Sabata, S., Scholtz, D., Sebolao, R., Monnapula-Mapesela, M., Ronald, N., Makua, M., Snyman, J., & Machika, P. (2018). "In Search of Graduate Attributes: A Survey of Six Flagship Programmes". South African Journal of Higher Education 32 (1), 233-251. https://doi.org/10.20853/32-1-1642.

Yemini, M., & Haddad, J. (2016). Engineer-Entrepreneur: Combining technical knowledge with entrepreneurship education. International Journal of Engineering Education, 26(5), 1220-1229. https://doi.org/ doi:10.1111/jsbm.12020.

Yorke, M., & Knight, P.T. (2004). Embedding employability into the curriculum. The Higher Education Academy, Heslingston York. 24pp.

Young, T. J., Sercombe, P. G., Sachdev, I., Naeb, R., & Schartner, A. (2013). Success factors for international postgraduate students' adjustment: exploring the roles of intercultural competence, language proficiency, social contact and social support. European Journal of Higher Education, 3(2), 151-171. https://doi.org/10.1080/ 21568235.2012.743746.

Exploring Potential Areas for Institute of Adult Education's Promotion of Knowledge Sharing among Adult Population in Tanzania

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Abstract

Knowledge is a valuable resource and commodity on which development of organization or society greatly depends. This paper presents findings of the study which explored potentials of the Institute of Adult Education in promoting knowledge resource sharing among the adults in Tanzania. The study aimed at finding out the position of IAE in promoting knowledge sharing among adults and seeking to establish potential areas for IAE's consideration in ensuring that knowledge sharing is enhanced. Through qualitative approach, data were collected in Dar es Salaam in the year 2020 through two methods: content analysis (documents review) and interactive interviews. Content analysis involved four documents and interviews were conducted to eight IAE staff. Findings of the study reveal that though IAE is vested with mandate on adult education in Tanzania the national education policy and plans do not make direct recognition of that. Similarly, there is no establishment of clear and effective mechanisms that provide avenue for wide sharing of knowledge among adults in a country. However, the study provides some areas which are potential for IAE to adopt in its efforts to promote knowledge sharing behaviour among adults in the country. It recommends that, if its functions are clearly defined while pegged on its establishment act and if the potential areas proposed in this study are analysed for implementation IAE will play a notable role in managing knowledge sharing behaviour in the country.

Key Words*: Knowledge, Knowledge management, Knowledge sharing*

Introduction

Knowledge is increasingly becoming a strategic resource to the extent that nowadays it is viewed as the basis for competitive advantage of individuals, firms and nations (Dalkir, 2013; Omerzel & Gulev, 2011). As argued by Dalkir (2013), the current globalized world in which knowledge is being regarded as a valuable commodity requires systematic knowledge sharing management for effective organization. The advent of the Internet is a factor that makes knowledge management even a more fundamental ingredient in creating sustainable competitive advantage (Omerzel & Gulev, 2011).

Knowledge as a resource is considered to be capital and commodity (Koulikov, 2011) which is valuable and important. It is both individual and public resource. Nordin et al., (2012) show that knowledge resource sharing is theoretically unnatural because people are not freely willing to share it without incentives. It is also challenging to share tacid knowledge as it requires face-to-face interactions (Razak et al., 2016) which cannot be attained without incentives or some sort of coordination. It is the voluntary interactions among human actors through a framework of shared institutions (Koulikov, 2011). For effective knowledge sharing to take place, therefore, effective supportive structures and institutions are necessary (as argued by Koulikov, 2011).

Knowledge resource is, however, a commons which has a peculiar characteristic. In contrast to other commons (or common pool resources), which are said to be subtractive (see Hess & Ostrom, 2007), knowledge is easily shared without losing it. It is a commons which is more productive when jointly used. Thus, efforts to promote sharing and use of it leads to its increase it.

In Tanzania, like any other country or organization, the necessity of making efforts to use diverse types of knowledge from different individuals (as insisted by Rathwell et al., 2015 and Nguyen & Ross, 2017) is of vital importance. The importance calls for a need to have effective knowledge resource sharing mechanisms which are well administered. In Tanzania, the Institute of Adult Education Act vests adult education responsibilities in the hands of IAE. Yet, the extent to which IAE is working towards promoting knowledge sharing among adults in the country is not clearly documented. Also, possible strategies through which the IAE can accomplish the same are not clearly established.

This paper presents findings on potentials of IAE in enhancing knowledge resource sharing among the adults in Tanzania. It has two specific objectives.

The first one was to find out the position of Institute of Adult Education (IAE) in promoting knowledge resource sharing among adults in Tanzania. The second objective was to establish potential areas for IAE's consideration in ensuring that knowledge resource sharing is enhanced among the adult population of Tanzania.

Literature Review

The concept of 'knowledge' differs depending on use. The literature provides a range of definitions depending on context and focus of authors. Malecki (2010) views knowledge as the prior accumulated information, skills and insights that can be used in future contexts. Treakle and Krell (2014) conceptualize it as the accumulated awareness of facts, processes and their interactive dynamics. In line with that, this paper conceptualises knowledge as the accumulated useful information, experiences, interpretation, intuition, beliefs, perceptions, concepts, judgement, and creativity and the ability to use them to act in specific contexts. Fombad (2010) contends that knowledge is an innately human quality, residing in the living mind.

The author of this article concurs with Schryen et all (2015) who viewed knowledge as all intelligible ideas, information and data in whatever form it is expressed, obtained or preferred. In a more expanded form, he buys the view by Bennet & Bennet (2014) which show that knowledge consists of our understanding, insights, meaning, intuition, creativity, judgment, and the ability to anticipate the outcome of our actions.

Knowledge can be classified as tacit or explicit (see Schryen et. all, 2015; Bennet & Bennet, 2014). It can also be categorized into traditional, indigenous and local knowledge as opposed to modern, scientific or universal knowledge (Treakle and Krell, 2014). Bennet & Bennet (2014) add categories of surface, shallow or deep knowledge.

The importance of knowledge to personal and societal development needs not to be underestimated since it is a consolidated fact in the literature. Gonzalez and Martins (2017) view knowledge as an asset that, although intangible, generates competitive advantage to the organization. Dalkir (2013) considers it to be the fundamental resource that enables people to function intelligently. Considering it as a resource suggests that it is capital and commodity with specific value (Koulikov, 2011). Since it is a commodity and capital, it is valuable and so important that people are not freely willing to share it unless there are incentives (Nordin et al., 2012.

Sharing of knowledge is considered important because it may lead individuals to improve absorptive capacity, improved innovation capacity, and other capabilities, and therefore, to sustained competitive advantage (Foss et al., 2010). Although knowledge resource sharing is said to be unnatural, knowledge in itself is a wonderful resource because of its peculiar characteristics. Dalkir (2013) highlights that the use of knowledge does not make it diminished. He also argues that transfer of knowledge does not result in losing it. He concludes that knowledge is abundant, but the ability to use it is scarce. Referring to Foray (2004), Malecki (2010 summarizes three key properties of knowledge as nonexcludable which is difficult to control or to prevent others from using it; nonrival, meaning that it is inexhaustible since others can use it, even simultaneously, and it continues existing; and cumulative.

Knowledge resource sharing is the voluntary interactions among human actors through a framework of shared institutions such as ethical norms and regulations (Koulikov, 2011). It is, however, not free from challenges. While explicit knowledge can be articulated and readily transmitted to others, sharing of tacit knowledge is very difficult because it cannot easily be verbalized and codified. Since knowledge resource sharing requires face-to-face interactions (Razaka et al., 2016), effective structures and institution's support are necessary for meaningful knowledge resource sharing to take place (Koulikov, 2011). Janus (2016) insists that knowledge sharing cannot be taken for granted as it not happen effectively without specific structures, systems, and roles to support it. The structure and institutions are, according to Gonzalez and Martins (2017), responsible for knowledge management - a process that promotes the flow of knowledge between individuals and groups within the organization. The process consists of four main steps: acquisition, storage, distribution and use of knowledge (Gonzalez and Martins, 2017).

The structures and institutions are all about knowledge governance. Knowledge governance is, according to Foss et al (2010), about choosing organizational structures and mechanisms that can influence the processes of using, sharing, integrating, and creating knowledge in preferred directions and towards preferred levels. Gonzalez and Martins (2017) add that the governance of knowledge or management of knowledge involves development of methods, tools, techniques and organizational values that promote the flow of knowledge between individuals and the retrieval, processing, and use of this knowledge in

improving and innovating activities. Indriati et al (2016) present five conditions under which knowledge sharing prevails: (1) recognition of value of the source of knowledge, (2) willingness of the source to share knowledge, (3) presence of media of the communication, (4) willingness of the recipient to acquire knowledge and (5) absorptive capacity of the recipient. For these conditions to prevail there must be a coordination mechanism. The fact that knowledge is a uniquely scarce resource that is difficult to substitute with other resources (Indriati et al (2016) call for organizations to be in a need of playing a coordination role of learning and organize how to capture, create, and share the new knowledge to beat the competition.

Materials and Methods

This study adopted a qualitative design that enabled the author to acquire rich information characterising the meanings and values concerning the process of management of knowledge sharing processes among adults in Tanzanian community. Two methods were used to collect data: content analysis (documents review) and interactive interviews with Institute of Adult Education staff. The interviews were conducted in August and September 2020 aimed at generating primary data for in-depth and intimate understanding of the staff's experiences and desires concerning the topic under study. It involved eight staff who were purposefully selected because of their experiences on functions of IAE.

Secondary data were obtained from official documents related to transfer and knowledge resource sharing in the country. The key consulted documents are: Education and Training Policy of 2014, Education Sector Development Plan (2016/17 – 2020/21), Adult and Non-formal Education Development Plan 2012/13 – 2016/17, and Institute of Adult Education Act of 1975. These sources were primarily used to obtain data which correspond with the study objectives. After all data were collected, they were organized systematically, filtered and classified to obtain clear data which reflect study objectives for easy interpretation and presentation.

Results

The findings of this study are presented in a flow that corresponds to the two study objectives. Discussion is made in the next section. Review of the Institute of Adult Education Act (URT, 1975) was done and it was found that it provides

IAE with the mandate of ensuring effective implementation of adult education in the country. The objects and functions of the Institute, according to the act, are seventeen (17). These functions indicate that IAE has responsibility of ensuring promotion of knowledge exchange among the Tanzanian adult population. Among them, the following three designate the responsibilities:

> (b) to assume responsibility for adult education within the United Republic and to make provision for places and, centres of learning, training and research in matters pertaining to adult education;

> (c) to co-operate with the Government of the United Republic and the people of Tanzania, in the planned and orderly development of adult education in the United Republic;

> (j) to stimulate and promote mass education and the development of mass media resources; including cinematography, photography, radio and newspapers for adult education purposes and to cooperate with the Government, institutions and organizations in Tanzania m the, production; and, distribution of magazines, newspapers and other similar publications

Results of the analysis of the Education and Training Policy (URT, 2014) show that the document does not specify the authority responsible for management of knowledge sharing among adults in the country. It, however, provides general policy statements concerning adult education. For example, its section 3.3.4 on page 44 states that:

> "The Government shall set up procedure and enabling environment to ensure that education and training including adult education is provided efficiently at all levels through different methods including open and distant learning."

It also proposes for amendment of the existing legislations to make them match with the requirements of the statements of the Policy. Among the acts suggested for amendments is the Institute of Adult Education Act Cap 39 (Page 61).

Analysis of the Education Sector Development Plan (2016/17 - 2020/21) has found that the document recognizes that the education sector in Tanzania is organised in five main clusters namely: Basic and compulsory education (pre-primary, primary, lower secondary education); Advanced secondary education; Technical and vocational education and training (including teacher education); Adult education and non-formal education; and Higher Education (URT, 2018). In its section 1.4 which highlights the state of education in Tanzania by then, however,

the plan does not show anything about education of adults. It highlights about several adult and non-formal education programmes under implementation in other sections such as Complementary Basic Education and Training (COBET), Open and Distance Learning (ODL), the academic stream of the Integrated Post-Primary Education, and the Integrated Community-Based Adult Education (ICBAE). The plan, generally, reports that the two main programmes which are operating in adult and non-formal education sector are the Complementary Basic Education (COBET) - which caters for out of school children aged 9-18 - and the Integrated Community Basic Adult Education (ICBAE) - which caters for youth and adults aged 19+.

The plan shows that the responsibilities for education of adults are within the President's Office - Regional Administration and Local Government (PO-RALG) and the Ministry of Education. PO-RALG has responsibility of administering the delivery of pre-primary, primary, adult and non-formal, and secondary education. The Ministry of education is responsible for policy and planning, monitoring and evaluation, quality assurance, technical and vocational education and training, higher education and teacher education, and adult and non-formal education through the Institute of Adult Education. The summary of operation presented in the plan as Annex 1 is displayed in this article as Table 1.

The Adult and Non-formal Education Development Plan 2012/13 – 2016/17 (URT, 2012) recognizes that appropriate institutional and administrative arrangements are crucial in ensuring an efficient and effective delivery of the adult, non-formal and continuing education programmes. It outlines roles and responsibilities of various ministries, institutions and organizations involved in implementing adult and non-formal education in Tanzania. At national level, it shows that the PMO-RALG is mandated to oversee the decentralization of the government functions to local levels including the delivery of adult and non-formal education by councils. It provides technical support and guidance to regional secretariats and the LGAs. The Ministry of Education is mandated for policy formulation and regulation of education provision, setting standards, monitoring and evaluation of the provision of education. The Institute of Adult Education (IAE) is responsible for the implementation of adult education and non-formal education programmes within the framework of existing national policies and strategic interventions.

The Adult and Non-formal Education Development Plan 2012/13 – 2016/17 has presented different roles of different institutions. The data indicates that the responsibility for adult and non-formal education is within the Ministry of Education, Science and Technology.

With regard to the objective on potential areas for IAE to promote sharing of knowledge resource among Tanzanian adult population, the Institute of Adult Education Act and the Adult and Non-formal Education Development Plan 2012/13 – 2016/17 provides some basis. The three identified functions of IAE stipulated by the act (which established it) establish potentialities for IAE with regard to promotion of knowledge sharing among adults. On the other hand, the Adult and Non-formal Education Development Plan 2012/13 – 2016/17 (URT, 2012) assigns IAE the key roles in relation to implementation of adult and non-formal education which somehow differ) from those of prominence in the act as they are narrowed down as follows:

i) Providing in-service training for literacy, continuing and other non - formal education teachers;

ii) Providing Open and Distance Learning (ODL) for secondary education and community based education;

iii) Organizing mass education programmes on critical issues such as civic education, poverty reduction, HIV-AIDs and environment education;

iv) Conducting research and evaluation on non-formal and continuing education and disseminate information;

v) Providing consultancy and advisory services to stakeholders on curriculum development, and study materials for non-formal and continuing education; and

vi) Designing and developing secondary education ODL curricula and teaching and learning materials.

The policy documents concerning education show the trend of reducing the responsibilities and functions of IAE. The proposed review of the Institute of Adult Education Act is likely to follow the same trend. That the trend is a merit or demerit to IAE is a question that is beyond the reach of this article.

In respect to interviews on how IAE could promote knowledge sharing–among adult Tanzanians, major two categories of findings were gleaned. First, it was revealed that IAE needs to re-define explicitly its role in Tanzania to include

aspects of promoting knowledge exchange and sharing among adults. In this view, respondents suggested that IAE needs to invest much in developing standards and guidelines for monitoring and evaluating adult and non-formal education rather than offering adult and non-formal education. Some respondents argued that, in the current practice, the role of education delivery to adults is within the jurisdiction of President's Office – Regional Authorities and Local Governments (PO-RALG) and the private stakeholders.

The second area of findings is that IAE has got fertile ground of serving the public in many areas including of promoting knowledge sharing among adults. Some respondents argued that the fertile ground can be easily met if the functions of IAE are summarised into the following four functions:

1. To provide (technical, academic and professional) services and advice to the government and the public on matters of adult and non-formal education in the country;

2. To guide implementation of provision of adult and non-formal education in the country;

3. To ensure training and availability of facilitators competent for managing adult and non-formal education programmes; and

4. To monitor and evaluate adult and non-formal education programmes in the country.

In response to a question that needed them to propose some fertile areas of services which can serve in promoting knowledge sharing in a country, some of the respondents mentioned the following:

i) Public information service centres throughout the country (regional, sub-regional and local community stations) which can provide to adults and the public in general varying information needed such as how to benefit from community schools, vocation education and training opportunities, processes of recognition of prior learning, available scholarships within and outside the country, ways of acquiring education qualifications, applications processes for studies and information on many other available services).

ii) Establishment of public information services via electronic systems for inquiries, application processes, registration, and other service linking the public to different educational service providers.

iii) Establish a system of identifying, registering and awarding adults who possess extra-ordinary local expertise or demonstrate creativity and innovations in different learning areas in the local community.

The provided areas can assist in promoting effective knowledge sharing (not connecting). In addition to that, the three areas, if properly designed, can provide significant source of income.

Discussion

In investigating potentials of IAE in enhancing knowledge resource sharing among the adults in Tanzania this study has obtained varying findings which indicate several issues. First, there is no specific single authority which is responsible for overall coordination and promotion of adult and non-formal education in the country. That is evidenced by the way URT (1975), URT (2014) and URT (2018) address the matter.

The second issue is that mechanisms of providing avenue for wide sharing of knowledge among adults are not clearly addressed. The reviewed documents do not stipulate clearly how knowledge sharing among adults is supposed to be managed. Neither do they harmoniously show clearly the responsible institution for its management.

The third issue that captures interests of this article is the position of IAE in management of adult and non-formal education matters in the country. While URT (1975) show that IAE is a responsible organization for adult education in Tanzania, URT (2014) and URT (2018) do not position it at that stature. The summary of operation presented in Table 1 obscures it in relation to adult and non-formal education. One can easily think that IAE is within the Ministry of Education (MoEST), but what about TEA (Tanzania Education Authority), TIE (Tanzania Institute of Education), NECTA (National Examination Council of Tanzania) and ADEM (Agency for the Development of Educational Management). They are agencies under MoEST and they support its functions (URT, 2014). Why are they explicitly indicated while they are also part of the Ministry like the case is with IAE!

In line with the argument made by Gonzalez and Martins (2017) on importance of knowledge governance, the findings of this study show that there is a need to have a designated authority responsible for development of methods, tools, techniques and values for promoting sharing and use of knowledge in the entire society in order to sustain a learning society. The argument concurs with the emphasis made by Foss et al (2010) on a virtual need of organizational antecedent in managing knowledge. They show that the antecedent includes having in place reward systems, job descriptions, managerial style, corporate culture, capabilities etc in matters of consolidating knowledge sharing behaviour and outcomes.

From the findings, it is concluded that there is no specific single national authority in Tanzania which is specifically responsible for overall promotion and regulation of adult education. Similarly, there is no establishment of clear and effective mechanisms that provide avenue for wide sharing of knowledge among the adult population in the country. The reviewed documents do not stipulate clearly how knowledge sharing among adults is supposed to be managed. Furthermore, the findings indicate that IAE is slowly getting side-lined from the mainstream in matters of being responsible for development of adult education in the country. This is evidenced by lack of a clear mention in the recent adult education plan (URT, 2018) in relation to engagement in adult education matters in the country. With this move, the promotion of public knowledge sharing and exchange among the adults is becoming the business of none, though findings show that IAE still have a wide fertile ground for the development of the same.

On the other hand, findings provide for a recommendation that, if IAE's functions get clearly defined while pegged on its establishment act, the Institute can be able to provide direct public-touching services in promotion of knowledge resource sharing. If the proposed areas of its potentialities get thoroughly analysed and properly installed it can be able to reap from the fertile ground on which it stands and significantly contribute to create a continuously learning society. This can be achieved through establishing varying programmes capacitated by modern communicative and collaborative technologies, web-based technologies of knowledge databases, and content management systems aimed at improving people's capacity to share knowledge. Such improvements can increase IAE's dependability and viability in the country and provide reliable sources of organization's income at the same time.

References

Bennet, A., & Bennet, D. (2014). Knowledge, theory and practice in knowledge management: Between associative patterning and context-rich action. Journal of Entrepreneurship Management and Innovation (JEMI), 10(1), 5-55. Retrieved February 6, 2021 from https://pdfs.semanticscholar.org/46ad/cc3e5d8a1bac2e38bcfa8a443de5a34a2167.pdf?_ga=2.124141635.810889192.1633669207-1153272667.1607859799.

Dalkir, K. (2013). Knowledge management in theory and practice. Amsterdam: Elsevier Inc.

Fombad, M. C. (2010). Knowledge management in law firms in Botswana. PhD Thesis. University of Pretoria. Retrieved January 12, 2021 from https://repository.up.ac.za/bitstream/handle/2263/25407/Complete.pdf?sequence.

Foss, N., Husted, K., & Michailova, S. (2010). Governing knowledge sharing in organizations: Levels of analysis, governance mechanisms, and research directions. Journal of Management Studies, 47(3), 255-282. https://doi: 10.1111/j.1467-6486.2009.00870.x

Gonzalez, R., & Martins, M. (2017). Knowledge management process: A theoretical-conceptual research. Gestão & Produção, São Carlos, 24(2), 248-265. http://dx.doi.org/10.1590/0104-530X0893-15.

Hess, C., & Ostrom, E. (2007). Understanding knowledge as a commons: From theory to practice. The MIT Press Cambridge, Massachusetts, London, England.

Indriatia, F., Tjakraatmadjaa, J., Ruditoa, B., & Thohac, N. (2016). An Integrated Theoretical Framework of the Antecedents of Knowledge-Sharing Behaviour among Lecturers. Sains Humanika 8(1–2), 25–31. http://doi: 10.11113/sh.v8n1-2.828.

Janus, S. (2016). Becoming a knowledge-sharing organization: A handbook for scaling up solutions through knowledge capturing and sharing. International Bank for Reconstruction and Development/The World Bank. Washington DC.

Koulikov, M. (2011). Emerging Problems in Knowledge Sharing and the Three New Ethics of Knowledge Transfer. Knowledge Management & E-Learning: An International Journal, 3(2), 237-250. Retrieved January 23, 2021 from

https://www.researchgate.net/publication/33675250_Emerging_ Problems_in_Knowledge_Sharing_and_the_Three_New_Ethics_of_ Knowledge_Transfer.

Malecki, E. (2010). Everywhere? The Geography of knowledge. Journal of Regional Science. 50(1), 493-513. https://doi.org/10.1111/j.1467-9787.2009.00640.x

Nguyen, T. H., & Ross, A. 2017. Barriers and opportunities for the involvement of indigenous knowledge in water resources management in the Gam River Basin in north-east Vietnam. Water Alternatives 10(1): 134-159. https://doi: 10.1111/cobi.12857.

Nordin, N., Daud, N., and Osman, W. (2012) Knowledge Sharing Behaviour among Academic Staff at a Public Higher Education Institution in Malaysia. International Journal of Social, Behavioural, Educational, Economic, Business and Industrial Engineering 6(12). Retrieved March 3, 2021 from https://serialsjournals.com/abstract/82619_5277-5287.

Omerzel, D. G., & Gulev, R. E. (2011). Knowledge resources and competitive advantage. Managing Global Transitions 9(4), 335–354. Retrieved March 3 2021 from https://www.researchgate.net/publication/227458030_ Knowledge_Resources_and_Competitive_Advantage.

Rathwell, K. J., Armitage, D., & Berkes, F. (2015). Bridging knowledge systems to enhance governance of environmental commons: A typology of settings. International Journal of the Commons, 9(2), 851–880. DOI: http://doi.org/10.18352/ijc.584.

Razak, N. A., Pangi, F., Zin, L., Yunus, N. A. M., & Asnawi, N. H. (2016). Theories of knowledge sharing behaviour in business strategy. Procedia Economics and Finance, 37, 545-553. http://doi: 10.1016/S2212-5671(16)30163-0.

Richard, B., & Dulipovici, A. (2006). The theoretical foundations of knowledge management. Knowledge Management Research & Practice 4, 83–105. http://doi:10.1057/palgrave.kmrp.8500090.

Schryen, G., Wagner, G., & Benlian, A, (2015). Theory of knowledge for literature reviews: An Epistemological model, taxonomy and empirical analysis of IS literature. Thirty Sixth International Conference on Information Systems, Fort Worth 2015. Retrieved March 3, 2021 from https://core. ac.uk/download/pdf/33181095.

Treakle, J., & Krell, R. (2014). Territorial development and local knowledge systems engaging local farming knowledge through a right-based approach to agricultural development. FAO. Retrieved April 2, 2021 from http://www.fao.org/3/mk953e/mk953e.

URT (2018). Education sector development plan (2016/17 – 2020/21). Education Sector Development Committee; Ministry of Education, Science and Technology. Tanzania.

URT (2014). Education and training policy. Ministry of Education and Vocational Training. Tanzania.

URT (2012). Adult and non-formal education development plan (ANFEDP), 2012/13 – 2016/17. Education Sector Development Committee; Ministry of Education and Vocational Training.

URT (1975). Institute of Adult Education Act, 1975. Acts Nos. 12 of 1975. Government of the United Republic of Tanzania.

Wang, W. (2009). "Knowledge management adoption in times of crisis", Industrial Management & Data Systems, 109(4), 445-462. https://doi.org/10.1108/02635570910948605.

The Role of IPPE and IPOSA in Empowering Youths with Industrial Skills towards Poverty Reduction in Tanzania

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Abstract

This paper examines the role of Integrated Post Primary Education (IPPE) and Integrated Program for Out-of-School Adolescents (IPOSA) programmes in empowering youths with industrial skills towards poverty reduction. The paper explains how IPOSA and IPPE equip youths with pre-vocational skills to enable them participate in income generating activities. The study was guided by two research questions whereby the first question investigates ways IPOSA and IPPE can contribute to youth industrial skills in attaining middle-income economy while the second question examines how both programmes help Tanzanian youths in tackling poverty. The paper used qualitative approach employing interviews and documentary review were administered. The study population comprised of lecturers, programme coordinators, resident tutors, learners and Adult Education officers. The selection was based on the availability and willingness of key informants who participated in the study by providing information regarding the programmes. The findings reveal that IPOSA and IPPE programmes equip youths with skills such as in soap, batik, apron and candle making and food processing. These skills allow youth to participate in income generating activities and earn some income thus improve their livelihoods. The study recommends for integration model of both theory and practical oriented skills to make education system more practical. Finally, the Institute of Adult Education should collaborate with the Ministry of Education, Science and Technology in reviewing education policies to reflect the current needs of industrial economy and compete in the labour market hence curb youth unemployment.

Keywords: Empowerment, skills development, poverty, youth

Introduction

This study focuses on the determinants of young people's industrial skills development and their implication in tackling poverty. The study puts an emphasis on the role of the pre-vocational skills in particular, on youth skills development towards poverty reduction. The study cites, the Institute of Adult Education, as one among the higher education institutions as the key implementer in providing development skills through its programmes namely; IPPE and IPOSA. Following its contribution, it is one among the leading institutions in offering practical programmes which expose youth to the labour market as well as tackling unemployment among themselves (IPPE, 2010; IPOSA, 2019).

Recently, youth skills development, poverty and unemployment have been prominent global concerns. Pressure to expand post-basic education in countries with high youth unemployment has encouraged the development of a "skills for jobs" education reform discourse. The discourse is that vocational training should focus on skills development with the hypothesis that such a focus will help reduce youth unemployment (Balwanz, 2012).

While Tanzania is envisioned to become a middle-income country by 2025, the attainment of education among pupils and the entire population is showing both positive achievements and existing challenges. The main challenge is that we are still constrained by limited capacity to provide the necessary inputs for effective teaching and learning in our institutions. There is need for expansion and modernization of our training institutions to match with the requirements of current technology. Following this premise, there is an urgent need to re-balance both the number and skills relevance at all levels of education. Countries that have ignored education have also failed to maintain impressive growth rates (URT, 2019).

Findings from Tanzania Enterprise Survey (2013) show that about 40 percent of all firms involved in the survey identified an inadequately skilled workforce as a major constraint to productivity in many sectors. The findings from the survey indicate that work ethics, communication and problem solving skills were among the skills reported to be highly inadequate. On the other hand, higher number of failed firms reported skills constraints as one of their main challenges. The survey shows that 63 percent of failed firms indicated that the shortage of workers with the right skills profile was a contributing factor to failure (Msami & Wangwe, 2016).

On the basis of situation analysis, the process of industrialization is driven by three imperatives: the need to have a skilled labour force which can support the growth of key economic sectors; the need to accommodate large numbers of young people entering the labour force every year in search of productive jobs; and the need to integrate science, technology and innovation to sustain industrial growth. Hence, we need to consider these imperatives in order for us to realize effective and sustainable industrial growth. First, skills relevance; industrialization requires us to engage into building skills relevant to drive industrial growth (Avakov, *et al,*. (1980). Reviews from the labour market surveys indicate that out of a workforce of 19 million people more than 14 million are self-employed in the informal sector, primarily in agriculture and petty trading. Therefore, skills development interventions in the country should be designed to curb the existing skills gaps in both formal employment and in the informal sector (Education Sector Development Committee, 2012 in BEST, Msami & Wangwe; 2016). Successful skills development needs involvement of stakeholders beyond colleges and institutions. Private sector and labour-based organization must work together with state actors to bring about the desired targets and provide appropriate atmosphere for relevant skills development (Msami & Wangwe; 2016).

The 2030 Agenda for Sustainable Development has reaffirmed the critical role of education in broader societal development. More specifically, SDG4 envisions to ensure inclusive and equitable education and to promote lifelong learning for all. Against this backdrop, the Education 2030 Framework for Action (FFA) was adopted in November 2015, stating that SDG4 provides the international community's renewed, holistic, ambitious and aspirational education agenda based on a humanistic vision, which reaffirms the principles of education as a human right and a public good (Adams, 2017).

Education and training are important means of addressing youth employability. On the contrary, vulnerable youth are, to a great extent, ignored in this level of analysis (Adams, 2017). This study argues in favour of promoting vocational education and training tailored to youths in order to meet the labour market needs, and particularly dual models of vocational education and training. Good education and training can contribute to economic productivity and social cohesion, vocational education and on-the-job-training with young workers (Zimmermann *et al.,* 2013).

Brewer (2004) explains that education is central to development and to the improvement of the lives of young people globally, and as such has been identified as a priority area in internationally agreed development goals, including the Millennium Development Goals and the World Program of Action for Youth. Education is important in eradicating poverty and hunger and in promoting sustained, inclusive and equitable economic growth and sustainable development. Increased efforts towards education accessibility, quality and affordability are central to global development efforts (Brewer,2004).

Balwanz (2012) contends that promoting youth employment has become an increasingly important policy issue in Kenya. In 2011 nearly 40% of Kenyan youth were neither in school nor working, and the informal sector accounts for nearly 80% of jobs, despite the complex and unclear relationship between education and employment. In Tanzanian context, the Institute of Adult Education has been playing a great role in offering post basic education in formal and non-formal education programmes such as IPOSA and IPPE.

Through these programmes, the institute may help to enhance skill development to youth so as to equip them with skills towards industrial economy and poverty reduction. This study therefore aims at assessing the role of IPPE and IPOSA as non-formal education programmes on youth skill development to industrial and middle-income economy towards poverty reduction. The results aim to contribute to more responsive policies to the issue of youth disengagement from education and the ensuing consequences in skills shortages, low employment prospects, and general well-being.

According to the UNESCO Institute for Statistics (UIS, 2017), reports that most out-of-school youth in the region drop out before secondary education. Sub-Saharan Africa has the lowest drop out before secondary education (World Bank, 2015). Sub-Saharan Africa is the region with the lowest education and the proportion drops to one third of the population at upper secondary level. According to the UNESCO Institute for Statistics (UIS, 2017), there were 64.8 million out-of-school adolescents worldwide at school-year ending in 2013, of which one third were in sub-Saharan Africa. Given the potential for youth to lead and shape the world, current educational patterns compel a better understanding of youth characteristics and of the gap that often exists between youth realities and aspirations, and the nature of educational provision (World Bank, 2015).

Balwanz (2012) and Brewer (2004) reveal that 10.6% of the world's youth (15-24 years old) lack development skills hence making it difficult for them to sustain a living through full and decent employment. With youth unemployment and underemployment at persistently high levels, such rates act to jeopardize social inclusion, cohesion and stability. Basing on this argument, there is a need to align education policies, curricula and training programmes, in a people-centric way, with national development priorities and needs, international development strategies and labour market requirements. Doing so will promote the situation of young people, fight extreme poverty, and allow for a maximization of the benefits of globalization for youth (OECD, 2008).

Tanzania is one of the countries striving to reduce poverty and achieve industrial and middle-income economy through education institutions as well as other institutions. The Institute of Adult Education, being one among education institution was established in 1975 for the purpose of providing post-basic education. In collaboration with the Ministry of Education Science and Technology (MEST) and other organizations such as government and non-governmental organizations, the Institute of Adult Education has taken different initiatives to prepare different programmes that provide opportunities to different groups of people, youth in particular. Some of these programmes include the Integrated Post Primary Education (IPPE-2010) program and the Integrated Program for Out-of-School Adolescents (IPOSA-2019).

This study comes as an assessment of the role that post-basic education plays in empowering the youths with industrial skills through pre-vocation programmes of IPOSA and IPPE offered by the Institute of Adult Education. The questions this paper is intended to answer are: (1) In what ways can IPOSA and IPPE contribute towards youth development skills towards industrial and middle-income economy? (2) In what ways can IPOSA and IPPE programmes help move Tanzanian youths from poverty?

Literature Review

Salmi (2000) points out that in recent years there has been an emphasis on the provision of post-basic education. Most youths in the world prefer this kind of education as it equips them with skills that could lead them to the world of work. Due to the importance of post-basic education in accommodating this group of young people, this kind of education should be taken into consideration

(Adams, 2017). Australia and the Philippines, for example, have been very successful in the development of post-basic education. The skills gained and enhanced through post-basic education contribute to increased productivity in the workforce, and post-basic education plays an important role in developing professional capabilities in the countries studied. According to UNESCO Institute for Statistics (2017), lack of qualified human capital hinders growth and undermines the foundation for sustainable development. Skills for knowledge economy are built at tertiary level (URT, 2019).

With regard to the relationship between education and industrialization in Tanzania, the concept of education and industrialization emerged from Nyerere's philosophy of self-reliance. Following the contribution of adult education programmes in poverty alleviation in Tanzania, the programmes offered at IAE reflect Nyerere's philosophy self- reliance which emphasized on skills development rather than theory oriented (URT, 2019). The philosophy of adult education and adult learning is considered very progressive amongst the international adult education community and non-governmental organizations engaged in development work. This philosophy resonates with the concepts of empowerment and liberation very akin to the ideas expressed in Paulo Freire's *Pedagogy of the Oppressed* (Kassam, 1994).

The provision of education in Tanzania is guided by national macro policies, plans and strategies, and by education sector policies, programmes and strategic plans. The macro-policies include the Tanzania Development Vision 2025, the National Strategy for Growth and Reduction of Poverty (NSGRP) and the Tanzania Five Year Development Plan of 2016/17 to 2020/21. This means that education sector is the main player in the realization of both strategies and vision (URT, 2019).

Tanzania has a key role to play in providing stable policy and regulatory frameworks for development and creating employment opportunities. Tanzania's second Five-Year Development Plan is centred on *Nurturing Industrialization for Economic Transformation and Human Development*. In achieving this, Tanzania should raise investment, balance public and private sector priorities, and tackle poverty and ensuring that all Tanzanians can share in the benefits of development through better access to education, health care and access to finance. This means creating inclusive growth that lifts all living standards (Zhang, 2017). The real measure of progress is found in cities, towns and villages, in the

dreams of people from all walks of life. Tanzania still needs a long-term effort to tackle poverty. The IMF (2017) notes that in Tanzania "a large share of young people remains unemployed or underemployed. Meeting the expectations of the younger generation ranks among the prime challenges of the 21st century in the developing countries" (OECD, 2008).

The Basic Industrialization Strategy (BIS, 2015) was adopted as the fundamental policy framework for restructuring socialist Tanzania's industries. Emphasis was also placed at the policy level on production techniques and products that use local resources including labour. The BIS aimed at attaining some "minimum economic scale" of production in the setup of "basic industries". Future industrial structure would consist of three categories: national, district and village industries (Kim, 1986).

Bringing vocational training closer to the needs of dynamically changing and evolving labour markets and economies can help young people to move into more productive and sustainable jobs. This can be achieved through an integration model, which allows incorporation of some components of pre-vocational and industrial skills to Tanzanian education system particularly into curriculum, complementary books as well as other instructional materials so as to enhance skills development to youths (Adams, 2017). To achieve this, the Government of Tanzania has been implementing this kind of education through it institutions, particularly the Institute of Adult Education that is mandated in the implementation non-formal programmes.

Materials and Methods

The study employed qualitative approach to gather study information from participants on IPOSA and IPPE. It involved three areas of study namely; Arusha, Dar es Salaam and Tabora regions where data was collected. The three regions have been selected due to availability and willingness of the key informants and other respondents in providing the data compared to other centres. Meanwhile, IPOSA and IPPE have been very successful in the three selected areas. The sample size was 50 respondents whereby 41 respondents were successfully obtained and interviewed to obtain the data. Purposive and random sampling were used in identifying participants, who included Institute of Adult Education lecturers and regional resident tutors, project coordinators, facilitators and learners from both IPOSA and IPPE programmes. Data were

mainly collected through interviews and documentary review comprising project reports, previous research, curricula as well as instructional materials. The interviews were conducted between March and June 2021 and being administered to facilitators, project coordinators and learners. Data were analysed using thematic content analysis method based on the objectives of the study. The table below presents the population of the study and sampling techniques employed in this study.

Table 1: STUDY SAMPLE AND SAMPLING PROCEDURES

Category of Respondents	Sample Size	Actual Population		% obtained of Respondent	Sampling Techniques
		M	F	Total	
Project Coordinators	4	2	1	3	Purposive
IAE Lecturers	9	4	2	6	Purposive
Facilitators	4	0	3	3	Purposive
Resident tutors	8	3	1	4	Purposive
Centre Owners	6	3	3	6	Purposive
Learners	19	9	10	19	Random
TOTAL	**50**	**8**	**2**	**41**	

Results

The results are presented and analysed in themes basing on the two research questions;

(i) In what ways can IPPE and IPOSA contribute to youth development skills towards industrial and middle income economy? (ii) How can IPPE and IPOSA help Tanzanian youths gain skills in tackling poverty? Regarding the contribution of IPPE and IPOSA to youth skills development in relation to industrial and middle income economy, the findings reveal that, IPPE and IPOSA offer pre-vocational skills that are beneficial to them. According to the interviews conducted, the response from the participants, particularly youths agreed that, the programmes of IPOSA and IPPE equip them with industrial skills which could help them engage in income generating activities hence, attain middle income economy status. The findings were organized in themes as follows:

Profile of Prevocational Skills Offered in the IPPE and IPOSA Centres

Before embarking to actual data analysis basing on the research questions, the study starts by identifying the skills offered through IPPE and IPOSA. Through interviews and documentary analysis such as reviewing IPOSA and IPPE modules and curriculum a number of pre-vocational skills offered by the Institute of Adult Education have been identified. Through these programmes, the study reveals that in IPOSA, the youths were trained on pre-vocation skills such as making liquid and bar soap, detergent, vikoi and batik, tailoring, needlework, making aprons. Apart from that, they have gained food processing skills such as tomato, jam making, chili source and peanut butter making. Regarding the IPPE programme, the focus on skills such as fish processing, masonry, bee keeping, beverages processing, candle making, electronics, carpentry, tailoring & needle work and brick laying. Apart from the mentioned pre-vocational skills the study reviewed a module for life skills showing basic skills in customer, marketing and branding as well as entrepreneurship skills which could help youths in initiating income generating activities and selling their stuffs to earn income for a living (IPOSA, 2019).

Relevance of IPPE and IPOSA to Youth Skills Development towards Industrial and Middle Income Economy

In relation to relevance of IPPE and IPOSA in developing skills among youth, the study reveals that, forty-one (41) 75% out of fifty (50) respondents, agreed that the programmes are very important to youth skills development as they equip them with necessary skills to engage in income generating activities. Through these programmes a good number of the learners have gained skills that could enable them produce soap, detergent and batik. Those enrolled in tailoring and needlework have managed to make aprons and other simple clothes, which they sell to earn a living. Basing on documentary analysis such as modules, curriculum, report research regarding the programmes, the findings reveal that, IPPE and IPOSA do not only offer pre-vocational skills but also other skills such as life skills, literacy skills, entrepreneurship and marketing skills. These skills also are beneficial to youth as they them with skills in branding and market their product hence participate in income-generating activities and thus poverty reduction. Taking an example of Temeke centre in Dar es Salaam, the learners have gained pre-vocational skills such as food processing. They make jam, chili source and peanut butter, which they sell to make an income for a

living. Table 1.2 indicates the programme and the number of learners enrolled in Temeke centre.

Table 1.2: ENROLLED LEARNERS IN DAR ES SALAAM FOR IPOSA PROGRAM

	CENTRE	NO. STUDENTS		TOTAL NO. IN THE CENTRE	NO, OF TEACHERS	PROGRAM
		M	F			
1	AMANI	104	212	316	4	Cookery, Electronics, Tailoring
2	MZINGA	70	92	162	3	Cookery, Electronics, Tailoring
3	TEMEKE	73	17	90	5	Cookery, Electronics, Tailoring, Carpentry
4	WAILES	74	61	135	4	Cookery, Electronics, Tailoring
	TOTAL	321	382	703	16	

Source: Field Data Collected in March 2021

The Ways IPOSA and IPPE Programmes can Help Tanzanian Youths Gain Skills in Tackling Poverty

From the study findings, it was also reported that, the programmes can transform young people from poverty to a better economic status. On the one hand, the responses from the participants indicate that the programmes may give a permanent solution for youth unemployment as they provide the youths with skills which could make them engage in activities which promote self- employment. The programmes provide skilled labour into real practical world of work to help youths cope with unemployment and as well as poverty reduction. On the other hand, the programmes promote creativity among youths by engaging them in income generating activities. This explains why in, say Temeke, we have four IPOSA centres with a good number of learners. Society needs those skills to create income-generating activities to reduce poverty. As indicated in Table 1.2, a total number of 321 leaners have been enrolled for IPOSA program in different pre-vocational skills including tailoring, electronics, carpentry and cookery. At Amani (316) and Mzinga (162), Temeke (90) and Wailes (135) centres learners enrolled for cookery, electronics tailoring and carpentry. This is implies that IPOSA is highly needed by youth as they have high expectation

of acquiring skills that could help them get rid of poverty through engaging in income generating activities.

IPOSA Enrolment at Urambo Centre and its Implication to Skills Development

Tabora was also a case for investigation. The data indicates that there are three (3) centres established at Urambo where IPOSA is undertaken. These centres are Azimio, Mtakuja and Mlimani. A total number of 57 learners have been enrolled for stage I in IPOSA program. In Table 1.3, the findings indicate that at Azimio Centre, there is a good number of learners have been enrolled in different programmes including tailoring, entrepreneurship and cookery, whereby, the number of female learners (35) exceeds the number of males (10). This is an indication that the programmes are highly needed by youths as they can help in equipping youths with skills to engage in income generating activities hence poverty reduction. Meanwhile some programmes such as masonry and carpentry are not so much preferred by the learners as few learners have been enrolled into those pre-vocational skills. This is an indication that the learners seek for simple skills which take them short to acquire skill. In Mtakuja and Mlimani, the enrolment has been very low. This calls a need for more advocacy of the programmes in order to create awareness to youth. These centres are indicated in Table 1.3.

Table1. 3: ENROLLED LEARNERS FOR STAGE I IN IPOSA PROGRAM URAMBO CENTRE IN TABORA REGION

S/N	ACTIVITY	CENTRE AZIMIO			MTAKUJA			MLIMANI		
	Sex	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
1	Tailoring	2	12	14	0	1	1	0	0	0
2	Masonry	1	0	1	0	0	0	0	0	0
3	Carpentry	4	0	4	1	0	1	4	0	4
4	Cookery	1	11	12	0	0	0	0	0	0
5	Entrepreneurship	2	12	14	1	1	2	4	0	4
		10	35		2	2	0	8	0	8
	Total Number of Urambo Leaners	45			4	4	4	**8**		57

Source: Compiled data from Adult Education Officer at Urambo District 2021

IPOSA Enrolment at Kaliua Centre in Tabora Region and its Implication to Skills Development

In Table 1.4 the data indicate that a total number of 238 learners have been enrolled in different pre-vocational skills, comprising of boys and girls where forty two (42) have been enrolled in tailoring whereas 33 of them are females, followed by masonry with 14 learners then carpentry (11) and cookery (11). This data imply that IPOSA has been successful in this area as a good number of youths have joined the program with expectations to be equipped with the intended skills which could enable them to engage in income generating activities. This implies that those enrolled will acquire the required skill which will help them engage in income generating activities.

Table 1.4: ENROLLED LEARNERS FOR STAGE I IN IPOSA PROGRAM AT URAMBO IN TABORA

S/N	ACTIVITY	CENTRE KALIUA			KAZAROHO			KASHISHI		
	Sex	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
1	Tailoring	9	33	42	1	25	26	1	25	26
2	Masonry	14	0	14	14	0	14	14	0	14
3	Carpentry	10	1	11	19	0	19	19	0	19
4	Cookery	3	8	11	0	0	0	0	0	0
5	Entrepreneurship	0	0	0	6	15	21	6	15	21
		36	42	78	40	40	80	40	40	80
	Total Number of	78				80			80	238

Source: Compiled data from Adult Education Officer at Kaliua 2021

Implementation of IPPE Program in Arusha Region

In Arusha region, IPPE program has been very successful, as it has reached a good number of beneficiaries. Most of IPPE centres are attached in open schools managed by individually owned centres like FEA, Volcano and Sila City. Different courses are offered in these centres include tourism, hotel management, plaiting, tailoring, needlework and secretarial services. The centres and enrolment of learners are presented in

Table 1.5: FURTHER, THE TABLE SHOWS SKILLS OFFERED BY IPPE PROGRAMME.

S/N.	Centre	Program	No. of Learners Enrolled M	F	Total
1	Volcano	Electronics	5	2	7
2	Sila	Cookery	20	17	37
3	Meru	Tailoring & Needle work	3	2	5
4	Eureka	Cookery	10	15	25
5	Tumaini	Cookery	20	10	30
6	Kapricon	Tailoring and Needle work	3	-	3
7	Savana	Cookery	10	7	17
8	Severin	Tailoring	4	-	4
9	Bridge	Cookery	10	5	15
10	Visha	Tailoring and Needle Work	5	20	25
11	Aviation	Tailoring and Needle Work	-	4	4
12	Tropical	Cookery	20	10	30

Source: Compiled from Centre Coordinators, 2021

Discussion

Basing on the two research questions, the findings revealed that IPPE and IPOSA programmes possess some industrial features that could equip the youth with industrial skills to reduce poverty. The participants have high expectations that such programmes can equip them with the required skills. This is an indication that the programmes offered at IAE are relevant and can transform youth from dependence to independence. From curriculum review and analysis of IPOSA and IPPE, there are industrial features that have been identified from these programmes as an indication of a close relationship between education systems and industrialization. The findings suggest the need for an integration of pre-vocational skills into Tanzanian education systems at different levels to equip youths with development skills towards poverty reduction. Implementing IPOSA and IPPE is a key strategy to skills development to youth and promoting industrial economy, and poverty reduction. To promote skill development programmes, it is important for all stakeholders to work and support the development of requisite skilled workforce.

However, in order to understand the contribution of IPPE and IPOSA to youth skill development, one needs to assess the implementation of these two programmes in the selected regions. Regarding the implementation of IPPE and IPOSA, the information about the distribution of the centres and the enrolment for IPPE and

IPOSA indicate that the programmes are valuable and are highly needed by the youth. All respondents 50 (100%) said that these programmes are helpful to both individuals and the society. One female respondent, a beneficiary of these programmes was noted saying;

> Before I was enrolled in these programmes I was struggling to get employment with which I would feel more secure. I joined these programmes hoping that one day I would have an activity which could make me earn a living. For me these programmes are of great help to meet my needs with less hustles.

More importantly is the need to relate industrial growth with science, technology and innovation as well as education. Using the concept of technology entrepreneurship, stakeholders are encouraged to support the use of technology associated with entrepreneurship. Secondly, supporting institutional growth where there is a need to support the growth of both the institutional mechanisms and systems designed to have transformative impact and high potential for growth and job creation (Kim & Mallory, 2020). There is a need for skills providers to develop effective mechanisms to involve the industries in the skill development process as they play an important role in the job market. Efforts should also be made to involve the private sector in developing cost effective learning tools related to industry. Finally, Ndalichako (2017) sees a need to adopt a "smart" skills development model in which active participation of employers and employees in education and training is backed with institutional support from the government. It is through these kinds of partnerships that the supply and the demand side of skills continuum will be maintained for effective industrial growth and development. This implies that the active human capital can contribute to the skills development of youths as well as other members on the society. Besides, these programmes are not only relevant to youth but also to the community needs at large. Basing on these arguments, programmes are expanded and well managed by the Institute of Adult Education they can serve a large group of youth, equipping the with development skills in engaging in some economic activities.

Additionally, if you teach them carpentry, masonry, electronics, some are going to apply these skills immediately in income generating activities. Vocational training is like an army amid for an economic war which could help youth tackling poverty. As it helps youths adopt new technologies and skills in a more readily manner which can be applied in the labour, particularly, in self- employment. Hence the pre-vocational training provided in adult education programmes is indispensable to enable the community to attain industrial skills towards poverty alleviation.

Basing on the objectives, the study recommends that the Institute of Adult Education as key implementer in non-formal education programmes (such as IPPE and IPOSA) in collaboration with Ministry of Education should review education policies to reflect the current era of industrial economy so as to transform Tanzanian youth from poverty. As an implication for practice, this study recommends that educational practitioners and policy makers should take steps to integrate into curriculum the vocational skills at different levels of education so that to equip young people with skills to compete in the labour market and address youth unemployment in Tanzania. Additionally, marginalized groups, in particular, namely out schools youth such as young mothers, out of school youth (young girls and boys) need to be empowered with development skills mainly, vocational skills to enable them engage in income generating activities towards poverty reduction.

Basing on the study objectives, data analysis and discussion of the research findings, it has been observed that the Institute of Adult Education play a big role in designing and offering programmes which equip youths with vocational skills. Such skills enable them engage in industrial and middle income economy hence poverty reduction. Also, the findings reveal that a good number of youths who have been enrolled in IPOSA and IPPE programmes have acquired the required skills which enable them engage in income generating activities.

References

Adams, A. V. (2017). The Role of Youth Skills Development in the Transition to Work: A Global Review: The World Bank.

Avakov, R.M., Yannakopulos, Z., & Polymnia, Z.Y. (1980). The Contribution of education to industrialization and technical progress in developing countries: International Institute for Educational Planning Material type: Text Series: IIEP seminar paper; 41 UNESCO.

Balwanz, D. (2012). Youth Skills Development, Informal Employment and the Enabling Environment in Kenya: Trends and Tensions. Journal of International Cooperation in Education, Vol.15 No.2, pp.69- 91.

Msami, J and Wangwe, S. (2016). Industrial Development in Tanzania DOI:10.1093/acprof:oso/9780198776987.003.0008.

BIS(2015).IndustrializationStrategy:https://unctad.org/en/PublicationsLibrary/tir2015_en.pdf.

Brewer, L. (2004). In Focus Program on Skills, Knowledge and Employability: The role of skills development in facilitating the transition to work, Skills Working Paper No. 19: International Labour Organization.

Carl, J. (2009). Industrialization and Public Education: Social Cohesion and Social Stratification. International Handbook of Comparative Education, 503-518 DOI - 10.1007/978-1-4020-6403-6_32.

Grubb, W. & Lazerson, M. (2004). The education gospel: The economic power of schooling. Cambridge, MA: Harvard University Press.

Institute of Adult Education (2019a). Applying Basic Principles of Fish Processing. Practical Manual: Dar es Salaam: Taasisi ya Elimu ya Watu Wazima, Tanzania.

Institute of Adult Education (2019b). Basic Skills in Customer, Marketing and Branding. Dar es Salaam. Institute of Adult Education. Tanzania.

IPOSA (2019). Integrated Post- Primary Out of School Youth. Institute of Adult Education, Tanzania.

Institute of Adult Education (2010). Reviewed Curriculum Framework for Integrated Post-Primary Education (IPPE). Dar es Salaam. Institute of Adult Education, Tanzania.

Kandel, I. (1933). Comparative education. New York: Houghton Mifflin.

Kassam, Y. (1994). Julius Kambarage Nyerere. Prospects, 24(1-2), 247–259. Doi: 10.1007/BF02199019.

Kim, K. S. (1986). Issues and Perspectives in Tanzanian Industrial Development: with Special Reference to the Role of SADCC. The Helen Kellogg Institute for International Studies: Working Paper #87 – December 1986.

Kim, K. and Mallory, B. (2020). Rethinking secondary education in Africa: How to prepare youth for the future of work https://www.africaportal.org/features/rethinking-secondary-education-africa-how-prepare-youth-future-work/

Kothari, C.R. (2003). Research Methodology: Methods and Techniques: Vishwa Prakashan Publishers.

Mochizuki, Y. and Vickers, E. (2017). Rethinking Schooling for the 21st Century: The State of Education for Peace, Sustainable Development and Global Citizenship in Asia: New Delhi 110001, India ISBN: 978-81-89218-68-3.

Ndalichako, J, (2017). The Role of Education for Industrial Development in Tanzania. The Ministry for Education, Science and Technology.

OECD (2008). Post-basic education for the Knowledge Society – Volume 1 – ISBN 978-92-64-04652-8.

Peak, M. (2020). Why post-basic education is crucial for building back better. University world News, 09 November 2020: The Global Window in Higher Education. Education transforms lives (unesco.org)

Salmi, J. (2000). Post-basic education in the Twenty-First Century Challenges and Opportunities. University world News, 10 January 2000: The Global Window in Higher Education.

Strauss, A. & Corbin, J. (1998). Basics of Qualitative Research, Techniques and Procedures for Developing Grounded Theory, (2nd Ed). London: Sage Publication.

Tanzania. (2017). Basic education statistics in Tanzania. Dar es Salaam, Tanzania: Ministry of Education.

URT (2016). The National Five-Year Development Plan 2016/17. *2020/21: Nurturing Industrialization for Economic Transformation and Human Development”.* Ministry of Finance and Planning.

UN (2017). Transforming our world: the 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs (un.org).

UNESCO (2015). “Rethinking Education. Towards a global common good”, Journal of United Nations Educational, Scientific and Cultural Organization: ISBN 978-92-3-100088-1.

URT. (2016). Tanzania Development Plan, Vision and Investment Priorities to

Achieve Middle Income Status by 2025. Ministry of Finance and Planning.

URT. (2018). International Development Association International Finance Corporation. Multilateral Investment Guarantee Agency. Country Partnership Framework.

Zhang, T. (2017). Building on Success: Achieving Tanzania's Goal of Middle-Income Status - Speech by IMF Deputy Managing Director Tao Zhang - Afrik-news.com : Africa news, Maghreb news - https://www.afrik-news.com/pressrelease-apo17793.html.

Zimmermann, K. F., Biavaschi, C., Eichhorst, W., Giulietti, C., Kendzia, M. J., Muravyev, A., Pieters, J., Rodr guez-Planas, N., & Schmidl, R. (2013). Youth Unemployment and Vocational Training. Foundations and Trends in Microeconomics, 9(1/2), 1-157. https://doi.org/10.1561/0700000058.

Students' Views and Difficulties in Data Analysis at the Institute of Adult Education in Tanzania

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Abstract

The purpose of this study was to examine undergraduate research projects completed in 2019/2020 academic year at the Institute of Adult Education in terms of the types of statistical techniques commonly used and difficulties encountered by students in data analysis process. The subjects in this study were the finalist undergraduate students of 2019/2020 comprised 125 respondents. The study adopted a mixed methods approach. Sampling techniques adopted in this study was purposive. Data collection techniques in this study were questionnaires, focus group discussions and interviews. Both quantitative and qualitative data analyses were involved. Descriptive statistics and t-test analysis technique were used for data analysis. Students' difficulties of data analysis indicated that, sixty-nine (69%) had a problem with statistical hypothesis testing; sixty five percent (65%) had a problem with analysis of qualitative data. Eighty one percent (81%) of the participants had problem with choosing the right statistical test for data analysis. In addition, descriptive statistics were mostly used (89.6%) and it was indicated that there was a significant difference between the problems experienced by male and female students (p<0.05). The themes that emerged from the data analysis were analytical skills, numerical skills and technical skills. It would be beneficial for students at the Institute of Adult Education to receive trainings on data analysis skills. Findings from this study emphasize the imperative to understand the challenges these students face as they continue their educational journeys in Higher Learning Institutions in Tanzania.

Introduction

Research activity is considered as one of the high-impact educational practices in that the vital skills and attitude for lifelong learners can be cultivated through inquiry (Hunter, Laursen, & Seymour, 2007). Walliman (2011) suggests that research is a very general term for an activity that involves finding out, in a more or less systematic way things you did not know. A more academic interpretation is that research involves finding out about things that no one else knew either. It is about advancing the frontiers of knowledge. Undergraduate research is defined as any teaching and learning activity in which undergraduate students are actively engaged with the research content, process or problems of their discipline (Zimbardi & Myatt, 2014). In addition, undergraduate research-based projects are capstone experiences that provide students with an opportunity to answer a research question within a disciplinary framework under supervision (Ashwin, Abbas & McLean, 2016). They form an essential component of many undergraduate degrees, provide a transition between course work and independent research and may result in publishable research. That is, research is not merely a pursuit of academic career and advancement of knowledge (i.e., content) but also an aspect of the learning process (Willison & O'Regan, 2007). Moreover, developing research skills is essential in adult education. According to Bandele (2004), educational research is carried out, to increase human knowledge to solve contemporary problems and establish decision-making basis, to make discoveries and promote the contemporary modern evidence to help educational innovations and improve educational services. In research, once data is collected, the next step is to get insights from it. Data analysis is perhaps the most important component of research.

According to Marshall & Rossman (2016), data analysis can be defined as the process of bringing order, structure, and interpretation to the mass of collected data. While Hatch (2002 states that data analysis is a systematic search for meaning. Data analysis is defined as a process of cleaning, transforming, and modelling data to discover useful information for business decision-making. The purpose of data analysis is to extract useful information from data and take decisions based upon the data analysis. Data analysis is the process of systematically applying statistical or logical techniques to describe and illustrate, condense, recap and evaluate data. Analysis is the procedure to make broad generalizations by identifying trends and situations (phenomena) among present information (UNESCO, 2018).

Analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories (IEE, 2010). It often involves synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding. The purpose of the data analysis in research studies is to find answers to the research question and to facilitate the researcher to determine the trends and inter-relationship of different variables included in the study (Sham & Resnik, 2003). Writing an academic report is one of the requirements every undergraduate student has to accomplish in completing his/her degree program; it is written based on research. An objective of the research-based project that is highly regarded at the Institute of Adult Education is to develop students' research skills. Students can choose a project on any topic on various aspects necessarily within their area of study. Each project is undertaken individually over a two-semester period supervised by an academic staff member. Hence, statistics has become a substantial part of the project. However, students at the Institute of Adult Education have no module in statistics. The main concern is whether what they have learned in the modules is enough to equip them well for using statistical techniques in data analysis, and what difficulties they encountered. The study is based on a survey that was conducted amongst the final year undergraduate students in the academic year 2019/2020 upon completion of their projects. A questionnaire was designed to find out students' views and difficulties in data analysis and also the questionnaire was used to identify the common data analysis techniques which were used by the students at the Institute of Adult Education in Tanzania. One major area receiving less attention when examining problems facing Universities and Institutions in Africa, including Tanzania, are those difficulties encountered by undergraduate and postgraduate students in data analysis and this is compounded by several factors (Duze, 2010; World Economic Forum, 2021). Some of these challenges includes; problems with choosing the right statistical test for data analysis, lack of writing skills, lack of training in research work, poor knowledge in using the statistical package, lack of mathematics and statistics course and the problem with the analysis of qualitative data. Many of these problems are shared more by undergraduate students, but what are the common problems/difficulties facing these students? What are data analyses techniques are commonly used by students in their research-based projects

at the Institute of Adult Education? Are the problems faced by male students significantly different from those encountered by female students? The institute must take significant steps to identify these problems so as to either eliminate them or at least minimize them. The purpose of this study was to find out students' views of data analysis, statistical techniques used and difficulties encountered during data analysis process and compare the difficulties experienced by the female students to their male counterparts at the Institute of Adult Education, Tanzania.

To address these aims, and to answer the question posed by the title of this study, the following research questions were proposed:

i) What difficulties do undergraduate students experience in data analysis process?

ii) What are the data analyses techniques which are commonly used by students in their research-based project at the Institute of Adult Education?

iii) Are the problems faced in data analysis by male students is significantly different from those encountered by female students?

Literature Review

In recent decades, statistics educators have made much progress in determining what students need to know and how best to develop their abilities in the domain of data analysis. Data analysis tasks prove most successful when students engage deeply with the data and are involved with the planning and development of the analysis. Despite or perhaps even because of the wide range of applications of data analysis and statistics, learning these concepts in context can be difficult for students. As Moore (1990) explains, "data are not merely numbers, but numbers with a context" (p. 96). Interdisciplinary applications of concepts in statistics provide students with many opportunities to engage with these ideas, yet the contextual nature of the data means that each application will be unique thus presenting its challenges for students. Educators should strive to help students to see the connections between context-specific applications of data analysis and the big ideas and concepts that make up the discipline of statistics, but before we can do that we need to identify exactly how students engage with data analysis concepts in applied settings. This case study intends to contribute to that understanding.

Process Challenges

Process challenges are the group of challenges encountered while processing and analyzing the data. Process challenges involves capturing the data, interpreting and presenting the results. As large datasets are usually non-relational or unstructured, thus processing such semi-structured data sets at scale poses a significant challenge; possibly more than managing big data (BD) (Kaisler, Armour, Espinosa & Money, 2013). Several data processing related challenges can be grouped into 4 steps: data mining and cleansing, data aggregation and integration, data analysis and modelling and data interpretation.

Data Mining and Cleansing:

This challenge relates to extracting and cleaning data from a collected pool of large unstructured data. Advocates of BD and BDA perceive that identifying a better way to mine and clean the BD can result in big impact and value (Chen, Chen, Jiang, Ooi, Shi, Vo & Wu, 2012). Due to its strident, vibrant, diverse, inter-related and unreliable features, the mining, cleansing and analysis confirm to be very challenging (Chen, Chen, Du, Li, Lu, Zhao & Zhou, 2013). For instance, in the UK National Health Service (NHS) there are many millions of patients' records comprising of medical reports, prescriptions, x-ray data, etc. Physicians make use of such data – if for instance incorrect information is stored this may lead to physicians wrongly diagnosing conditions, resulting in inaccurate medical records. However, to make use of this huge data in a meaningful way, there is a need to develop an extraction method that mines out the required information from unstructured BD and articulate it in a standard and structured form that is easy to understand.

Data Aggregation and Integration:

This process challenge relates to aggregating and integrating clean data mined from large unstructured data. BD often aggregates varied online activities such as tweets–retweets, microblogging, and likes on Facebook that essentially bear diverse meanings and senses (Edwards & Fenwick, 2015). This characteristically amorphous data naturally lacks any binding information.

Data Analysis and Modelling

Once the data has been captured, stored, mined, cleaned and integrated, it comes for the data analysis and modelling for BD. Outdated data analysis and modelling centres around solving the intricacy of relationships between schema-enabled data. As BD is often noisy, unreliable, heterogeneous, and dynamic; in this context, these considerations do not apply to non-relational, schema-less databases (Shah, Rabhi & Ray, 2015). From the perspective of differing between BD and traditional data warehousing systems. Kune, Konugurthi, Agarwal, Chillarige & Buyya (2016) report that although these two have similar goals; to deliver business value through the analysis of data, they differ in the analytics methods and the organization of the data. Consequently, old ways of data modelling no longer apply due to the need for unprecedented storage resources/capacity and computing power and efficiency (Barbierato, Gribaudo & Laoono, 2014). Thus, there is a need for new methods to manage BD for maximum impact and business value. It is not merely knowing about what is currently trendy, but also need to anticipate what may happen in the future by appropriate data analysis and modelling (Chen et al., 2013).

Data Interpretation

This step is relatively similar to visualizing data and making data understandable for users that is the data analysis and modelling results are presented to the decision-makers to interpret the findings for extracting sense and knowledge (Simonet, Fedak & Ripeanu, 2015). The astounding growth and multiplicity of unstructured data have intensely affected the way people do process and interpret new knowledge from these raw data. As much of these data both instigate and reside as an online resource, one open challenge is defining how Internet computing technological solutions have evolved to allow access, aggregate, analyse, and interpret BD. Another challenge is the shortage of people with analytical skills to interpret data (Phillips-Wren & Hoskisson, 2015).

Materials and Methods

In this study, the researcher designed a mixed-method. Mixed methods involved the use of both quantitative and qualitative methods in a single study. The research was conducted at the Institute of Adult Education. The population under this study comprised 125 participants. Sampling techniques adopted in this study was purposive. Data collection techniques in this study were questionnaires,

focus group discussions (FGDs) and interviews. The questionnaire that was used for knowing a research question the researcher decided to use closed-ended questionnaires using a Likert Scale. The Likert Scale is the most common scale that is used in measuring attitude, opinion and perception of respondents towards the subject. The instruments were pre-tested before collecting the data. To ensure that the instrument for data collection was valid and reliable, the instrument was tested for face and content validity.

A focus group interview form developed by the researcher was used to collect qualitative data. A focus group is a qualitative technique that emphasizes dynamic group interaction and provides specific information on a selected topic in a relatively short period (Vaughn, Schumm & Sinagub, 1996). Focus group interviews are based on the principle of interaction among group members. In the development of this focus group interview form, literature was reviewed in detail and four questions were prepared to determine problems faced by undergraduate students in data analysis. Then, three experts' opinions were taken, the draft form was examined by two students and the questions were revised accordingly. The final form of the focus group interview was conducted with eight students and it took approximately 90 minutes. The English language was used for administering the survey scale and focus group interview.

The data collected were analysed using descriptive statistics—frequency, percentages, means and standard deviation to answer the research questions. Quantitative data were entered and analysed using SPSS (Statistical Package for Social Science) version 24. The t-test was used to test the hypotheses formulated at the 0.05 level of significance. A thematic analysis technique was used in the analysis of qualitative data. Each transcript was analysed individually and thematically. The participants' views were made sense of by developing an interpretive relationship with the transcripts. As the analysis developed, the researcher began to look for patterns in the codes, called themes. By dividing the text into meaning units/themes, the researcher was able to identify commonalities, differences, and contradictions across all the participants describing the same or different phenomena and finally transcribed and coded the interviews in considerable detail in an attempt to make sense of every individual's experience.

Results

Data Analysis Difficulties

In order to determine the views of students about difficulties encountered in data analysis process, a survey was conducted; the mean and standard deviation values of the items in the survey are presented in Table 1.

Table 1: STUDENTS' VIEWS OF DIFFICULTIES ENCOUNTERED IN DATA ANALYSIS PROCESS (N=125)

	SD f(%)	D f(%)	N f(%)	A f(%)	SA f(%)	Mean	SD
1. I have difficulty in familiar with types and level of variables	10(8)	15(12)	8(6.4)	40(32)	52(41.6)	2.89	1.24
2. I have a problem with analysis of qualitative data	5(4)	3(2.4)	12(9.6)	40(32)	65(52)	2.92	1.22
3. Poor skills in data analysis	10(8)	25(20)	6(4.8)	40(32)	44(35.2)	2.87	1.24
4. Data cleaning/preparing data for analysis is difficult	12(9.6)	12(9.6)	13(10.4)	36(28.8)	52(41.6)	2.57	1.12
5. I have a problem with choosing the right statistical test for data analysis	12(9.6)	6(4.8)	5(4)	40(32)	62(49.6)	3.46	0.13
6. I have a problem with statistical hypothesis testing	6(4.8)	11(8.8)	9(7.2)	30(24)	69(55.2)	3.78	1.02
7. Lack of training in research work	8(6.4)	13(10.4)	5(4)	43(34.4)	56(44.8)	3.54	1.11
8. Poor knowledge in using statistical package eg. SPSS and EXCEL	7(5.6)	23(18.4)	8(6.4)	42(33.6)	45(36)	3.61	0.21
9. Collecting Poor quality of data	10(8)	10(8)	5(4)	40(32)	60(48)	5.02	1.15
10. I have less experience in research works	7(5.6)	4(3.2)	4(3.2)	50(40)	60(48)	3.76	1.12

Source: Survey Data, 2019.

Note: SA=Strongly Agree, A=Agree, N= Neutral, D=Disagree and SD=Strongly Disagree

As seen in Table 1, the means of items about students' views vary between 2.57 and 5.02. Table 1 also reveals that sixty-two per cent (62%) of the students, had a problem with data analysis and interpretation of the findings, sixty-nine (69%) had a problem with statistical hypothesis testing, sixty-five per cent (65%) had a problem with the analysis of qualitative data. Eighty-one per cent (81%) of the participants had a problem with choosing the right statistical test for data analysis. Furthermore, some respondents claimed to collect data of poor quality (48%).

Analysis of Focus Group Discussions

To supplement the results and to fill the gaps left in the questionnaire, the qualitative approach was used. This kind of technique looks more likely to give more substance to reveal detailed information. Qualitative research offers unique opportunities for understanding complex, nuanced situations where interpersonal ambiguity and multiple interpretations exist. This methodology is used to get information about how people think, feel and act and what they know. This section of the research was conducted using focus group discussions (FGDs) consisting of 10 students. The main goal of a focus group is to find answers to the "why", "what", and "how" questions. The information collected was presented in a narrative form that includes the description and analysis of data.

In the focus group interview, students stated that they have difficulty in data analysis due to having poor statistics skills. Relating to basic statistical skills, they stated that they have difficulty in understanding what they read and have to read many times to understand. In addition, some participants pointed out that they also have a problem in mathematics. Three themes along with four sub-themes were identified from some of the participants (*Table 2*).

Table 2: PARTICIPANTS VIEWS ON THE DIFFICULTIES OF DATA ANALYSIS

Themes	Sub-themes	Representative Quotes
Analytical skills	Problems with basic statistical skills	1. I am having problems with basic statistical skills. In addition, to interpret and apply statistics in the research study is a problem (S7). 2. My problem is difficulty in understanding statistics concepts; sometimes it becomes difficult for me to do analysis. (S8).
Numerical skills	Poor mathematics backgrounds	I am having the most trouble in data analysis because I did not get a Mathematics course at the Institute. (S5).
Technical skills	1. Problems in analysis of qualitative data 2. Problem in data visualization	1. I have problems in the analysis of qualitative data. For example, when I have open-ended questions, it is difficult for me to analyze the data. (S2). 2. When you have collected, the final challenge now is how to make sense of the data you have collected. (S3). 3. We are trying to analyze data ourselves, but we get lost, sometimes we hire a specialist from outside to analyze our data, although it is strictly prohibited (S10).

Data Analysis Techniques Used by Students in their Research-based Projects

As illustrated in Table 3, 112 (89.6%) of 125 research-based project reports, descriptive statistics were used, in 5 reports, inferential statistics (4 %), the parametric statistical technique was used at least once (0.8%), a non-parametric statistical technique was not used at all and in 7 reports (5.6%), a content/thematic analysis was used.

Table 3: DISTRIBUTION BY DATA ANALYSIS TECHNIQUES

Data analysis techniques	frequency	Percentage (%)
Descriptive statistics	112	89.6
Inferential statistics	5	4.0
Parametric	1	0.8
Non-parametric	0	0.0
Thematic/Content analysis	7	5.6
Total	**125**	**100**

Source: Survey Data, 2019

Problems Encountered by Male and Female Students (N = 125)

Table 4 shows the computed t-test analysis of the data from the responses of all-male respondents (male undergraduate students) and all-female respondents (female undergraduate students).

Table 4: SUMMARY TABLE OF T-TEST ANALYSIS OF THE PROBLEMS ENCOUNTERED BY MALE AND FEMALE STUDENTS (N = 125).

Source	N	Mean	SD	t-calc.	Df	Alpha	Critic-t	Value
Male students	45	3.19	0.45	6.88	123	0.05	1.96	Sig.
Female students	80	3.57	0.63					

Source: Survey Data, 2019

Table 4 shows the mean scores of the problems faced by female students to be 3.57 with a SD of 0.63 and that for the male students to be 3.19 with a SD of 0.45. This implied that the mean score of the problems experienced by female students was slightly higher than that of the males. When the data for the two groups were subjected to t-test analysis at the 0.05 level of significance, the

results showed a computed t of 6.88 which was higher than the table value of 1.96. Since the obtained value was higher than the critical table value, it was concluded that there was a significant difference between the problems experienced by male and female students at the institute. The mean difficulty in female was significantly higher in female than in male, $t(123) = 6.88$, $p < .001$.

Discussions

The purpose of this study was to find out students' views of data analysis, statistical techniques used and difficulties encountered in the data analysis process and compare the difficulties experienced by the female students to their male counterparts at the Institute of Adult Education, Tanzania. The quantitative results indicated that data analysis is not an easy task for undergraduate students; many students do not know how to choose the right statistical test. The study findings enhance our understanding that data analysis involves a synthesis of a complex range of analytical and rhetorical skills as well as academic writing skills and an understanding of what is meant by critical analysis and argument. This idea is supported by other studies e.g., Safari, Navazeshkhah, Azizi, Ziaei, & Sharafi (*2015*) who stated that lack of research experience affects the level of interest and participation of students in research activities. Research experience improves the interest and skill of the students in conducting research activities and it can be achieved by participation in workshops related to research. This finding is parallel with the opinion of the students in this study (48%). But few students (8.8%) confessed that they had experience in research works.

Research is a complex skill that requires different techniques to use the database and assess the results of research. Others need planned thinking, such as knowing which tools are effective and appropriate for different research questions. In addition, to develop the proficiency and development capabilities in all these areas, students must be capable of integrating all of these (Wietse-vander, Anouke, Anje, Douwe & Marc, 2012). Rani & Priya (2014) as cited by Zain (2020) pointed out that students face difficulties due to a lack of research methods and time. To select the appropriate statistical method, one needs to know the assumption and conditions of the statistical methods so that proper statistical methods can be selected for data analysis (Nayak & Hazra, 2011). Other than knowledge of the statistical methods, another very important aspect is the nature and type of the data collected and the objective of the study because as per objective, corresponding statistical methods are selected which are suitable on given data.

While selecting appropriate statistical techniques, types and levels of variables need to be determined correctly. The present study indicated that a descriptive statistics technique was mostly used by students (89.6%). Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

Elmore & Woehlke (1988) reported that descriptive statistics is frequently used in journal articles in education in the United States. Likewise, Baumberger & Bangert (1996) reviewed articles in the Journal of Learning Disabilities in terms of research designs and statistical techniques, they found that descriptive statistics, t-test, one-way ANOVA, Pearson Product-Moment Correlation Coefficient, Chi-square, which they referred to as simple statistical techniques, were most frequently used. Bangert & Bamberger (2005) stated that descriptive statistics and Pearson Product-Moment Correlation Coefficient were frequently used in the articles published in the Journal of Counselling and Development over 11 years. Good descriptive research relies primarily on low-inference, low-assumption methods that use no or minimal statistical adjustments. Measures of central tendency, variation, and basic frequency analyses are particularly useful tools. Although there can be no claim of causation, any descriptive finding that uncovers a socially relevant "truth" in the data can serve as the foundation for generating hypotheses, prioritizing possible causal mechanisms, or otherwise pointing toward causal understanding (Romero & Ventura, 2012).

The selection of the appropriate statistical methods is very important for quality research. It is important that a researcher knows the basic concepts of the statistical methods used to conduct research study that would produce a valid and reliable results. There are various statistical methods that can be used in different situations. Each test makes particular assumptions about the data. These assumptions should be taken into consideration when deciding which the most appropriate test is. Wrong or inappropriate use of statistical methods may lead to defective conclusions, finally would harm the evidence-based practices. An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings. Improper statistical analyses distort scientific findings, mislead casual readers (Shepard, 2002), and may negatively influence the public perception of research. Hence, an adequate knowledge of statistics and the appropriate use of statistical tests are important for improving and producing quality research.

The challenges faced by finalist-undergraduate students at the Institute of Adult Education were identified. The study reveals that students have difficulty in data analysis and a descriptive statistics technique was mostly used by students when analysing their data. It was concluded that there was a significant difference between the problems experienced in data analysis by male and female students. Selection of the appropriate statistical methods is very important for the quality research. It is important that a researcher knows the basic concepts of the statistical methods used to conduct research study that can produce a valid and reliable results. There are various statistical methods that can be used in different situations. Each test makes particular assumptions about the data. These assumptions should be taken into consideration when deciding which the most appropriate test is. Wrong or inappropriate use of statistical methods may lead to defective conclusions, finally would harm the evidence-based practices. Hence, an adequate knowledge of statistics and the appropriate use of statistical tests are important for improving and producing quality research.

The themes that emerged during the Focus Group Discussions were classified under three perspectives-analytical skills, numerical skills, and technical skills which were further categorized into subthemes. The analytical skills challenges were categorized into subtheme- problems with basic statistical skills. The technical skills challenges were divided into two subthemes- problems in the analysis of qualitative data, and problems in data visualization challenges. Almost all the researchers have a consensus that it is the need of the day to address these challenges at the respective levels to make the higher learning institutions in the true sense. The institutions administration needs to take initiatives for resolving the problems faced by students during the learning process.

Experience has shown that students tend to encounter difficulties in data analysis when carrying research projects. Although the project is not necessarily a statistical project, many of these projects involve data analysis. However, students have a limited understanding in data analysis, thus the main concern is whether they equip themselves in data analysis and what difficulties they encounter while handling data. Based on these findings, the following recommendations could be made. Fields within educational sciences should make extra effort to equip students with sufficient knowledge of statistical techniques. Courses of "Statistics and Research Methods" should be introduced at the institute and it should be taught in undergraduate programs and students should be provided with basic knowledge of statistical techniques. Undergraduate research methods courses

can be considered as an effective way to increase these research skills (Pettijohn, Naylor & Piroch, 2013). As data analysis has become such a critically valuable skill in so many areas of the world, statisticians will have to think harder about what makes for a good data analyst. Fourthly, we need to develop better ways to train analysts to do the right thing. Learning by doing will always be a critical aspect of data analytic training, if only because practice is essential. It would be beneficial for supervisors working at the institute to receive training on how to equip future researchers with the necessary data analysis skills and students must have the necessary skills to analyse the data, getting trained to demonstrate a high standard of research practice. Ideally, researchers must possess more than a basic understanding of the rationale of selecting one statistical method over the other to obtain better data insights.

References

Ashwin, P., Abbas, A., & McLean, M. (2016). How does completing a dissertation transform undergraduate students' understandings of disciplinary knowledge? Assessment Evaluation Higher Education, 42(4), 517–530. https://doi.org/10.1080/ 02602938.2016.1154501

Bandele S.O. (2004). Educational Research in Perspective, Ibadan: Niyi. Retrieved from https://files.eric.ed.gov/fulltext/ED567134.pdf

Bangert, A. W., & Baumberger, J. P. (2005). Research and statistical techniques used in the Journal of Counselling and Development: 1990–2001. Journal of Counselling and Development, 83(4), 480–487. https://doi.org/10.1002/j.1556-6678.2005.tb00369.x

Barbierato, E., Gribaudo, M. S., & Laoono, M. (2014). Performance evaluation of NoSQL big-data applications using multi-formalism models. Future Generation Computer Systems, 37(3), 345–353. https://doi.org/10.1016/j.future.2013.12.036

Baumberger, J. P., & Bangert, A. W. (1996). Research design and statistical techniques used in the Journal of Learning Disabilities, 1989-1993. Journal of Learning Disabilities, 29(3), 313-316.

Chen, G., Chen, K., Jiang, D., Ooi, B.C., Shi, L., Vo, H. T., & Wu, S. (2012). E3: An elastic execution engine for scalable data processing. Journal of Information Processing, 20 (1), 65-76. https://doi.org/10.2197/ipsjjip.vol.20.65

Chen. J., Chen, Y. Du. X. Li, C. Lu. J. Zhao. S., & Zhou, X. (2013). Big data challenge: a data management perspective. Frontiers of Computer Science, 7(2), 157–164. https://scholar.google.com/citations?user=25xBm5EAAAAJ&hl=en

Duze, C. O. (2010). An Analysis of Problems Encountered by Postgraduate Students in Nigerian Universities, Journal of Social Science, 22(2), 129-137. https://doi.org/ 10.1080/09718923.2010.11892793

Edwards, R., & Fenwick, T. (2015). Digital analytics in professional work and learning. Studies in Continuing Education, 1(1), 1–15. https://doi.org/10.1177/14749041156

Elmore, P. B., & Woehlke, P. L. (1988). Statistical methods employed in American Educational Research Journal, Educational Researcher and Review of Educational Research from 1978 to 1987. Educational Researcher,

17(9), 9–20.

Hatch, J. A. (2002). Designing Qualitative Research in Education Settings. New York: State University of New York Press. 308pp.

Hunter, A., Laursen, S. L., & Seymou, E. (2007). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. Science Education, 91(1), 36–74. https://doi.org/10.1002/sce.20173

IEE (International Encyclopaedia of Education) (2010). Retrieved from https://www.sciencedirect.com/ topics/social-sciences/data-analysis.

Kaisler S., Armour F., Espinosa J. A., & Money, W. (2013), data: Issues and challenges moving forward 46th Hawaii International Conference on System Sciences (HICSS)   pp.995-1004. https://doi.org/10.1109/HICSS.2013.645

Kune R., Konugurthi P. K., Agarwal A., Chillarige, R. R., & Buyya, R.(2016). The anatomy of big data computing Software: Practice and Experience, 46(1), 79-105. https://doi.org/10.1002/spe.2374

Loi, S. L., & MacLaurin, T. L. (2000). Using technology to support teaching statistics to a large class of business students (abstract). In Proceedings TIME 2000, the International Conference on Technology in Mathematics Education. pp.288.

Marshall, C., & Rossman, G. (2016). Designing Qualitative Research. 6th Edition, SAGE, Thousand Oaks. Thousand Oaks, California: SAGE. 323pp.

Moore, D. S. (1990). Uncertainty. In L. A. Steen (Ed.), On the shoulders of giants: New approaches to numeracy. Washington, DC: National Academy Press. 232pp.

Nayak, B. K., & Hazra, A. (2011). How to choose the right statistical test.? Indian Journal Ophthalmology, 59(2), 85–86. https://doi.org/10.4103/0301-4738.77005

Paris J., Donnal J. S., & Leeb, S. B. (2014). The non-intrusive load monitor database Smart Grid, IEEE Transactions on Smart Grid 5(5), 2459-2467. https://doi.org/10.1109/ tsg.2014.2321582

Pettijohn, T. F., Naylor, P. D., & Piroch, J. F. (2013). Self-reported research skills changes and course outcomes in a senior research psychology course. American Journal of Educational Research, 1(3), 104-106. https://doi.org/10.12691/education-1-3-7

Phillip s-Wren, G., & Hoskisson, A. (2015). An analytical journey towards big data. Journal of Decision Systems, 24(1), 87–102. https://doi.org/10.1080/12460125.2015.994333

Romero, C., & Ventura, S. (2012). Data mining in education. WIREs Data Mining and Knowledge Discovery, 3(1), 12–27. https://doi.org/10.1002/widm.1075

Safari, Y., Navazeshkhah, F., Azizi, M., Ziaei, M., & Sharafi, K. (2015). The Effective Factors on the Postgraduate Students' Interest and Participation in Performing Research Activities-Case Study: Kermanshah University of Medical Science. Future of Medical Education Journal 5(2), 3-9. https://dx.doi.org/10.22038/ fmej.2015.4454

Shah, T., Rabhi, F., & Ray, P. (2015). Investigating an ontology-based approach for Big Data analysis of inter-dependent medical and oral health conditions. Cluster Computing, 18(1), 351–367. https://doi.org/10.1007/s10586-014-0406-8

Shamoo, A. E., & Resnik, B. R. (2003). Responsible Conduct of Research. Oxford University Press. 360pp. https://doi.org/10.1093/acprof:oso/9780195368246.001.0001

Shepard, R.J. (2002). Ethics in exercise science research. Sports Medical Journal, 32 (3), 169-183. Retrieved from https://ori.hhs.gov/education/products/n_illinoisu/ datamanagement/datopic.html

Simonet, A., Fedak, G., & Ripeanu, M. (2015). Active Data: A Programming Model for Managing Big Data Life Cycle. [Research Report] RR-8062, 2012, pp.26.

Smith, J., Flowers, P., & Larkin, M. (2009). Interpretative phenomenological analysis: Theory, method and research: Qualitative Research in Psychology, 6(4), 346-347. https://doi.org/10.1080/14780880903340091

Thahir, M., Roza, Y., & Murni, A. (2018). Validity of learning website of kapita selekta Mathematics Course at UIN Suska Riau Students. Malikussaleh Journal of Mathematics Learning, 1(1), 19-25, https://doi.org/10.1088/1742-6596/1470/1/012092

UNESCO (2018). Technical and Vocational Education and Training: UNESCO Asia-Pacific in Graphic Detail Number 4, Retrieved from https://bangkok.unesco.org/ sites/ default/ files/assets/article/ Education/ files/module-5.pdf

Vaughn, S., Schumm, J. S., & Sinagub, J. M. (1996). Focus group interviews in education and psychology. Newbury Park, CA: Sage.

Walliman, N. (2011). Research Methods: The Basics. Routledge, London. 205pp.

Wietse van der, L., Anouke, Bakx., Anje, Ros., Douwe,B., & Marc, V. (2012). Student teachers' development of a positive attitude towards research and research knowledge and skills. European Journal of Teacher Education 35(4), 401-419. https://doi.org/10.1080/02619768.2011.643401

Willison, J. & O'Regan K. (2007). Commonly known, commonly not known, totally unknown: a framework for students becoming researchers. High Education Research Development, 26(4), 393-409. https://doi.org/10.1080/07294360701658609

World Economic Forum (2021). "Data Science in the New Economy, Retrieved from http://www.weforum.org/docs/WEF_Data_Science_In_the_NewEconomy. pdf."

Zain, A. R. (2020). Challenges faced by students during conducting research: A review. International Journal of Multidisciplinary Research and Development, 7 (4), 16-19.

Zhang, F., Cao, J., Khan, S. U., Li, K. & Hwang, K. (2015). A task-level adaptive MapReduce framework for real-time streaming data in healthcare applications. Future Generation Computer Systems, 43(44), 149-160. https://doi.org/10.1016/ j.future.2014.06.009

Zimbardi, K., & Myatt, P. (2014). Embedding undergraduate research experiences within the curriculum: A cross-disciplinary study of the key characteristics guiding implementation, Studies in Higher Education, 39(2), 233-250. https://doi.org/ 10.1080/03075079.2011.651448

Flexible Learning Design: A Turning Point for Resilient Adult Education

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Abstract

Readiness for content delivery is essential in supporting instructional quality at all levels of the education system. The study's purpose was to explore the effectiveness of implementing flexible instruction during a period of disruption. The research explored ideas of teacher readiness and the characteristics of structured content delivery using teachers from three schools in Montserrat. This multiple case study examined the importance of administrative support and the teachers' mentoring and direction for teaching within a flexible approach. The research used surveys and focused group interviews for collecting the participants' perspectives and reflections on online teaching. Critical comparisons between the preference for in-class, face-to-face, and flexible learning helped to determine best practice implementation opportunities. The study results suggested that (a) professional development improves teacher readiness for flexible engagement and (b) Ongoing coaching and mentoring are critical for maintaining student engagement in a flexible learning environment. The recommendation is that institutions interested in implementing new learning pathways should utilize a guiding framework for professional development that reduces teacher readiness gaps and implement ways to realize key performance indicators (KPIs) through coaching and mentoring strategies. This research is vital for opening a new perspective for educators and policymakers on effectively planning for sustainable education in small states, both now and in the future.

Keywords: *Teacher Readiness, Web-based Instruction, Flexible Course Design, Models for Teacher Resilience, Online Delivery.*

Introduction

"Sun a shine but tings no bright; Doan pot a bwile, Bickle no nuff; River flood but water scarce, awl; Rain a fall but duty tough."[1]

Online and flexible learning has become more prevalent over the past decade. The coronavirus pandemic has also made it critical for educational institutions to identify structures and tools to sustain education during the public health crisis. Across the globe, educators considered changing teaching trends across continents and within countries to reach students who were unable to meet in classrooms and schools. To support the development of resilient, flexible education systems, the researcher examined the process of a training mechanism and its effectiveness for creating a sustainable approach to flexible delivery. To help address education continuity, the researcher sought to discover the following: What training objectives will guide the development of flexible learning pathways? And what kind of learning development would be suitable for adult learners or teachers at any level of the education system? Both questions guided the creation of a teacher training workshop series that forms the basis of this research. The researcher thought it essential to address these questions since video conferencing platforms such as Zoom have supplemented in-person education and hybrid delivery since early 2019. A deeper look at the benefits of a training process in one school system might provide transferrable data to new locations to support resilient, flexible learning approaches.

The trainers of the teacher training preparation workshops described in this report acknowledged the changes to the status quo. Trainers would need to identify the contradictions in their position, like Bennett's poem, that all the knowledge they had was inadequate to meet the emerging needs and therefore was no match for this new normal of the Coronavirus Pandemic.

Trainers brainstormed the approach to delivering teacher training in the "special projects" that came as teachers and schools prepared to take the delivery into a flexible format. Everyone drew straws, decided on the presenters, and started research for teacher training workshops that were a priority. A Covid-19 Emergency Education Response Initiative was in full swing.

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1. Dutty Tough a poem by Louise Bennett Coverley indicates that having plenty is not all that useful in cases where the value of what you have is challenged by the current circumstances. (best-poems.net).

The trainers got ready to offer the support required to the Caribbean education communities. Resources that would be meaningful for transferring knowledge, such as the Ba Future report (2020), furnished strategies shared during the training process. The audiences included university faculty, ministries of education personnel, and specialists from schools, seminaries, and colleges who came to the "experts" for guidance.

The ministry of education in Monserrat was an early recipient of the emergency education initiative. Through initial workshops, trainers prepared the teachers from three education institutions (Alpha, Beta, and Gamma) for the flexible learning pivot. This report outlines the teachers' engagement from three education institutions, Alpha, Beta, and Gamma, in an emergency training workshop series – prerequisites for delivering flexible learning due to changes required by the pandemic. The information from this report will be valuable to education boards, educational administrators, novice, and expert teachers to implement a flexible approach or design lessons for delivery in a flexible-learning environment. Generally, academic institutions will have a backup plan for flexible learning in the future.

Literature Review

Teacher training programs often consider how teachers conduct lessons and use teaching models for implementing effective practices. The theoretical approach utilized for professional development delivery is experiential learning. Experiential learning is learning by doing and reflecting on the actions to mastery. In the experiential process, the learner is involved and benefits from a structured experience. Irving (2019) identifies the option as a best practice of teaching and learning in action suitable to deliver professional development to adult educators. These models often operate through professional development options that support collaborative engagement in face-to-face settings. Proponents of the experiential approach often use the following quote attributed to Confucius to express the conviction that experiential learning is effective: Tell me, and I forget; Show me, and I remember; Involve me, and I understand! Experiential learning includes instructional design, course delivery, evaluation, and participant feedback. Flexible learning is a model that gives students the freedom to select learning content, pathways, and timing. Not limited by time or space, flexible learning complements an experiential model helping the learner build schemes from known to new information. The researcher uses both students and learners interchangeably to denote the recipients of the flexible learning design created by workshop participants.

Several proponents of flexible learning include Garrison, Anderson, & Archer (2000), Kilgore & Al Freih (2016), and Eldridge, Watts, Guy, Lalongo & Zoe (2021). Garrison, Anderson, & Archer supports a community of inquiry that encourages multiple opportunities for presence in an online setting. The community of inquiry model has three key elements of an educational experience: Teaching presence, cognitive presence, and social presence. The authors propose that the best learning experiences occur when the three areas combine to create a setting for learning with intentionally selected content and opportunities for supported discourse. Kilgore & Al Freih argues that there is critical support for personalizing the learning environment through course design options that create high-impact interactions. Kilgore (2016) extends the ideas of a humanized approach where the teacher persona and learner characteristics combine to create the learning environment. Kilgore's research supports the notion that courses should not be a disembodied voice or words on a computer screen but rather convey the human element. Eldridge, Watts, Guy, Lalongo & Zoe considers flexible learning design a trigger for structuring a learning community, developing teaching practice, and reducing learner isolation. UNESCO Institute (2020) presents the Chinese "Disrupted Learning Undisrupted Classes" initiative, which supports a flexible online learning approach under the following six dimensions:

1. Infrastructure,
2. Learning tools,
3. Learning resources,
4. Teaching and learning methods,
5. Services for teachers and students, and,
6. Cooperation between government, enterprises, and schools

When considering flexible environments, designers must combine these elements with other successful practices for supporting effective content delivery and learner engagement.

Pivoting to a Flexible Approach

In Response to Pandemic Conditions

"Good manning, Teacher — ow is you? My name is Sarah Pool; Dis is fi-me li boy Michal; An me just bring him a school."[2]

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2. Opening stanza from "New Scholar," This poem by Louise Bennett-Coverley encapsulates the interrelation of parent-school relationships and how they protect learners' interests and education continuity. (PoemHunter. com)

In 2019 the world learned about an impending health phenomenon from a virus in Wuhan, China. Bertacchini, Biota, & Pantano (2020) studied the virus and its longevity, which caused it to be named .

Named an epidemic. In response to the rapid spread of the Covid-19 disease, testers in the United States urged the protection of vulnerable populations (MENA report 2020). The World Health Organization (WHO), in similar steps to countermeasures for the Ebola virus, declared a public health emergency of international concern (MENA report, 2019). Barsocchini, Bilotta, & Pantano (2020) reported the rapid spread of the virus across countries and aligned their findings with the virus becoming a pandemic. The world's economic, religious, and social systems were affected, and the pandemic did not spare the education system. The WHO Director-General, six months into the pandemic, in his August 2020 media briefing, remarked, "WHO fully supports efforts to re-open economies and societies. We want to see children returning to school and people returning to the workplace – but we want to see it done safely. At the same time, no country can just pretend the pandemic is over" (World Health Organization, 2020).

Several countries closed their borders and non-essential businesses to control the virus and limit its spread. Teachers retooled to meet the growing demands of flexible learning. In the manner Bennett's New Scholar suggested, parents released the authority for student learning to teachers even when they had "suggestions" for learner treatment and classroom management. The Barclay Training Institute recognizes this rite of passage from home to school. It provides teachers with the tools and skills to deliver the best student development experience ten understand the interrelated roles of the two locations. The emergency education initiative was just a necessary extension of this established practice. Casey & Wilson (2005) argues that flexible learning has five key dimensions (time, content, instructional approaches and resources, entry requirements, and delivery logistics). Casey & Wilson believe these dimensions lie on a continuum that moves course delivery from teacher-led to student educational processes and choices (p. 6). In this approach, the teacher gradually releases responsibility as the learner increases in proficiency and autonomy.
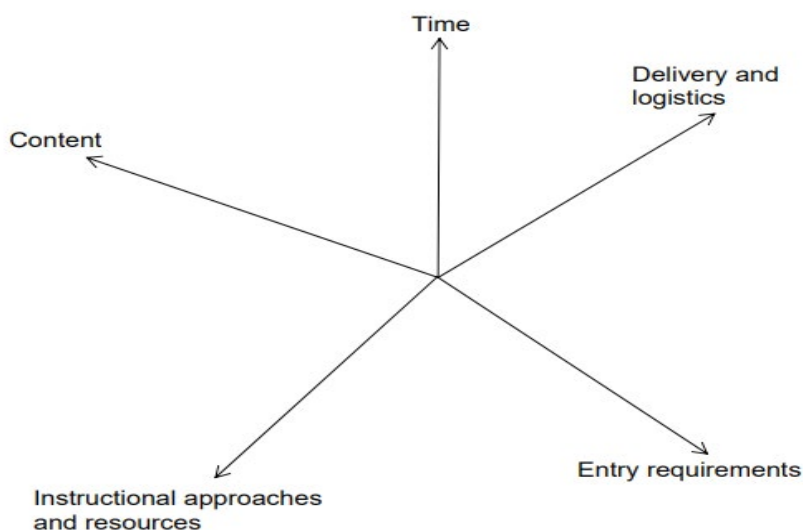
Figure 1 - The Five Dimensions of Flexibility

The training workshops aligned with this approach and covered topics in technology, course design, and flexible delivery pedagogy. Therefore, this report reviews the Barclay Institute's response and the teachers' reflection of their preparation for this new delivery model with each participant's teaching, supporting interactivity and learner control. In retrospect, how effective was the implementation of this model for flexible instruction for students based on the prior knowledge and content level? One extension of this question resides in Eldridge, Watts, Guy, Lalongo & Zoe's (2021) study, which examined the strategies for disseminating emerging practices for flexible learning beyond workshop participants. This engagement aligns with the need to adopt changes in culture as learning moves from traditional into more flexible frameworks. Therefore, the workshop needed to consider the structure of the system for which training and later teaching were created.

Montserrat's education system follows a British model with primary, secondary, post-secondary, and tertiary education institutions. Primary education covers approximately six years of engagement with students from five to twelve years in kindergarten to grade six (Sheldon, 2021). Teachers impart several core curriculum areas (English Language Arts (ELA), Mathematics, Integrated Science, and Social Studies). Specialist teachers cover complementary areas (Personal

Moral and Social Education, Physical Education, Information Technology, and Theatre Arts), mandatory for all students. The primary level is the foundational years of education. Students develop a frame of reference and create a foundation for building later years of schooling. Therefore, these years need to be meaningful whether the children learn in a face-to-face or online modality. As such, adult educators must approach flexible learning delivery systematically. The training that forms the foundation of the study targeted teachers who practiced in these primary schools. The experiential approach, principles of self-direction, and autonomy facilitated direct involvement in the process. Teachers' immersion into the process allowed them to plan for flexible delivery by designing their lessons and preparing for facilitation.

Preparing for Online Delivery

"Draw; therefore, O governor, prime minister, parson, teacher, shopkeeper, politician, university lecturer, resonant revolutionaries, draw carefully that last fine line of your responsibility."[3]

The Barclay Institute devised a response expanding teaching and learning from an in-person to a virtual format. The Institute developed this format to facilitate and support teaching continuity for other tertiary level institutions and, for this training situation, in the Montserrat primary school system. Kilgore and Al Frei (2016) suggest that the human element is necessary for online courses. The authors support this view by defining the online instructor's role in three presences: instructor, social, and cognitive. The authors review the value of social learning in synchronous and asynchronous settings. In Montserrat's Alpha, Beta, and Gamma schools, teachers geared their instruction to in-person engagement with students using the Barclay Institute's guided approach. The response model embraced the challenge of Mordecai's responsibilities in leadership to carefully design a policy that encompassed all students' needs, regardless of their social context. Therefore, the initiative examined teaching and learning practices and how familiar in-person strategies are applied in the online modality to support these teachers' transition. Bush & Hall (2013) reviews several best practices from which they suggest future steps for training activities within a defined structure.

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3. Closing stanza from "Last Lines," a poem by Pamela Mordecai from Morais (2012). The general idea of these lines is that the decisions made by those in authority will live on in our minds and histories long after the decision-maker dies. So, the importance of making good decisions and living well should take precedence.

The training team looked at the alignment between pedagogy and technology and how the Learning Management System (LMS) tools could support a structured community development and connection process. An important factor was to help the teachers see how technological approaches are applied to reinforce traditional content delivery strategies. Covid-19 became a catalyst for change, manifesting the importance of its application for concretizing learning.
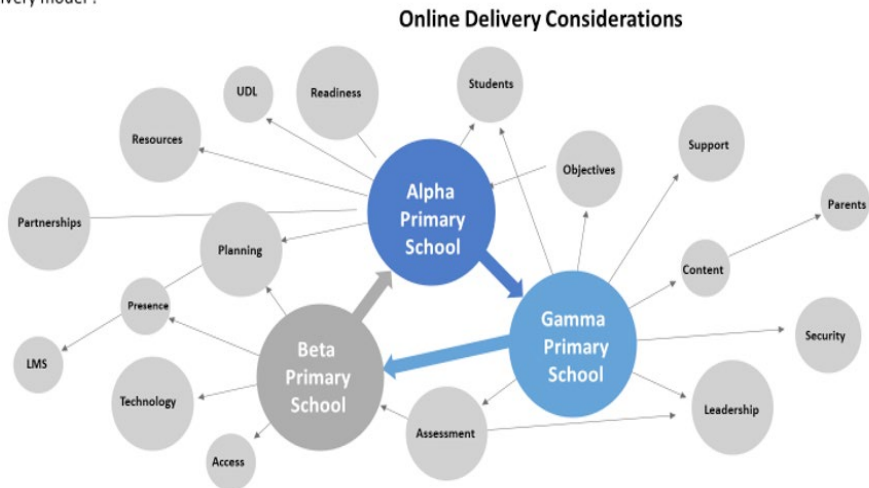
Figure 2 - Online Delivery Considerations

Several considerations were, therefore, essential for the workshop support structure, design, and delivery. Figure 2 presents a map of the vital elements for preparing the teachers at the Alpha, Beta, and Gamma primary schools for their foray into a flexible delivery format. At the start and end of each training workshop, the trainees (teachers from the three schools) shared their perspectives on flexible delivery preparation. Teachers' views on their readiness for several elements were collected through surveys and are included graphically in the narrative.

Vital pre-questions for teachers yielded information on their challenges with preparation and their hang-ups with getting started in flexible delivery. Their access to technology was limited and ranged from having their own devices, borrowing from others, and depending on the school's equipment. Teachers gained a new appreciation for context and connection through the engagement options addressed in the training sessions.
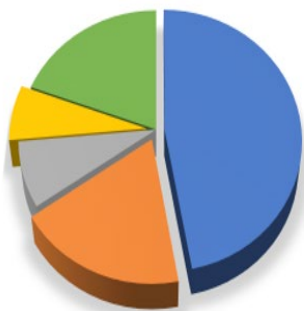
Figure 3 - Preparation Challenges

Teachers from the three sites included flexible delivery familiarity, ranging from zero to five years, some having completed online studies. Several of the teachers from Gamma had no engagement with online delivery. Overall, respondents from all sites shared the same inhibitions and challenges. Critical areas in which they needed assistance based on their schools are listed below:

1. Alpha Primary – Designing online content, including converting teaching materials using online tools, quiz and assignment creation, and options for engaging students effectively.

2. Beta Primary – Creating authentic student assessment pieces, including training for students and technology tools for quiz development.

3. Gamma Primary – Using a variety of applications to conduct classes, including the creation of digital portfolios. One respondent indicated that having a computer would be the most critical support factor.

Based on these areas of opportunity, the workshops included the design for presence in the selection of the technology G Suites for Education), the creation of content (Digital Literacy), and the delivery of the content (Active Learning). Trainers created the workshops around the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000).

The CoI model represents a process of creating meaningful engagement through interconnected elements for social, cognitive, and teaching presence. The original CoI model examined educational experience in a text-based environment. Hughes, Thomas, and Scharber (2006) extended the model to include the transformational learning experience possible in an online space that provides accessibility and content presentation.
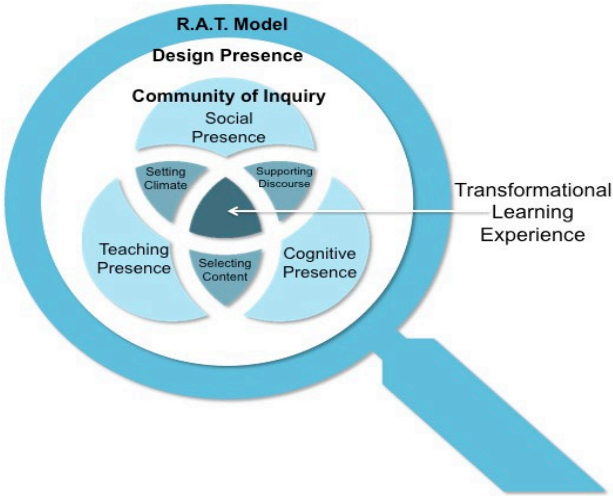

Figure 4 - RAT CoI Model

Trainers considered Hughes, Thomas, and Scharber's RAT model for replication, amplification, and transformation in the Community of Inquiry framework. The RAT model (Figure 4) forms a valuable base when reviewing how course design and delivery work together to meet students' needs in a flexible learning environment. McNulty (2021) provides a comprehensive guide for educators who employ a flexible learning approach. Trainers investigated a new taxonomy suitable for flexible and flipped environments. The trainers urged trainees to replace existing content guided by Bloom's Digital Taxonomy.[4]

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4. Bloom's Digital Taxonomy, developed by Andrew Churches, to extend the original taxonomy. The digital taxonomy creates a hierarchy of learning activities in a digital environment. The flexible learning approach aligns with this digital model and supports a framework for curriculum implementation in a digital teaching and learning model. Techniques that support the teaching and learning environment are critical components for successful flexible learning. Classroom structures must incorporate unique strategies and a humanized approach to meet the needs of all learners (Kilgore, 2016).

Pacansky-Brock, Smedshammer, & Vincent-Layton (2019) have examined the process for humanizing digital learning environments. They believe that learning is addressed through the development of instructor-student relationships. Their guidance for the adoption of humanized teaching has seen growing success in online and virtual environments. Stephan (2017) supports this theory. His ideas suggest that technology tools and strategies facilitate learning engagement in online environments. These combined approaches are valuable resources for educators who seek a flexible learning approach. To meet the CoI model's requirements and support student engagement, teachers should plan for collaborative engagement and create communication and meaning-making opportunities in reciprocally understood contexts. Planning and reflection are critical first steps in the transition process. They are recursive elements revisited and revised during the teaching and learning process.

The theories and research support the view that flexible learning environments effectively pivot teaching practice in a pandemic. However, teachers fail in delivering effective methods in these environments if specific conditions are unavailable. A readiness mindset and the tools and techniques that support the teaching and learning environment are critical components for successful flexible learning. Classroom structures must incorporate unique strategies and a humanized approach to meet the needs of all learners (Kilgore, 2016).

Materials and Methods

The researcher sought to critically compare in-person and flexible learning preferences to determine compelling implementation opportunities. The research used a qualitative approach in a descriptive study design to identify flexible learning design characteristics and the consequences of a specific training process in an uncontrolled environment. The report utilizes a recursive embedded rhetorical structure[5] to analyse cross-case themes, participants' perspectives, notions of online delivery, and findings from online delivery practices into a unified, case-based account. Themes of institutional planning, partnership arrangements, and the adoption of flexible learning pathways are explored and used to evaluate ongoing support strategies and the flexibility of teachers' educational roles.

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5. Rhetorical relationships between the report themes and existing literature contextualize the work and describe the interconnecting roles - through description, interpretation, and clarification. Recursion supports cross theme analysis that leads to efficiency by removing coding redundancies.

Instrumentation

Surveys and focused group interviews were instruments for data collection. Interviews were transcribed verbatim and analysed using thematic content analysis.

Sample

The researcher used a purposive sampling technique (Creswell & Poth, 2018) to identify teachers and workshop presenters to be the primary informants of the study. The workshop presenters and Montserrat's selected schools' teachers were best placed to insights and direct the researcher to information that clarified the research question. Further, establishing the schools as multi-site cases supported the teachers' privacy while collecting information about the sites and their administration. Participation was voluntary, and participants had the right to withdraw from the study without affecting their workshop participation. In keeping with the guidelines for ethical considerations (Creswell & Poth, 2018), the researcher selected an approach to ensure informed consent and a release to use the data collected and remain accurate in reporting. As an active participant, the researcher is also an instrument of the study. The report may convey preconceptions, given the researcher's close involvement with the process. The participant identifiers are undisclosed in keeping with the data collection protocols' protection requirements and informed consent. The researcher uses pseudonyms to represent the presenters and schools and alters functions for privacy purposes. Any similarity to people and places is coincidental.

Results

The study resulted in a guiding framework for teacher professional development for flexible learning. Amidst the shift to a flexible learning approach, several limitations emerged. Teacher preparation requirements that serve as barriers to flexible course design included challenges of uncertainty, teacher readiness, inadequate resources, and limited exposure to virtual learning opportunities. Training options that participants found useful were active learning, community development, and post-training access to course design and development resources. The perspective of institutional planning captures the qualitative feedback from the 'study's informants.

Institutional Planning

"If you can keep your head when all about you, are losing theirs and blaming it on you, If you can trust yourself when all men doubt you, But make allowance for their doubting too... "[6]

Tyson (2020) urges a response that fits the actions of several higher education and adult training institutions to support a flexible approach. The Barclay institute was instrumental in charting the emergency education initiative path for the Caribbean. Sir Hillary Beckles asserts, "We have raced to transition our courses and programs to online delivery.... Our commitment is to ensure Access for our people, Alignment with the needs of our society in this time of crisis, and Agility in our response to these rapidly changing times - preparing the Institution for a new technologically-enabled future..." (Beckles, 2020). He affirms the Institute's readiness to lead and maintain its status quo while offering support regionally. The Barclay Training Institute faced the current crisis with the stoicism and the humility that Kipling advocates in his poem. Montserrat's Alpha, Beta, and Gamma schools bought into the vision of a technologically enabled future for both the teachers and the taught. School Administrators led from the front, asking essential questions, and joining the training processes. It seemed that the school leaders adopted the idea of standing together.

School Leaders took their instructional leadership role seriously, attending sessions and joining the conversations to broker engagement support for their teachers with the workshop presenters. They engaged in email communication, often requesting additional information, and seeking clarification for the presented content. The collaborative engagement suggests that teacher professional development improves teacher readiness for flexible engagement. The Alpha school principal was quite interested in learning how teachers could prevent others from completing the students' work and mentored teachers in options for combating cheating. Academic dishonesty remains a critical question for all educators today, and adult educators must take notice. Le (2017) shares six principles of sticky ideas designed to support effective communication. Outlined in the SUCCES acronym — Simple Unexpected Concrete Credible Emotional Stories — these ideas form a pattern for success. Le believes that these principles apply to many contexts. The theory proposes a simple strategy for innovatively approaching an old problem.

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6. "If," by Poet Laureate Rudyard Kipling is seen as a set of rules for ethics and excellence that drives personal norms. In this case it is used as a model of humility and integrity mirrored in institutional and organizational visions and values. (poetryloverspage.com)

The report describes four ideas in Figure 5, aligned with the schools' responses to institutional planning and preparation forFlexible learning. The respondents agree that successful strategies were derived from the workshops and left several "sticky ideas" worth repeating and replicating.

Figure 5 - Sticky Ideas

The stepwise approach outlined above discerns the notion of academic continuity stripped to its core, revealing the simple yet profound process of keeping students engaged. In the unexpected flexible path, teachers deviate from the standard teaching method and use a student-centred model. This model helps teachers care for the learner's needs by diversifying the material and engagement strategies to meet all learners' needs. Concrete delivery addresses the communication piece, ensuring that all students understand the material regardless of their interest and familiarity with the content. Credibility aligns with an authentic approach to assessing learning and tracking student achievement. The teacher then mediates behaviour and reteaches content with shared learner experiences to ensure applicability and support inclusion in the process. The idea of shared experiences ties back to the RAT model above. The concept of shared experiences ties back to the RAT model above, allowing the teacher to apply new skills to teach in the digital space. While the teacher at the primary level is in the driver's seat in the face-to-face classroom, the home becomes a critical part of the process with the integrated online teaching approach.

Ongoing coaching and mentoring are essential for maintaining student engagement in a flexible learning environment. Therefore, schools must support parental involvement by designing guidelines for managing online learning and implementing policies for keeping children (our most vulnerable population) safe in times of crisis.

Discussion

"Just like moons and like suns, With the certainty of tides, Just like hopes springing high, Still I'll rise."[7]

"Covid-19 has forged a strong alliance between the home and the school. A connection slowly eroded over years of defining the public and private environments. All the principal players – or partners – have returned to the table (willingly or unwillingly) to determine the rules of engagement for education to continue. "Still, I Rise," the well-known poem by Maya Angelou, could be the motto for the education sector that has reinvented itself over the last several months. Beckles (2020) writes, "I have reflected that there is no return to the past, and as we struggle beside our people to overcome the terrible threat of COVID-19, we are heartened that we have the skills, the talent, and the robustness to build an even better ... future." Schools have a strategic opportunity to build partnerships to ensure the learner's ongoing development in non-traditional learning spaces. With parents and other alternative teachers' assistance, a sense of community is created and maintained to monitor learners' growth and connection in the learning communities. Together, we can continue to work towards progressive school and educational reform agendas. In the discussion, several themes and vignettes present the findings and discussions. Pathways and Partnerships (Figure 6) seeks to review the teachers' starting positions and identify growth trajectories that support the emerging partnerships for the long term.

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7. The third stanza of "Still I Rise" by Maya Angelou recounts the resilience of hope, reminding us that determination and strength will have a similar effect as the certainty of moons, suns, and tides. (2021 Regents of the University of Minnesota). Education systems.

Which challenges do you currently face regarding shifting your instruction to emergency remote teaching?

Figure 6 - Pathways and Partnerships

The home, school, and community partnerships take a multi-faceted approach to creating new policies, roles, and responsibilities that support the primary school learner's ongoing development. Stefania Giannini (2020) opines, "We need to come together ... to address the immediate educational consequences of this unprecedented crisis [and] build up the longer-term resilience of education systems." UNESCO supports creating reliable network infrastructure, facilitating effective teaching, and providing support services, some of which the researcher examines below. Communication becomes an essential adhesive for keeping the parts of the partnership connected.

Administrators and school leaders must reinvent the timetable to support younger learners' engagement, limiting screen time while allowing adequate engagement with concepts.
Additionally, parent-school communication guidelines should come from the leadership to ensure parents' and teachers' buy-in at the school level. Teachers must form alliances along content lines to enable those more proficient in a content discipline to create learning objects and applications. A repository of tools and learning materials will be valuable for other colleagues to share and use with the students at the same level.

Providers of Internet services and other material resources needed for education should consider creating plans that enable schools and students to remain connected even beyond the current crisis. The ministry of education should broker deals with hardware companies and service providers to support learning websites, starting with those most essential for connection and learning. Media houses should offer support through programming to engage students around concrete concepts. These programs are most meaningful during the early learning years when children learn these ideas. The matter of time management, an often overlooked but critical aspect of teaching and learning, comes to the fore in flexible environments. On our diagram, we have the notion of prioritizing several services and tasks that fall to parents who are now teachers and teachers who are also parents and caregivers. Teachers should review the curricular concepts to support authentic learning opportunities. Students can find learning opportunities through creative play and discovery buttressed by teachers' guidance and encouraged by their home-school partners.

As teachers reimagine content delivery, they must have planning and brainstorming sessions that support selecting strategies and approaches for active learner engagement. Questions such as What will they discover? And how will they realize it? Change the narrative for both the teacher and the taught. The design stage covers ideas of creativity, role play, and student discovery. Teachers must design with the end in mind and differentiate the content to meet all students' learning needs and interests. As teachers and schools reinvent themselves to create novel and workable strategies, institutions must develop interconnected and interoperable systems. In Montserrat's case, the training in this report took a unified approach as a model for other schools and systems with similar needs and interests. Indeed, partnerships can guide the development of robust arrangements that can be resilient in the long run.

Lessons from Sustainable Alliances

"Dis poem is just a part of the story; his-story her-story our-story the story still untold; dis poem is now 'ringin talkin irritatin; makin u want to stop it; but dis poem will not stop."[8]

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8. Excerpt of "Dis Poem," by Mutabaruka. The lyrics are a call to action that could cause the listener to analyze their stance and create their own story, aligned with a set of values that avoid past mistakes. (Lyricsmode.com).

Sustainable alliances are sometimes formed out of intentional meetings and occur when people are forced out of their comfort zones and pushed to the limit of their abilities. The latter denoted the partnership forged between the trainers and the teachers at the Alpha, Beta, and Gamma primary schools.

Like "Dis Poem" by Mutabaruka, the current circumstances have left many subliminal messages. Teaching in these pandemic times has caused educators to reflect, review, and reshape their thinking about what they consider the norm. The presenters approached sharing their insights and expertise with these groups with enthusiasm and in a reflective vein. They willingly shared their perspectives for the report. Each of the vignettes of their responses is represented by an ordinal in the ensuing discussion.

Vignette 1 – Mrs. First

"The preparation for sharing on Student Engagement to the Montserrat Phase 1 groups was fulfilling. We were allowed to provide support to this group during these challenging times. Once the goals and objectives were identified, putting together the relevant content, customizing materials to ensure they addressed the group's needs, and ensuring the sessions were interactive and engaging. Working with the support of the [training] team is always advantageous. I am very passionate about primary education as this is where I gained my first teaching experience and because my two children are currently 4 and 8 years old. I therefore thoroughly enjoyed delivering this session."

This report's combined perspectives demonstrate that intentional choice and strategic vision are takeaways for institutions from the Covid-19 pandemic. As businesses lost key personnel to the virus, they had to make unplanned changes to survive. Likewise, in education, we must prioritize and operationalize continuity through succession planning and flexibility. Many schools were caught off-guard and must intentionally avoid a replay of that situation in the future.

Vignette 2 – Mrs. Second and Mrs. Third

"The session[s] provided a brief overview of preparing for instruction in the online setting. While the workshop was well received by participants, more time was needed to sufficiently enable teachers to successfully design materials for online delivery. It was a beneficial and worthwhile exercise given the current situation regarding COVID-19 and the rapid transition that needed to occur. The training certainly empowered those who participated in going and doing their best as they were equipped for the most part with the tools and knowledge necessary to get to the next level."

The trainers supported the initiative and embraced the challenge of helping teachers prepare as they pivoted to an online delivery model. Figure 7 indexes the warmth of appreciation from the teachers in the study.
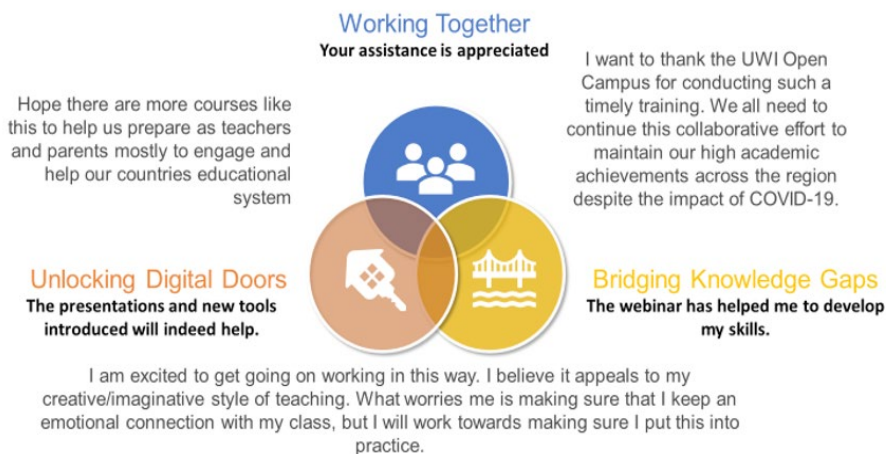
Working Together
Your assistance is appreciated

Hope there are more courses like this to help us prepare as teachers and parents mostly to engage and help our countries educational system

I want to thank the UWI Open Campus for conducting such a timely training. We all need to continue this collaborative effort to maintain our high academic achievements across the region despite the impact of COVID-19.

Unlocking Digital Doors
The presentations and new tools introduced will indeed help.

Bridging Knowledge Gaps
The webinar has helped me to develop my skills.

I am excited to get going on working in this way. I believe it appeals to my creative/imaginative style of teaching. What worries me is making sure that I keep an emotional connection with my class, but I will work towards making sure I put this into practice.

Figure 7 - Better Together

The Alpha primary school administrator had this to say:

"I would really love to implement Google Suite for Education for Alpha Primary by August 2020 and ensure that teachers have the requisite skills to engage pupils more efficiently, e.g., screen sharing."

The Barclay Institute has scheduled time and created opportunities to continue supporting the Montserrat schools and other learning institutions in the future. Indeed, the focus is on standing together in hard times and collectively sharing the bright future planned through these partnerships.

Vignette 3 – Mr. Fourth and Ms. Fifth

[I] presented on Google Docs and Forms. They [the trainees] were eager learners and participated in the activity during the session. The participants were very engaged and demonstrated a high level of interest in the content.

Having pulled together the strands of these ideas and examined online learning practices in these pandemic times, the researcher considered it beneficial to add a personal perspective to the narrative. As a trainer of trainers, she enjoyed reviewing some ground-breaking research that has emerged since March of 2020.

The researcher presents the effective practices that could inform online delivery beyond the pandemic. Training colleagues consented to share their ideas as a preface to those offered by the researcher.

Stepping into the Future

"Don't worry (don't worry) 'bout a thing, 'Cause every little thing, gonna be all right!"[9]

People worldwide can identify the first line from "Three Little Birds" by Bob Marley and the Wailers. The researcher believes nuggets are in the report that educators can apply in some aspects of content delivery, teacher training, or faculty engagement. These strategies are valuable for implementing the RAT or CoI model, reviewing sticky ideas, or merely looking back at the teachers' thoughts and perspectives. Figure 8 presents several of the views from the teachers below.

What did you consider to be the most useful for the participants (especially those at the primary level)?

Moving Full-Speed Ahead

Mrs. First
The primary level teachers may benefit most from learning about new technological tools that can support engagement and interaction.

Mrs. Second
I believe the key takeaway from the session was that teachers were sensitized to the fact that the demands of online learning vastly differ from the f2f setting. As such, teachers need to reimagine education to achieve quality learning for all.

Mr. Third
The most useful was the google forms because the teachers were able to see how the form can be used to create formative quizzes and how the google docs can be used to create collaborative assignments.

Figure 8 - Prefacing the Implementation Plan

The four proposed areas are as follows: classroom management; access and accessibility; planning; and minimizing distractions; expanding on the ideas offered in the scholarship and by the researcher's ordinal colleagues. While this is not an exhaustive list, the concepts provide guidance and reminders for novice and expert online facilitators.

9. The first line of the song lyrics from "Three Little Birds" by Bob Marley and the Wailers. The lyrics that originated in a time of polarized political opinions resonates with the message of hope that no matter what side of the pandemic and immunization debate we take, it is more important to be peaceful, loving, and understanding of each other and embrace our defferences. (metrolyrics.com)

Classroom Management

As part of management, there should be a set of rules for online delivery with specific and actionable consequences. Teachers could consistently enforce the guidelines by creating a list of implications and a conduct report form aligned with the learners' age and responsibilities. Schools should develop the rules and procedures at the institutional level with parent and student agreements and signatures for younger students. Teacher support highlights a meaningful enterprise and plays a role in learning aid for students. (UNESCO Institute, 2020). Schools and teachers should insist on safety, responsibility, and respect, considering differences in behaviour. It is crucial to create guidelines that set limits – determining the tone for responding to undesirable behaviour mediation. Teachers are responsible for behaviour modification as much in flexible environments as they are in a physical classroom. Some options that schools should examine include removing disruptive students from synchronous sessions (time out). As a best practice, school administrators should offer guidance on how teachers should escalate disciplinary matters and handle student deviation. One way to enact positive change is to invite and reward positive behaviours. Teachers should decrease anonymity and verbally acknowledge appropriate actions as part of the discussion in a synchronous session. Tyler-Wood, Christensen, Knezek, et al. (2015) believes that creating a token economy could be valuable and viable in a flipped or flexible classroom. Teachers can convert a reward system from the physical space into e-awards on a digital leaderboard to introduce gaming into the process. Group leaders and monitors could help the teachers with performance support and affirmations by keeping a good-behaviour checklist. Facilitators should consider giving verbal warnings to disruptive students before they are placed in time out. When teachers remove students from a session, the students should continue working on the content. Teachers could pre-prepare "think about" forms aligned to the lessons, and students could use the forms to submit apologies. In-school detention may take the form of after-class online activities. Teachers would refer to school administration based on the report escalation agreement within the school.

One option might be (class teacher to senior staff, teacher supervisor to the principal) and parent conference conducted via a phone call or other online option. Kilgore (2016) describes this movement as the qualitative improvement of online education that reduces the principal players' imaginary distance for the best effect. Schools should seek to answer the following questions: What does classroom management look like online? Who is responsible for mandating and managing attendance? Who has access to behaviour logs and reports?

The teacher is the time and process manager in synchronous sessions. It should select the appropriate strategy and related protocols to facilitate learning. The video conference is the communication medium preferred by Garrison, Anderson, and Archer (2000). The teacher and students navigate the educational experience together. Therefore, teachers set clear guidelines for task completion, identifying these completion timelines aloud and in writing. As with the physical classroom, teachers manage contingencies and moderate engagement for students at different developmental and cognitive levels in their classes. They determine the strategies for interaction and assign both individual and collaborative tasks based on content suitability. In synchronous sessions, teachers should insist on basic meeting protocol and expectations such as raised hands, muted microphones, and how to handle Screen and video sharing.

Consider Access and Accessibility

User management is essential for administering student and guardian email addresses and school-related applications. The UNESCO handbook outlines several dimensions of flexibility where learning materials are available to students anywhere and anytime (UNESCO Institute, 2020). Therefore, schools are responsible for setting policies and defining the purposes for using tools and applications – management and support of the learning or content management tool in the long term. Stakeholders should think about access, students' access to technology, and the consistency of their connection to the Internet. There should be a standard orientation to the online delivery process. Policy documents should outline how engagement happens in and out of the class. Questions for consideration might include the following: What human resource support do practitioners require at the school level – help desk, lab technician, or systems administrator? What are the submission timelines for worksheets and assignments? What types of devices are to best?

Should students download apps for mobile devices to help with functionality? Will we allow students who have access to mobile devices and no computer to complete assignments physically and take pictures of their work for submission? Teachers and schools must think about how students will connect with their classes. Determine if "lesson drops and pick-up" will be a part of the learning process and integration of student-school partnerships into online delivery. Training, assistance, and guidelines for using digital tools and platforms are needed to support a practical online experience. With the shift to direct teacher-parent support for younger students, the parent-teachers association (PTA) is a community concern and not for the few parents who always show up to meetings. Schools expect parents to understand where students are in learning the curriculum. This knowledge will help better position parents to provide feedback and reinforcement as an integral part of the assessment process. Schools must also consider the frequency of online access and feedback for teachers and students. To support ongoing assessment, schools must have a standard timeline built into the process for pacing. Now that everyone is an online learner, leaders must determine the students' age and screen time duration to mandate standards across the board.

Keep Planning and Delivery Simple

Schools and teachers should continue to use monthly or weekly plans based on their practice. Team planning is possible through creating, drafting, and scheduling student tasks ahead of time. Suppose the teamwork method mentioned earlier is selected. In that case, teachers could share the objectives and schedule ahead of time for work continuity. Teachers should break lessons into manageable chunks. Each content segment should align with the lesson objectives for asynchronous teaching to support the exploration and information exchange using Garrison et al.'s Community of Inquiry (CoI) model. Create worksheets with differentiated reading and ability-level options using Bloom's Digital Taxonomy. While many tools and applications are available, teachers should limit applications and tools for consistency and comfort.

Minimize Distractions

Safety and rigor are endemic to the educational environment at every level. The most vulnerable population is at the primary level. Schools must consider how students' personal information will be stored and accessed synchronously or recorded digitally. Each lesson needs to have an active learning component.

Teachers can implement Mini-lectures (student-led or team-focused) to support engagement and provide practice opportunities.

Additionally, polls could help to keep students engaged in the process. Teachers may create pre and post discussion questions to check student understanding and assign individual work using worksheets, quizzes, and assignments. Connect the lessons and assessments to the learning objectives. Since students know the learning goals, they can see the connection if educators meaningfully integrate tasks into the structure. The final suggestion for minimizing distractions and keeping everyone attentive is to create a class schedule or task page for each class. Integrate a bulletin board or calendar to keep students focused on the tasks.

Teacher-student communication is an inseparable part of the structure for student engagement and development in the educational setting. Solid relationships and alliances between training institutions and training recipients are factors that determine the quality of course design and delivery across flexible environments. Several preparation requirements and resource equity create barriers to effective course development in schools. Therefore, institutions should draw on existing models to reduce challenges to effective, flexible design. This research is vital for suggesting new options for educators and policymakers to plan sustainable education in scalable and effective ways.

This report starts and ends with a description of the processes that guide flexible learning development and partnerships for sustainability. The discussion leaves the reader with a question for the next steps in practice. How will the ideas in this report inform the planning for token economies, school management, and the application of new ideologies? The research is available for review and application in new contexts. In addition to the question above, teachers and administrators can implement policies and praxis that coordinate succession plans for learning institutions. Reflecting on the sticky ideas from Le (2017) and implementation of flexible processes from Casey & Wilson (2005) might drive success for people and their organizations. These implementations could make education sustainable and resilient in education institutions globally. The decision rests with you.

References

Ba Futuru (2012) Early Childhood Training Manual for Educators. https://www.globalgiving.org/pfil/13951/projdoc.pdf.

Beckles, Sir Hilary. (2020). One Love/ One UWI #1. Blog Post, The University of the West Indies, Kingston: UWItvGlobal, 1. https://uwitv.org/blog-post/one-love-one-uwi-1.

Bennett L (n.d.) Louise Bennett Poems | Best Poems. https://www.best-poems.net/louise-bennett-coverley/dutty-tough.html.

Bertacchini, F., Bilotta, E., & Pantano, P. (2020). On the temporal spreading of the SARS-CoV-2. PLoS One, 15(10), DOI e0240777.

Bush, L. & Hall, J. (2013). Rethinking Pre-Service Teacher Training: Lessons Learned with SimSchool. In R. McBride & M. Shearson (Eds.), Proceedings of SITE 2013--Society for Information Technology & Teacher Education International Conference (pp. 2550-2553). New Orleans, Louisiana, United States: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/48488/

Casey, J., & Wilson, P. (2005). A practical guide to providing flexible learning in further and higher education https://www.enhancementthemes.ac.uk/docs/ethemes/flexible-delivery/a-practical-guide-to-providing-flexible-learning-in-further-and-higher-education.pdf?sfvrsn=1c2ef981_8/

Creswell, J.W., & Poth, C. (2018). Qualitative Inquiry and Research Design: Choosing Among Five Approaches. 4th Ed. London, Sage.

Eldridge D, Watts R, Guy GM, Lalongo E, Zoe L. (2021). Collaborative Faculty Professional Development: Bringing the Classroom to the Screen. Journal of Higher Education Theory & Practice. 2021;21(11):86-97. doi:10.33423/jhetp.v21i11.4666.

Erickson, A. S., Noonan, P. M., & McCall, Z. (2012). Effectiveness of online professional development for rural special educators. Rural Special Education Quarterly, 31 (1), 22-32.

Garrison, D. R., T. Anderson, and W. Archer. (2000). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. Edmonton: Elsevier Science, Inc.

Hughes, J., R. Thomas, and C. Scharber. (2006). Assessing technology integration: The RAT — replacement, amplification, and transformation — framework. Edited by R. Crawford, K. Carlsen, J. McFerrin, R. Price, Weber, and D. Willis. Proceedings of Society for Information Technology & Teacher Education International Conference (2006., pp. 1616–1620). Chesapeake: Association for the Advancement of Computing in Education (AACE).

Irving D. (2019). Tell me and 'I'll forget; show me and I may remember; involve me and 'I'll understand: a review of the Teaching and Learning in Action feature. Health Information & Libraries Journal. 2019; 36 (2):190-194. doi:10.1111/hir.12259.

Kilgore, W., & Al-Freih, M. (2016). MOOCs as an innovative pedagogical design laboratory. International Journal on Innovation in Online Education, 1(1). https://onlineinnovationsjournal.com/streams/the-influence-of-social-media-on-online-education/4b9873d96241a56b.html.

Kilgore, Whitney (2016). Humanizing Online Teaching and Learning. CreateSpace Independent Publishing Platform.

Le, James. (2017). The 6 Principles to Make Ideas Stick. Blog, Constraint Drives Creativity, Online: The Medium blog. https://medium.com/constraint-drives-creativity/the-6-principles-to-make-your-ideas-stick-91a17229c949.

Lyric Advisor. (2009). Everything's Gonna Be Alright, Lyrics by Bob Marley and the Wailers. In, Streetdirectory & Lyric Advisor. https://www.streetdirectory.com/lyricadvisor/song/eafoca/everythings_gonna_be_alright/

Lyrics Mode. (2018) Mutabaruka – Dis Poem lyrics. In, Lyrics Mode. https://www.lyricsmode.com/lyrics/m/mutabaruka/dis_poem.html.

MENA Report (2020) COVID-19 crisis response in MENA countries, In OECD Policy Responses to Coronavirus (COVID-19) https://www.oecd.org/coronavirus/policy-responses/covid-19-crisis-response-in-mena-countries-4b366396/

MENA Report (2020). United States: Tester, Colleagues Urge Comprehensive Response to Protect Veterans & Va Staff Against Coronavirus. In The US committee on Veteran's affairs. https://www.veterans.senate.gov/newsroom/minority-news/tester-colleagues-urge-comprehensive-response-to-protect-veterans-and-va-staff-against-coronavirus.

Morais, Yasmin. (2012) Last Lines by Pamela Mordecai. In, Poets of the Caribbean https://poetsofthecaribbean.blogspot.com/2012/09/last-lines-by-pamela-mordecai.html.

Niall McNulty (2021). Bloom's Digital Taxonomy, in Learning by Design. https://www.niallmcnulty.com/2017/11/blooms-digital-taxonomy/

Pacansky-Brock, M., Smedshammer, M., Vincent-Layton, K. (2019). Humanizing Online Teaching to Equitize Higher Education. HumanizingOnlineTeachingToEquitize-PrePrint.pdf.

Poems. n.d. https://www.poemhunter.com/

Poetry Lovers' Page (2020). Complete collection of poems by Rudyard Kipling. In Poetry Lovers Page. https://www.poetryloverspage.com/

Regents of the University of Minnesota. (2021). Artistic Antidote for a Pandemic. In, Driven to Discover. https://artistic.umn.edu/still-i-rise-poem-maya-angelou

Sheldon, Annamarie L. (2021). Montserrat. Education Encyclopaedia, 1015. https://education.stateuniversity.com/pages/1015/Montserrat.htm

Stephan, S. (2017). Embracing Engagement Through Technology in Online Legal Education. Distance Learning, 14(3), 37.

Tyler-Wood, T., Estes, M., Christensen, R., Knezek, G., & Gibson, D. (2015). Sim-School: An Opportunity for Using Serious Gaming for Training Teachers in Rural Areas. Rural Special Education Quarterly, 34(3), 17. https://journals.sagepub.com/doi/abs/10.1177/875687051503400304.

Tyson, R. (2020). It matters how we respond to this moment in history. The Enterprise, 49(50), 6.

UNESCO Institute. (2020). Handbook on Facilitating Flexible Learning During Educational Disruption: The Chinese experience in maintaining undisrupted learning in Covid-19 outbreak. UNESCO Institute. https://iite.unesco.org/news/handbook-on-facilitating-flexible-learning-during-educational-disruption/

World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19-31 August 2020. World Health Organization.

Analysis of the TCU Standards and their Relevance to Quality Assurance in Open and Distance Learning

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Abstract

This paper uses the systems model of open and distance learning to review the standards issued by the Tanzania Commission for Universities. Documentary review method is used to analyse and establish the scope and relevance of the standards and guidelines to the practice of open and distance learning. The paper reports that the standards and guidelines are reasonably fair and provide for all the key basic quality domains to be assured in an institution practising open and distance learning. However, there are some quality issues that could be institutional-specific that need attention, leading to the need of having in place institutional quality assurance policies on open and distance learning. The paper proposes a model for quality open and distance learning institutions.

Keywords: Quality assurance, open and distance learning, Quality culture

Introduction

Zuhairi, et al., (2020) concluded that it may be unnecessary to have a universal definition of quality, as quality and quality assurance (QA) may be of culture context, and that there seems to be no agreement on universal definition, model, and practices of QA in higher education. The only problem with this position is that institutions may not be well informed if they assure something that is not well known; or when every institution has its own meaning. As Schindler, et al., (2015), put it, one must be aware of what quality is before determining how to assure it. According to Elshaer (2012) quality is defined as meeting customers' and stakeholders' needs. Yet, the problem is that the needs of the customers and the stakeholders are not static; they are continuously changing. According to Uvalić-Trumbić and Daniel (2013) quality is not a thing, it is something which forms itself in its process. Ossiannilsson, et al., (2015) proposed that focus on the use of the term quality should be on the context of the quality management processes used

in the provision of education. Quality, therefore, is not a product, it is a totality of the inputs, the process and the product.

It is not surprising that issues of QA are treated with strong emphasis in open and distance learning (ODL). According to Latchem (2016), ODL is likely to have such features as lower entry standards, limited support for isolated learners, the costs and effort involved in creating and maintaining the technological infrastructure and developing the courseware, and the low completion rates and higher failure rates. If not addressed, these features would continue perpetuate the discourse of cheap quality of ODL. Historically, conventional QA systems have been used for ODL institutions and programmes. However, this trend proved to be irrelevant and thus QA systems specific to ODL were developed. Globally, there has been a trend to let ODL institutions have QA systems that are more relevant to the field. ODL institutions need relevant QA systems that will improve accountability and quality improvement, mitigate competition, capture customer and employee satisfaction, maintain standards, promote credibility, prestige and status, control mushrooming of ODL providers, and address stigma on ODL (Ng'umbi, 2014).

Commonwealth of Learning (COL) (2020) presented a scenario of higher education institutions (HEIs) trying to mitigate the impact of COVID-19 lock downs by providing some kind of ODL programmes. In its analysis COL observed that that process has led to a general perception of loss in quality, since ODL is practiced as an easy quick fix, without proper planning especially on QA systems. Most HEIs had no previous experience in the ODL modality. What they could do is to replicate face-to-face teaching methodologies and experiences in virtual classrooms, without considering the different nature of virtual learning environments (Hodges et. al., 2020). Their unprepared students soon missed the campus experiences and were disappointed by the new arrangements. Besides there has been some difficulties in offering courses of a practical nature or with lab components through a virtual classroom. The COVID-19 example tells us more than just not getting prepared; it informs of lack of the culture of ODL.

In 2019, TCU issued a set of standards and guidelines for ODL institutions, with 17 standard domains. The domains are: institutional governance, governance units, management and administration, ODL programmes and delivery centres, ICT infrastructure and facilities, staff recruitment, programme design and development, course design and development, learner-centred teaching and learning, recognition of prior learning, orientation and progression, learner

assessment and evaluation, programme level staffing and tutoring, student admission system, learner support systems, teaching and learning materials, and face-to-face facilities (p.220-240). However, the scope across the ODL system; and relevance of the standards to ODL institutions have not been well established in the available literature. In conducting the analysis, this study was guided by two research questions:

i)   What is the scope of the standards across the ODL subsystems?

ii) How relevant are the standards to ODL institutions?

Literature Review

Literature review was guided by the Rumble's systems model of ODL (Figure 1). The four subsystems of the model acted as reference point to the review. With regard to the regulatory subsystem, much of the literature is on developing a culture of quality in ODL institutions that is focused on ODL (Kanwar et al., 2019; Ramdass & Nemavhola, 2018; Qadri, 2018; Mahafzah, 2012; Zhang & Cheng, 2012). Development of QA frameworks should take into consideration the key stakeholders of the ODL system (Nsamba & Makoe, 2017; Kant, 2019; Kocdar & Aydin, 2012). Another important issue as far as the regulatory subsystem is concerned, is on comparability of quality among ODL institutions and between them and the conventional mode. Bibi et al., (2018) made a comparison among ODL institutions and concluded that there were similarities in the QA frameworks. This is not surprising considering that there are global and regional QA frameworks as well as frameworks and toolkits provided by national regulators. What could be interesting is whether the QA frameworks are for improving ODL practice, or for compliance. Comparability between QA systems in ODL and conventional institutions have had a common conclusion that with QA systems in place the quality of education has no difference between the two settings (Afolabi, 2019).

Another key issue with regard to the regulatory subsystem is the need to innovate in conducting QA in ODL. Just like quality itself, ODL is changing rapidly. Reviews of QA systems may be a common feature. Singh and Das (2019) observed that QA systems need to change accordingly lest they become less effective in enhancing the practice of ODL; not because they are inherently ineffective, but because the world is changing so rapidly that effectiveness of QA system will only depend on the context. This also includes having in place QA mechanisms

for the changing demographics and participation rates like the case for massive enrolments in Massive Open Online Courses (MOOCs) (Kabanda, 2014).

On the materials subsystem, literature is mainly on interactivity among learners (Batsila, 2016; Baldwin & Trespalacios, 2017). Studies have found that strong educator presence along with quality course content are essential elements in courses that successfully facilitate ODL student engagement and learning (Moore, 2014; Swan & Shih, 2014). Establishing educator presence in ODL courses can be achieved in a number of ways, such as through regular communication with students and consistent feedback (Gray & DiLoreto, 2016). ODL students need to feel connected to the educator, to other students in the course and to the course content, which can be achieved in a supportive learning environment in which educators strategically combine audio, video, synchronous and asynchronous discussions, practical activities and other online tools to engage students (Gray & DiLoreto, 2016).

The student subsystem literature is mainly on open admission (Tereseviciene, et al., 2020); handling of examinations (Simui, et al., 2017); and support to learners via a networked institution. Tereseviciene, et al., (2020) observed that although there is much pressure to have an open admission policy, only a few institutions are actually ready and have procedures to assess and recognise open online learning or prior learning; and generally, the matter is more complicated than it otherwise sounds. The authors concluded that higher learning institutions lack readiness to become open. With regard to examinations, Simui, et al., (2017) have warned that ODL institutions risk having chaos, if planning of examinations is short of an updated, accurate and accessible student record system with statistics disaggregated by programme, course, region and examination centre; and a rapid response mechanism. Jeong (2019) observed that ODL institutions should maintain the structure of networked institution that allows them to have headquarters, regional offices and study centres; in order to reach out to the customers. This structure is what presents ODL institutions unique as compared to other institutions for whom students have to reach out to the institution.

For the logistical subsystem much is on the discourse of moving towards online learning. Bozkurt and Zawack-Ritcher (2021) have observed that more ODL research for the past five years has been revolving around online learning – technologies, design, media, support, and QA. They conclude that the fields of ODL and educational technology have actually converged. In interpretation, this

means that in order to survive in ODL, institutions need to invest in educational technology.

Bozkurt (2020) further warned institutions not to get into confusion as to how to go along with technology. His opinion is for them to have technology adaptation rather than technology integration into the education system. The networked institution (Jeong, 2019) argument is relevant in this subsystem as well. If ODL institutions are to reach out to the customers then logistical considerations are enormous in terms of infrastructure, personnel, running costs, electricity, and internet connectivity in the remote centres, just to mention a few.

The Rumble's Systems Model

This study used the Rumble's Systems Model in analysing the TCU standards and guidelines. Rumble (1986) proposed a simple model that summarises the operations in ODL institutions in four related sub-systems.

i)   Materials subsystem which was regarded as the first major sub-subsystem with all activities involved in the design, production and distribution of self-instructional materials; for all kinds, print-based or other media.

ii) Student subsystem which comprises all operations that are involved in facilitating learning by students and managing their progress and it involves staff, resources and students.

iii) Logistical subsystem which includes all other units which procure and manage resources for the institution; units involved in finances, human resources and information and communications technology (ICT) comprise the logistical subsystem.

iv) Regulatory subsystem which is involved in all activities related to strategic planning, policy formulation and monitoring the institution's performance in meeting its goals.
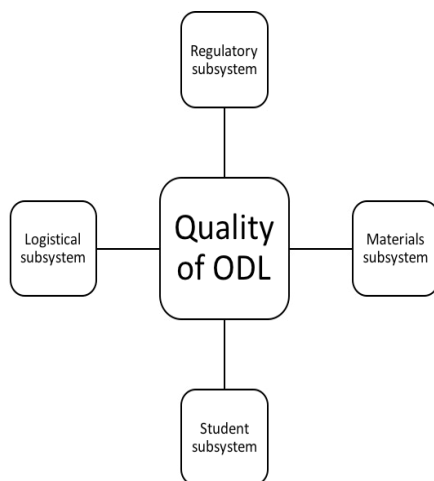
Figure 1: ODL Quality Analysis based on Rumble's Systems Model

Materials and Methods

The study used documentary analysis as the research method. Documentary analysis is a systematic procedure for reviewing or evaluating documents (Dalglish et al., 2020). Usually, depending on research questions, documentary analysis can be used in combination with different types of interviews (Berner-Rodoreda et al., 2018), observation (Harvey, 2018), and quantitative analyses, among other common methods in policy research. However, documentary analysis can be used as a standalone method (Dalglish et al., 2020).

The study used content analysis to analyse the content of the TCU standards and guidelines. The 17 quality domains on ODL were used as level of analysis, where codes were provided as either regulatory, materials, student or logistical. These codes were pre-determined categories, as were adopted from the guiding model, the Rumble's systems model. The pre-determined categorisation is opposed to the grounded theory that require categories to emanate from the text. In this study the coding had to stick with the pre-defined set of categories; for which frequency of categories was recorded by counting the number of times the category appeared in a text as well as analysing the relevance of the content to quality practice of ODL. This helped in re-grouping the standards according to the ODL subsystems. The decision to count in one category or another based on implication of the standards and the issues covered in the standards and corresponding guidelines, and not on exact words required in the respective categories.

Results

Scope of the Standards

The first question that guided the study was: What is the scope of the QA standards across the ODL subsystems? It sought to establish the scope of the QA standards across ODL subsystems. The TCU document has a total of 17 domains of QA, with corresponding standards; and a total of 77 guidelines. Table 1 presents alignment of the standards with the ODL subsystems. The standards are fairly distributed across the subsystems, ranging from 13 (regulatory) to 25 (student). At guidelines level, the subsystems have a greater range from 1 (learner-centred teaching and learning) to 12 (face-to-face facilities). It can be observed that such a coverage of standards and guidelines has fairly provided for all the subsystems with the detail they deserve, as per the ODL subsystems. However, the guidelines are not, and perhaps they should not, be more elaborate as to the contextual issues of the ODL institution. There are more issues that need attention. They include: systems for online teaching and learning, systems for addressing cheating and plagiarism, academic staff qualifications on ODL, resource sharing between on-campus and ODL, interpretation of 'certifiable' open admission system, comprehensive public sharing of the ODL programme, material development specific to ODL, support services to learners with special needs, library services to distance learners, how to recruit and manage part time staff; and cost management in ODL. A solution to this would be to have an institutional QA policy on ODL.

Table 1: ALIGNMENT OF ODL SUBSYSTEM AND QA STANDARS AND GUIDLINES

Subsystem	Standards Domain		Number of Guidelines	
Regulatory	7.1 Institutional governance	4		13(17%)
	7.2 Governance units	4		
	7.3 Management and administration	5		
Materials	7.4 ODL programmes and delivery centers	3		20(26%)
	7.7 Programme design and development	7		
	7.8 Course design and development	4		
	7.16 Teaching and learning materials	6		
Student	7.9 Learner-centered teaching and learning	1		25(32%)
	7.10 Recognition of prior learning	3		
	7.11 Orientation and progression	5		
	7.12 Learner assessment and evaluation	6		
	7.13 Programme level staffing and tutoring	3		
	7.14 Student admission system	5		
	7.15 Learner support systems	2		
Logistical	7.5 ICT infrastructure and facilities	3		19(25%)
	7.6 Staff recruitment	4		
	7.17 Face-to-face facilities	12		
			Total	77(100%)

Relevance of the Standards to ODL

The second guiding question was: How relevant are the standards to ODL? It sought to establish the relevance of the standards to ODL. Tables 2 - 6 present standards and corresponding analyses of the key issues in each of the standards. The standards are presented according to the subsystems of ODL. Every standard is relevant to ODL; although some others could be generic to both conventional and ODL institutions. Most of the standards presented in tables 2-6 could also act as means for cultivating the culture of quality within the ODL institution. For example, the standards provide for a commitment to ODL, use of e-learning management systems, and transforming institutions into digital operations. Across the subsystems, the standards and guidelines encourage institutions to invest in technology; including computer systems to mitigate cheating and plagiarism. This, however, will require financial power to invest in computer, networks, and all associated infrastructure. The aim should be to have capacity to offer services to all students at a distance, including international students.

As presented in Table 2, the first three standards (7.1 - 7.3) are dedicated to the regulatory subsystem. They provide guidelines on vision, mission and systems that commit the institution to ODL. The systems in question include learning centres, collaborations, e-learning management system and administrative support systems.

Table 2: REGULATORY SUBSYSTEM

	Standards	Issues in guidelines
7.1	Vision and mission statements and governance systems shall be reflective of commitment to the provision of education through ODL	Vision and mission; governance and organizational structure; partnership and collaboration; and publicity.
7.2	Establish learning centers	Learning centers; network through collaboration; e-learning management system
7.3	Establish effective management and administrative systems	Management structure; communication channels; administrative support systems; and qualified administrators.

As presented in Table 3, the materials subsystem comprises of the issues related to programme design and development; as well as delivery. The key issues are: comparability of ODL programmes to those offered through conventional mode; consideration of learners needs; meeting accreditation requirements; and consideration of media mix. The requirement to have an e-learning management system is of high value to ODL institutions.

Table 3: **MATERIALS SUBSYSTEM**

	Standards	Issues in guidelines
7.4	Ensure that the quality of ODeL and face-to-face delivery modes are comparable.	Accreditation of ODL programmes; Right to offer ODL at a learning centre; Learning centres to meet standards.
7.7	Design and develop programmes that meet the needs of learners and stakeholders	ODL-designed programme; meeting accreditation requirements; adequate staff; flexibility of access; learner support within materials; interactive LMS
7.8	Have clear objectives and learning outcomes, content, approaches to teaching, learning and assessment, learner support and most appropriate ODeL technology	Media and technology; ICT policy; learners and technology; active learning; media mix
7.16	Produce materials which are accessed through print and/or electronic media	Appropriate materials; regular review; teaching aids and resources; accessible technology

Table 4 presents standards and an analysis of key issues that are related to the logistical subsystem. The standards are on physical and human resources, and investment in ICT. Key issues of the value addition in this subsystem include the requirement to have academic staff develop competencies on ODL.

Table 4: **LOGISTICAL SUBSYSTEM**

	Standards	Issues in guidelines
7.5	Ensure availability and adequacy of ICT infrastructure and appropriate technical support staff for the infrastructure.	ICT infrastructure; technical support; reliable electricity; reliable internet connectivity.
7.6	Have a staff establishment and recruitment procedures.	Academic staff qualification in ODL; appropriate managerial and administrative staff; regular staff performance review.
7.17	Have secure premises with face-to-face teaching facilities and appropriate institutional policy guidelines regarding face-to-face sessions	Secure tenure of premises; safe environment; training rooms; offices; assessment facilities; policy on learner attendance; policy on non-discrimination; policy on international students; safe accommodation, where applicable.

Table 5 presents standards and key issues regarding the student subsystem. The subsystem has seven standards all related to students. They are on learner-centredness, orientation and progression, assessment, admission, and support services. Value addition guidelines include: RPL as entry qualification, attention to students at risk, mitigating cheating and plagiarism, effective tutoring, having an open admission system, and attention to learners with special needs.

Table 5: STUDENT SUBSYSTEM

Standards	Issues in guidelines
7.9 Ensure that programmes are delivered through learner-centred teaching and learning.	Learner autonomy Learner-centred methods
7.10 Use Recognition of Prior Learning as one of the student admission schemes.	Inclusion of RPL in admission guidelines RPL certification by Commission
7.11 Establish a mechanism for determining the orientation and progression of a student	Identification and support to students at risk; monitoring retention, progression and graduation; equal opportunities for all students; tutor-learner interaction; regulation of shared human and other resources
7.12 Establish an appropriate and secure assessment and evaluation system for the teaching and learning process that is properly managed, and reflect institutional, national and international standards.	Academic grading policy; student assessment system; progress tracking; tracking of completion and graduation rates; review of teaching and assessment system; assessment and appeal procedure; cheating and plagiarism.
7.13 Have an effective programme management system that is adequately staffed and adheres to the ODeL requirements.	Coordinators' experience in ODL; qualified tutors; tutor recruitment and monitoring system; programme review; tutors with content and pedagogical skills related to ODL
7.14 Establish minimum admission criteria and processes most appropriate for the ODeL system of delivery, which shall be comprehensive, transparent and supportive to applicants and certified by the Commission.	Open admission system; minimum entry qualifications; foundation programme; RPL; adequate information to applicants; simplified application documentation; fair and transparent contractual terms with learners.
7.15 Provide learner support services that meet the reasonable needs of learners.	Support system to learners; attention to struggling learners; resources and facilities in learning centres for learners with special needs

Discussion

The analysis of TCU standards and guidelines has revealed the potential of the standards to foster the culture of quality because of the value addition provided across the standards. In this case, if the standards and guidelines are used as benchmarks for institutions to learn from, the institutions could constantly improve performance. TCU standards could fairly be viewed as propagation of the culture of quality for ODL institutions. The issues of vision, mission, governance and organisational structures, as well as establishing learning centres and their respective managerial and administrative structures is a clear manifestation of the practice of ODL. The standards and guidelines provide solutions to some foreseen problems such as the pressure to establish learning centres in the remote areas, by providing for collaboration among institutions. This makes it manageable for ODL institutions to enter into agreement with partners to have access and use of premises, staff and other resources in a sharing spirit. One major issue that ODL institutions need to attend to with regard to governance is the issue of cost. This could be addressed in the institutional policies so that cost-effectiveness is realised. ODL could be very expensive especially for newly established institutions or those that replicate the traditional conventional system. Cost minimisation strategies are needed so that ODL becomes an affordable option that is meant to be. Unfortunately, cost is not mitigated by simply adopting e-learning. As Magaji and Adelabu (2014) put it, it does not cost less to apply e-learning in ODL although it could, in the long run when the programme can attract a sizeable number of students, when there is high economies of scale in full e-learning approach. Unfortunately, these issues of costing, cost-effectiveness and cost minimisation are not fully covered in the provided standards and guidelines. They will have to be benchmarked and included in the internal QA policies.

ODL materials as a subsystem has been presented as an important one especially with regard to having programmes that are comparable to those offered through face to face; programmes that are accreditable, programmes that meet the needs of the learners and programmes that are designed to be learner centred and that consider a variety of media. With the issue of cost in mind, ODL institutions could be more cautious on material development at times when OERs could be adopted. Open education resources such as books, teaching resources, and teaching software, could be a starting point (Huang et

al., 2020); and this need to be clearly articulated and staff properly trained how to adopt and adapt.

The issues related to students such as open admission, examinations, orientation, progression and retention, tutoring in learning centres, learner support, including learners struggling and those with special needs are fairly covered in the TCU standards. The standards also provide for ODL institutions to enter collaborations on sharing resources, including premises and staff. The standards further provide for use of technology to offer tutoring and other support and to have in place policies on supporting international students. However, much more is required for ODL to fully develop the QA culture with regard to the student subsystem. Guidelines on open admission for example, as also observed elsewhere by Tereseviciene, et al., (2020); require a lot more guidance, especially when institutions are required to observe the minimum standards when admitting students, and again having an open admission system that is verified by the Commission. Understanding of open admission could be contextual, that means a clear definition should be provided. ODL institutions will also need to sort out the issue of quality tutoring in the learning centres.

Logistical subsystem is also well covered, especially on physical and human resources and investment in ICT. The requirement to have academic staff develop competencies on ODL is of much interest, although institutions need to have their internal policies on how to develop such competencies. As already discussed, most costing could be on the logistical subsystem where physical resources such as premises across regions and beyond may be required. On top of that ICT investment could require considerable financial investment. Much has been provided in the guidelines with regard to sharing materials and staff. The problem would be the fact that not every kind of resource that is effective in other settings could be readily useful for ODL. The case of tutors, for example, demands ODL institutions to understand that there are unique challenges in tutoring ODL students (Joubert & Snyman, 2017); and hence the need to re-train the tutors shared with the conventional mode to be able to practice in ODL.

In the final analysis, we need to consider that the standards and guidelines may lack the institutional context and hence the need to have institutional ODL policies. ODL institutions need to have in place a clear policy on QA and that they need to draw up well-defined quality criteria that show the different aspects of the operations that will be quality assured. QA policy requires institutions to engage

in critical self-assessment that promotes the development of a reflective culture of quality that is needed among ODL systems. ODL institutions need to have internally developed standards for running their ODL operations. For example, they need standards on recruiting academic staff who are not only qualified in content knowledge but also on the pedagogy of ODL based on their ODL practitioners' competence frameworks. They need to address in detail all other issues related to the move from traditional to modern practice of ODL.
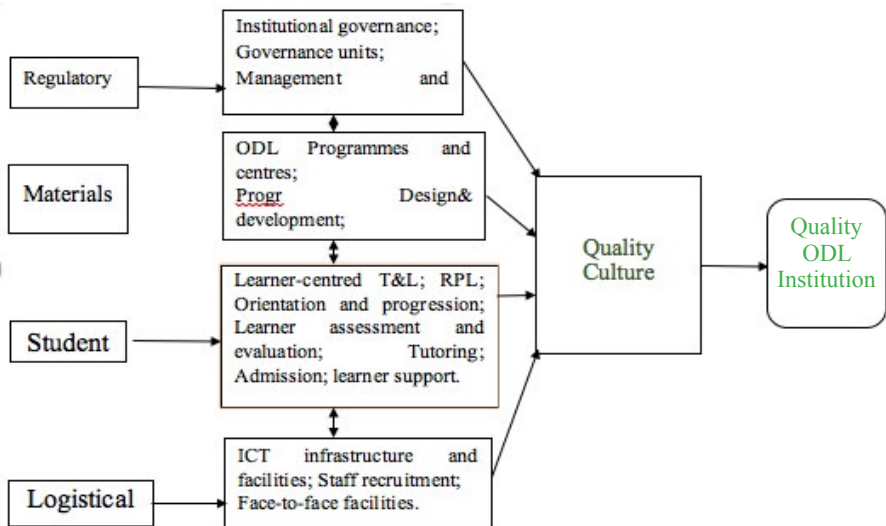
Figure 2: Quality ODL Institution Model

It can be concluded that the TCU standards and guidelines provide for all ODL subsystems, namely regulatory, material student and logistical. The standards and guidelines have relevance to ODL quality improvement in that they can be viewed as benchmarks for good practice. As presented in Figure 2, ODL institutions could use the standards and guidelines to cultivate the culture of quality as they transform the practice of ODL. It is however observed that the standards and guidelines may not address institutional specific QA issues, and hence the need for internal QA policies on ODL. The requirement for internal QA policies is for both single and dual mode institutions, for nurturing the culture of quality; but particularly important for dual mode institutions that require additional guidelines on how ODL shares resources with conventional learning operations. Two recommendations are made: one, ODL institutions need to

develop institutional QA policies on ODL; for which the Quality ODL Institution Model (Figure 2) could be one of the major reference points; and two, ODL institutions need to build their internal capacities to be able to improve the quality of their practice. Understandably, ODL is a new venture and is rapidly changing. Institutions need to have capacity to draft competence frameworks for the required personnel and be able to train internally, as required.

References

Afolabi, F. (2019) Quality assurance in distance learning teacher preparation institute in Nigeria. Asian Journal of Distance Education. 14(2). p. 114-123.

Baldwin, S.J. & Trespalacios, J. (2017). Evaluation instruments and good practices in online education. Online Learning 21 (2) doi: 10.24059/olj.v21i2.913.

Batsila, A. (2019) Inter-Learner Communication and Collaborative Learning as Quality Criteria of Distance Vocational Education and Training. European Journal of Open, Distance and E-Learning. 22(2). p 97-111.

Berner-Rodoreda A, Barnighausen, T, & Kennedy, C. (2018). From doxastic to epistemic: a typology and critique of qualitative interview styles. Qualitative Inquiry 26: 291–305. 1077800418810724.

Bibi, T., Rokhiyah, I. & Mutiara, D. (2018), "Comparative study of quality assurance practices in open distance learning (ODL) universities", International Journal of Distance Education and E-Learning (IJDEEL), Vol. 4 No. 1, pp. 26-39, doi: 10.36261/ijdeel.v4i1.478.

Bozkurt, A. (2020). Educational Technology Research Patterns in the Realm of the Digital Knowledge Age. Journal of Interactive Media in Education, 2020(1), p.18. DOI: http://doi.org/10.5334/jime.570.

Bozkurt, A., & Zawacki-Richter, O. (2021). Trends and Patterns in Distance Education (2014–2019): A Synthesis of Scholarly Publications and a Visualization of the Intellectual Landscape. The International Review of Research in Open and Distributed Learning, 22(2), 19-45. https://doi.org/10.19173/irrodl.v22i2.5381.

COL (2020). Guidelines on Distance Education during COVID-19. Burnaby: COL. Retrieved from http://oasis.col.org/ handle/11599/3576.

Dalglish, S.L, Khalid, H., & McMahon, S.A. (2020) Document analysis in health policy research: the READ approach. Health Policy and Planning, 35, 2020, 1424–1431 doi: 10.1093/heapol/czaa064.

Elshaer, I. 2012. "What is the Meaning of Quality?," MPRA Paper 57345, University Library of Munich, Germany.

Gray, J. A., & Diloreto, M., (2016). The Effects of Student Engagement, Student Satisfaction, and Perceived Learning in Online Learning Environments. International Journal of Educational Leadership Preparation, 11(1).

Harvey, S.A. (2018). Observe before you leap: why observation provides critical

insights for formative research and intervention design that you'll never get from focus groups, interviews, or KAP surveys. Global Health: Science and Practice 6: 299–316.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. Educause Review, 27, 1-12. https://mpra.ub.uni-muenchen.de/57345/.

Huang, R.H., Liu, D.J., Tlili, A., Yang, J.F. & Wang, H.H. (2020), Handbook on Facilitating Flexible Learning during Educational Disruption: The Chinese Experience in Maintaining Undisrupted Learning in COVID-19 Outbreak, Smart Learning Institute of Beijing Normal University, Beijing, available at:https://iite.unesco.org/publications/handbook-on-facilitating-flexiblelearning-during-educational-disruption/.

Jeong, H. (2019) Rethinking Open Universities: What Makes Them Unique? International Review of Research in Open and Distributed Learning, vol. 20 (4) p152-166.

Joubert, Y.T., & Snyman, A.M. (2017). Challenges experienced with online tutoring in an ODL institution. Progressio: South African Journal for Open and Distance Learning Practice, 39(1), 126-144. https://doi.org/10.25159/0256-8853/2139.

Kabanda, G. (2014). "Technology affordances and diffusion of Mobile Connectivity and Applications in Zimbabwe", June, Intl. J. Emerg. Technol. Adv. Eng. 4(6):13-23, ISSN 2250–2459 (Online). http://www.ijetae.com/files/Volume4Issue6/IJETAE_0614_116.pdf.

Kant, N. (2019) Competitiveness in ODL from Stakeholders' Perspective: A Review and Research Agenda. Turkish Online Journal of Distance Education, 20(3). p 59-72.

Kanwar, A., Mohee, R., Carr, A., Ortlieb, K., & Sukon, K. (2019) A Neo-Institutionalist Approach to Understanding Drivers of Quality Assurance in ODL: The Case of the Open University of Mauritius. International Review of Research in Open and Distributed Learning. 20(4).

Kocdar, S. & Aydin, C.H. (2012). "Accreditation of Open and Distance Learning: A Framework for Turkey." Turkish Online Journal of Distance Education (TOJDE) 13 (3): 97–120.

Latchem, C. (2016) Open and Distance Learning Quality Assurance in Commonwealth Universities. Burnaby: Commonwealth of Learning.

Magaji, S., & Adelabu, J. S. A. (2014). Cost-benefit of elearning under ODL of developing economies. Available at: https://www.ajol.info/index.php/huria/article/view/110808.

Mahafzah, M.H. (2012) Quality Assurance in Distance and Open Learning. Journal of Educational Technology. 9(3). pp. 27-31.

Moore, R., (2014). Importance of developing community in distance education courses. TechTrends 58(2), pp. 20-25.

Ng'umbi, M. (2014) Quality Assurance in Open and Distance Learning. Dar es Salaam: Open University of Tanzania.

Nsamba, A., & Makoe, M (2017) Evaluating Quality of Students' Support Services In Open Distance Learning. Turkish Online Journal of Distance Education-TOJDE.18(4). pp. 91-103.

Ossiannilsson, E. Williams, K. Camilleri, A. & Brown, M. (2015) Quality Models in Online and Open Education around the Globe. State of the Art and Recommendations. Oslo: International Council for Open and Distance Education (ICDE).

Qadri, M.M. (2018) Quality Assurance Toolkit for Open and Distance Learning Institutes: A Glimpse of E-Leaners' Perspective. Pakistan Journal of Distance and Online Learning Volume: IV, Issue II.

Ramdass, K. & Nemavhola, F. (2018) Quality Practices: An Open Distance Learning Perspective. Turkish Online Journal of Distance Education-TOJDE. 19(1) p. 234-246.

Rumble, G. (1986) The Planning and Management of Distance Education, London: Croom Helm.

Simui, F., Chibale, H. & Namangala, B. (2017). Distance Education Examination Management in a Lowly Resourced North-Eastern Region of Zambia: A Phenomenological Approach. Open Praxis, 9(3), 299-312. International Council for Open and Distance Education. Retrieved December 6, 2021 from https://www.learntechlib.org/p/180660/.

Singh, L., & Das, M (2019) Using Innovative Measures for Enhancing Quality in the ODL System in India. Asian Journal of Distance Education. vol 14, no 1, pp 117 - 127 .

Swan, K., & Shih, L., (2014). On the nature and development of social presence in online course discussions.

TCU (2019) Handbook for Standards and Guidelines for University Education in

Tanzania (3rd Edition). Dar es Salaam: TCU.

Tereseviciene, M; Trepule, E; Dauksiene, E; Tamoliune, G; & Costa, N (2020) Are Universities Ready to Recognize Open Online Learning? International Education Studies, 13(2) p21-32.

Uvalic-Trumbic, S. & Daniel, J.S. (2013) Refocusing Quality of eLearning. Efquel Innovation Forum 2013. Retrieved from http://sirjohn.ca/wordpress/wp-content/uploads/2012/08/130926EfquelTX.pdf.

Zhang, W. & Cheng, Y.L. (2012), "Quality assurance in learning: PDPP evaluation model and its application", The International Review of Research in Open and Distance Learning, Vol. 13 No. 3, pp. 66-82, available at: http://www.irrodl.org/index.php/irrodl/article/view/1181/2241.

Zuhairi, A., Raymundo, M. & Mir, K. (2020), Implementing Quality Assurance System for Open and Distance Learning in Three Asian Open Universities: Philippines, Indonesia and Pakistan. Asian Association of Open Universities Journal. 15(3):297-320. DOI:10.1108/AAOUJ-05-2020-0034.

Towards a Paradigm Shift from Andragogy to Heutagogy: Learners' Utilization of Online Resources at the Institute of Adult Education

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Abstract

The study explored learners' utilization of online resources with a view to shade some light on a paradigm shift from andragogy to heutagogy. The specific objectives were;- first to explore the learners' capabilities in utilizing online resources and second to assess institutional mechanisms in supporting a paradigm shift from andragogy to heutagogy. The study was conducted at the Institute of Adult Education in Morogoro Campus. It employed a qualitative research approach and case study design. The respondents were;- 33 ODL Students, one librarian and one ICT specialist. The participants were obtained through purposive sampling procedure. Data collection methods were; open-ended questionnaires, documentary review, semi-structured interview, observation and focus group discussions. Gathered data were analysed using thematic and descriptive analysis. The findings revealed that; students with prior ICT experience were capable of utilizing e-materials effectively than those with no prior experience. Moreover, the study noted some of critical challenges facing librarian and ICT specialist in supporting students such as: most of the students were not aware of free e-libraries; insufficient of e- materials, lack of internet connectivity and absence of computer laboratory. The study concludes that, effectiveness of the paradigm shift to heutagogy depends much on the learner's capability in ICT skills and institutional support services.

Keywords: Heutagogy, Self-determined learning, online resources, Distance education and Open Learning.

Introduction

The traditional perspectives on the relationship between the teacher and learner relied exclusively on the pedagogical assumptions. In the realm of pedagogy as a philosophical tool of analysis, the teacher is one who decides what the learner needed to know and which kind of knowledge and skills should be taught. The contemporary society observed the paradigm shift from pedagogy to andragogy and from andragogy to heutagogy (Hase and Kenyon, 2001).

Based on the paradigm continuum, pedagogy was the starting point and it was followed by andragogy. Pedagogy literally means the art and science of teaching children. Andragogy on the other hand refers to the art and science of helping adults learn (Knowles, Holton and Swanson, 2005).

Blaschke, (2012) noted that it is more than thirty years have lapsed since andragogy was introduced by Knowles. According to Blaschke the world's events and people's life always change, many things in the world particular in education have changed since the time of Knowles, and the rate of change seems to increase every year. The development of individual capability in the twenty-first century need the approach like heutagogy in order to meet the demand of the job market (Uday, 2019).

In view of Hase and Kenyon, (2000) the term "heutagogy" refers to "self-determined learning". Umashankar and Charitra (2016) define the term heutagogy as self-determined and student centric learning challenging the traditional methods of pedagogy which is a teacher centric. Additionally, Hase and Kenyon (2007) define heutagogy as the study of self-determined learning, whereby learners' capabilities are viewed as the major agent in self-teaching and autodidact learning as a result of individual's experience.

Blaschke, (2012) argued that in the heutagogical approach the process of teaching and learning focus on the learners' autonomous and self-determined. Thus, the learning objectives are based on the learner's capacity for competing in the global job market and the complexities of today's workplace. Blaschke and Marín (2020) noted that the current job market requires specific employees who possess generic skills such as decision making, critical thinking and problem solving skills.

Heutagogy advocated for a special interest on distance education and open and distance learning through key attributes, such as learner autonomy and self-teaching. Most of the participants of distance education/open learning are

mature adult learners (Blaschke, 2012). Distance education and open learning are the modes of learning which combine the principles of learner centeredness, lifelong learning, flexibility of learning provision, and also helps to remove the barriers to adult learner to access learning (Butcher, 2005).

Mushi (2010) describe adult learners as men and women who seek to improve themselves or their community by developing their knowledge, skills and attitudes. The author noted that adults bring a wealth of information and experience to the learning situation. Based on this assumption the heutagogical approach seems to be suitable in accommodating the adult learners' needs, interest and characteristics. Blaschke and Hase (2019) argued that the rising popularity of open and distance learning has created renewed interest in established educational approaches that focus on supporting learner agency. These approaches include theories such as self-efficacy, self-determination, constructivism, and self-directed (andragogy). As approaches that develop learner agency, they are foundational to self-determined learning (heutagogy). The study conducted by Umashankar and Charitra (2016) on andragogy and heutagogy in adult education with reference to Bloom's Taxonomy revealed that learners who are able to access to the IT resources they are good in utilizing those resources for self-determined learning. Moreover, Patel and Khanushiya, (2018) contended that the development of science and technology in the digital age contributes to the paradigm shift from campus based learning to virtual education. Furthermore, the authors argued that 21th century experienced the advancement of technological devices considered as a motive for a paradigm shift from pedagogy to andragogy then to heutagogy.

Ahmad, Mehar, Siddique, and Khan, (2021) noted that globally research contribution in effective approaches for facilitating adults (andragogy and heutagogy) is still lacking. Most of the researches have been conducted in USA, UK and Australia. A study by Blaschke (2012) shows that the University of Western Sydney in New South Wales, Australia, is an example of one institution that has implemented a heutagogical approach in its teacher education program by redesigning programs to integrate learner self-directedness through blended learning. In this regard, the purpose of the study was to explore the capabilities of learners in using online resources with a view to shade some light on a paradigm shift from andragogy to heutagogy at the Institute of Adult Education in Morogoro Campus.

Literature Review

From Pedagogy to Andragogy and then Heutagogy

The contemporary education system has been observing the revolution in terms of teaching and learning methodologies. Traditionally, using the pedagogical model, the teacher had a full responsibility in all process of teaching and learning (Knowles, Holton and Swanson, 2005). The pedagogy was gradually replaced by the andragogy which focused more on the student-centric education rather than teacher-centric education. In andragogy (self-teaching/autonomous), what is to be learnt it is determined by the teacher and directed by the learner (Shpeizer and Glassner, 2020).

In the digital age the heutagogy approach is gaining credit as a response to online learning. Based on the Heutagogy assumption, a learner may pursue their education online without any constant instructions from the facilitator (Umashankar and Charitra 2016).

Heutagogy introduced by Stewart Hase and Chris Kenyon as an offshoot of andragogy. The term "heutagogy" is a combination of two Greek words "Heauto" that means "self" and "agogy" meaning "leading" (Patel and Khanushiya, 2018). From the andragogy to the heutagogy approach, the paradigm shift perspective focused on the key concepts "self-teaching/autonomous" in andragogy and "capability versus competency" in heutagogy (Hase and Kenyon, 2001). Figure 1 bellow provides a pictorial illustration of the heutagogical approach perceived as a progression from pedagogy to andragogy then to heutagogy, with learners likewise progressing in maturity and autonomy (Canning, 2010).
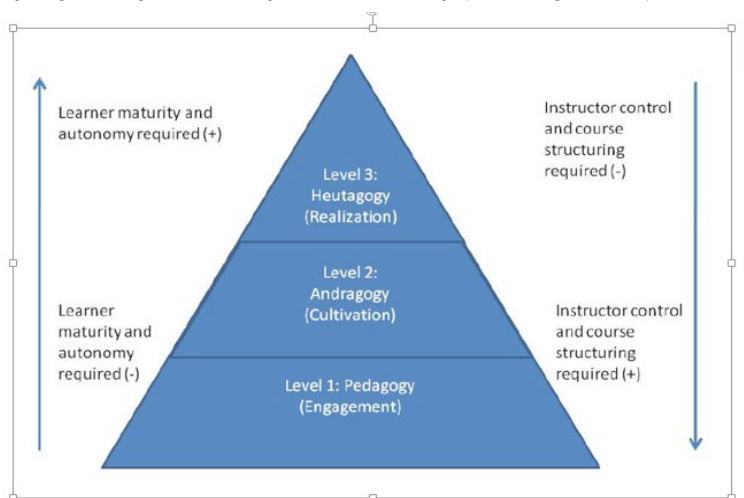
Figure 1. Paradigm shift from pedagogy to andragogy then to heutagogy

Source: (Adapted from Canning, 2010, p. 63).

Blaschke, (2012) identified the specific academic areas that distinguish andragogy from heutagogy perspective (see Table 1). In andragogy, curriculum, questions, discussions, and assessment are designed by the facilitator according to the learner needs and interest. On the contrary in heutagogy, the learner sets the learning course, designing and developing the map of learning, from curriculum to assessment.

Table 1: *HEUTAGOGY AS A CONTINUUM OF ANDRAGOGY*

Andragogy (Self-directed)	Heutagogy (Self-determined)
Single-loop learning	Double-loop learning
Competency development	Capability development
Linear design and learning approach	Non-linear design and learning approach
Instructor-learner directed	Learner-directed
Getting students to learn (content)	Getting students to understand how they learn (process)

Source: Blaschke, (2012).

Learning Theories in the Heutagogy Approach

The heutagogy approach founded into two learning theories/philosophies: constructivism and humanism. Constructivists believed that people construct their own version of reality using past experience and knowledge, and their current experience (Blaschke, 2012). Meanwhile, humanism believed that individuals had their own intellectual capacities and inborn ethical sense. Therefore, education goals should aim to develop individuals' self-concept in relation to humanity (Blaschke and Marín, 2020).

Nyirenda and Ishumi (2008) argued that the existentialism emphasize the growth of uniqueness and freedom of the individual person against the herd, the crowd or mass society. Existentialists believed that the contemporary education through formal system hinders the growth of authenticity. To overcome this obstacle, some existentialist educators have turned their attention to informal and non-formal kind of education such as "open classrooms" or "open education" as ways of encouraging the growth of authenticity.

In the humanistic perspective, individuals are assumed to be naturally good if given the freedom of choice and friendly environment towards self-actualization. To achieve the concept of self-actualization, humanism emphasizes methods like experiential learning and self-assessment to be applied in face to face, distance education and in open learning (Mushi, 2010).

Distance Education and Open Learning

Becker, (2004) contended that there is no clear differences between distance education and open learning since these two concepts can be used interchangeably. Moreover, the author noted that in the contemporary society other terms have emerged describing what are essentially in distance education and open learning courses including: e-learning, flexible study, remote access courses, and open-ended modular study.

Distance education is a mode of learning conducted differently from the campus-based mode of learning (Dewal 1986 cited in Holmberg, 2005). Lockwood (2017) describes distance learning as a kind of learning in which learners are separated from their teachers in time and space but are still guided by them through pre-recorded, packaged learning materials. Open learning is a mode of learning that provides learners a wide range of choice and control learning content and strategies (Dewal 1986 cited in Holmberg, 2005). Lockwood (2017) defines open learning as a system which enables individuals to take part in programmes of studies of their choice, no matter where they live and their circumstances.

ODL Support Services in the Digital Age

It is assumed that globally there is internet connectivity whereby learners easily access and search for study materials from various online sources by using electronic devices. In such situation teachers are no longer a source of knowledge rather but facilitators of the learning process. Learners do not depend entirely on teachers both in terms of learning materials and subject matter (Sumarson, 2019).

Blaschke (2012) noted that heutagogy is an approach that could be applied to emerging technologies in distance education and lifelong learning, as well as serve as a framework for digital age teaching and learning. Sumarson, (2019) argued that in the digital age facilitators are supposed to equip learners with supporting environmental facilities such as internet network with general or special search engines, such as Elsevier, google scholar engine, Scopus journal engine, IEEE journal engine, genesis library journal engine.

Technological developments provide opportunities for open and distance learners to explore and learn independently with help from electronic devices and media supporting self-determined learning (Blaschke and Marín, 2020).

Moreover, Sumarson (2019) discussed that heutagogy learning gives learners full freedom to develop their abilities outside the classroom and is fully supported by a cybergogy approach that facilitates students learning autonomously using ICT resources.

The study conducted by Blaschke (2012) in reviewing heutagogical practice and self-determined learning indicated that Web 2.0 and social media has played an important role in generating new discussions about heutagogy within higher education. Web 2.0 design supports a heutagogical approach by allowing learners to direct and determine their learning path and by enabling them to take an active rather than passive role in their individual learning experiences. Moreover, Blaschke (2019) identified some of the challenges of adopting a heutagogical approach in the digital age such as; academic resistance to change and a "fear of hand over power" (from instructor to student), increased financial and learning pressure on students due to new technology requirements, and a continued student focus on assessment and grades rather than the learning process.

Furthermore, Umashankar and Charitra (2016) conducted a study on andragogy and heutagogy in India. The results through survey reports that teachers and learners preferred more heutagogical learning process than the traditional mode of learning in a classroom set-up. Further, the study also suggests some of the effective learner-centric information and technology tools under heutagogy that can effectively build the required generic skills among learners. Indeed, the study suggested information and technology tools that help the learners for an independent study and they are also intended to enhance their cognitive abilities.

Within the context of Africa Chimpololo (2020) conducted an analysis of heutagogical practices through mobile device usage in a teacher training programme in Malawi. The study shows that few student-teachers claim to engage in self-determined learning. Conversely, most of them tend to participate in communities of practice, particularly those involving students only. In addition, few student-teachers hold the intention to use their information and technology devices in their own teaching.

Conceptual Framework Towards Self-determined Learning

This study adopted the information literacy Catts, Lau, Lee, and Chang, (2012) model which has four standards that used to explore learners' ICT skills towards self-determined learning (See Figure 2).
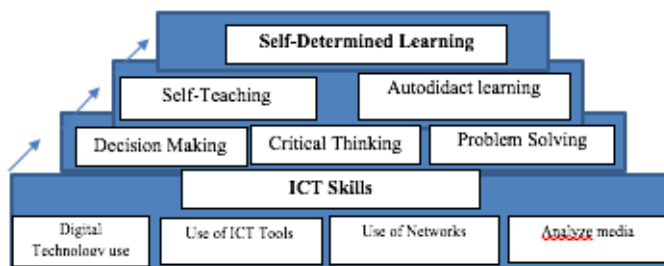
Figure 2. Conceptual Framework for Exploring Students' ICT Skills and Capacity for Self-Determined Learning
Source: Adopted and modified from Catts, Lau, Lee, and Chang, (2012)

As Figure 2 suggests, four levels of hierarchical skills model are crucial for developing self-determined learning. The first level at the bottom identifies the four ICT skills namely; digital technology use, use of communication tools, use of networks, and analysis of the media message necessary in digital learning.

The second level comprises some of the personal abilities (generic skills) such as decision-making, critical thinking, and problem-solving skills. The situation of mastering ICT skills helps one's to facilitate decision-making to solve different problems as well as ability to think critically accordingly to information needed. The third level comprises two dimensions for self-directed learning, the generic skills as identified at level two facilitates one's engagement in a certain status of learning such as self-teaching and autodidact learning. At this level, learners have the capability to choose the learning mode depending on their interest, time, socio-economic status and career development. Online studies, self-paced courses and open and distance learning are the learning modes that are encouraged at this step.

The fourth level (at the top) is "self-determined learning" in the digital age. This is the level whereby a self-determined learner can do academic work independently with minimum or without assistant from teacher/facilitator.

Material and Methods

This study employed qualitative research approach informed by social constructivism paradigm which asserts that reality is subjective and context based (Bryman, 2012). The paradigm was chosen because it is considered to be effective for exploring learners' capabilities of utilizing online resources towards

a paradigm shift from andragogy to heutagogy (Plano-Clark and Creswell, 2018). The study was based on this view of reality mainly because it provided an opportunity to explore and understand the research problem through interaction with the participants within the campus settings by using semi-structured interviews and open-ended questionnaires. Furthermore, this approach give voice to the participants to explore the impact of online resources towards self-determined learning (heutagogy) as recommended by Cohen, Manion, and Morrison (2011). The study employed a case study design because it needed detailed exploration to understand how learners possess ICT skills and how those skills could facilitate self-determined learning. According to Bernard (2006) a case study design has to be used when the focus of the study is to answer "how questions", which was the case for this study.

The study was conducted at the Institute of Adult Education-Morogoro Campus which situated in Morogoro Region in Tanzania mainland. This institution was chosen because the literature review revealed there was a knowledge gap on studies deployed the approach used in facilitating open and distance learners. The Institute of Adult Education is among the oldest institutions which offer learning programmes through open and distance learning modes.

The study involved two experts (one librarian and one IT specialist) and 33 diploma students who pursue their studies through open and distance mode (17 first year and 16 second year students). Librarian and IT specialist were involved in the study on the basis of their potential to generate rich information about how they support and guide students to access and use online resources. On the other hand ODL students were involved in the study because of their learning mode that depend much online resources. Purposive sampling involved to select a sample of 35 participants. This sampling technique was used to librarian and specialist because the campus has only two experts in these areas of specialization. Also this technique was applied in selection of 33 students because the campus has both conventional and ODL diploma students. Therefore, students who pursue their studies through open and distance learning mode were purposely targeted by this study.

The study employed five data collection method, namely; semi-structured interview, observations, focus group discussion, documents review, and open-ended questionnaires. These research instruments used because they were

compatible with the study objectives and questions; therefore, helped to elicit participants' perceptions. To guarantee reliability of the research instruments, a pilot study was conducted before the actual data collection.

The data gathered from the study were more qualitative than quantitative and analysed through thematic analysis based on the research objectives. Direct quotations from respondents were used to authenticate the findings. The small quantitative data obtained through open-ended questionnaires were analysed data through descriptive statistics using Statistical Package for Social Sciences Version 20. The responses were presented using table in order to compare the results. The quantitative findings were used to supplement the results from the qualitative information.

Results

The findings from the study are presented based on the two research objectives: To explore open and distance learners' capabilities in utilizing online resources and to assess institutional mechanisms in supporting the paradigm shift from andragogy to heutagogy.

Capabilities of ODL Students in Utilizing Online Resources

The first research objective explored the capabilities of open and distance learners in utilizing online resources. From the analysis, different themes emerged regarding the ability of learners in using online materials as reported below.

Learners' Prior Experience in ICT Skills

With regard to the learners' prior experience in using ICT skills in learning process, during interview the study indicated variations among students in using online materials. The analysis indicated that students with prior ICT experience were capable of utilizing online materials effectively and ethically than those with no prior experience as illustrated.

> *I am not aware of online books and other related e-resources. More than 23 years have elapsed since I completed my secondary school and teacher's education "Grade A". Since that time I didn't attend any in-service training. It is my first time to learn and apply ICT skills at this collage (Interview, first-year female student no. 15).*

Subsequently, during focus group discussion, it was noted that only few students were aware of search engines, as suggested.

The above quotes suggest some variation among students' experiences in applying ICT skills. These findings are also supported by quantitative data which shows female students had difficulties in applying ICT skills than male students (see Table 2).

Table 2. STUDENTS' RESPONSES IN ICT RESOURCES UTILIZATION

ICT Skills	Sex				Age								Marital Status					
	Male		Female		20 - 30		31 – 40		41 – 50		51 - 60		Single		Married		Divorced	
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree
Digital Tech use	06	09	06	14	04	06	04	07	03	09	0	01	06	9	04	12	02	02
Use of ICT tools	04	11	03	17	04	08	04	10	03	09	0	01	03	12	02	14	02	02
Use of networks	07	08	05	15	04	06	05	08	02	08	0	01	06	09	04	12	02	02
Analyze media message	02	13	0	20	01	13	01	09	0	10	0	01	01	14	01	15	0	04

Table 2 indicates students' frequencies variations in using ICT skills in terms of gender, age, and marital status. The analysis indicates that most students had moderate capabilities in applying ICT skills like use of digital technology, use of ICT tools, and use of networks. Meanwhile, both male and female students show they face difficulties in analysing media message. In terms of age, the analysis indicated that students aged between 20 to 40 years were more aware of some ICT skills than those aged between 41 to 60 years.

Learners' Awareness on the Available Resources

It was noted that only few students were aware of the available online resources found in the IAE website and other websites. However, it was noted that some of the available online materials are irrelevant with learners' module contents, as suggested.

During orientation course, we learnt on how to access online materials. But when I visit some source just I find only few materials which are relevant to my module contents ((Interview, first-year female student no. 8).

The quote above suggests that some learners are familiar with online resources although they experienced some difficulties in identifying reliable sources of information relevant for their module contents. Further analysis from observation checklist indicated that most of the students were not aware of available free online library.

Further, findings from interview analysis indicated that some of the younger students were more aware of the available online material than older students. One of the possible reasons for variation could be most of younger learner are aware of the uses of modern technology devices (like Smartphone) than older students.

Library and IT supporting Services

In the second research objective, the analysis based on the nature and extent of library and IT support services. Different themes emerged regarding the learning support services and the extent librarian and IT specialist support learners in accessing the learning materials.

Insufficient of Online Materials

The analysis from interview with a librarian indicated that the campus library had insufficient online materials as reported.

The library has insufficient online materials (e-books, e-journals, and e-articles). The campus library also had no independent library website and the current used website had no an open courseware that stored study materials for both academicians and students. (Interview, librarian)

The above quote indicated lack of online material sources which are necessary for distance and open learners. Findings from observation checklist revealed that the current website used by campus library (the main campus website) had only two e-journals. Apart from that the available computers in the library were ill-equipped with no internet connectivity. Most of the interviewed ODL students reported that they were getting internet services from their own Smartphone bundles.

Meanwhile, the findings from IT specialist reported that the Institution had no computer laboratory for practical works and students' computer practices were

been done in the library room. Through observation the study revealed that there only fifteen (15) computers installed in the library. These computers are used by both conventional students and open and distance learners during the face-to-face sessions. Moreover, the campus library room is too small to accommodate a mass of both conventional and open and distance learners.

Learners' Guidance and Support in Using Online Materials

The interview conducted with librarian and IT specialist indicated that they supported students with challenges in accessing online resources as reported.

> *Often we receive calls from students seeking directives for searching online materials from the IAE website. We direct them on how to use search strategies such as keywords and phrase searching. (Interview, Librarian and IT specialist)*

The above quote suggest some of the common ways in which students were being supported to gain ICT skills. Meanwhile, the librarian reported that there were many challenges in supporting students such as shortage of relevant books in relation module contents and inactive of OPAC in the IAE website.

Through observation, the study revealed that the IAE OPAC was inactive and other four online sources found in the IAE website were active (Google scholar, Harvard library, Research 4life and Oasis Commonwealth of Learning "COL OER link").

Further interview analysis indicated most of the students seemed to be unfamiliar with the use of ICT equipment. The IT specialist reported to support students using some of equipment like computers and projectors although the further analysis indicated most of students had begun to use these tools at the college level, as illustrated.

> *My department offers training on the use of available ICT devices in every orientation program. The most challenge I experience is lack of prior experience in ICT skills to first year students (Interview, IT specialist).*

The above quote indicates the IT specialist support students during orientation programme on how to use ICT devices. The findings indicated that most of students especially first years lack skills in ICT and it was assumed to be the first time for them to learn ICT as a subject. Further analysis from the librarian and IT specialist interview indicated that most of students were unfamiliar with the available free online libraries where they can access free e-books and other PDF documents.

Discussion

It is assumed that adults accumulate a lot of experiences in their daily working environment. Findings from this study indicated variation of learners in having prior experiences for utilizing online resources. The analysis indicated that learners with prior ICT experience were capable of utilizing online materials effectively and ethically than those with no prior experience. Knowles, Holton and Swanson, (2005) argued that although adults assumed to have greater volume and different quality of experience they differ in experiences. This difference in quantity and quality of experience has several consequences in learning process. Blaschke and Marín, (2020) argued that prior experience in ICT skills contributes a great role to developing self-determined learners.

Regarding the aspect of learners' awareness of the available online materials the study revealed that only few learners were aware. The findings indicated that those few learners who were familiar with the online resources face difficulties in identifying reliable sources of information relevant for their module contents. Being unfamiliar with the online materials in distance learning context may inhibit the learner to be self-determined. Blaschke, (2019) argued that it is difficult to shift from andragogy to heutagogy if the target learners are computer illiterate or face technological challenge in the learning process. Umashankar and Charitra (2016) noted that barriers in online communication between a learner and facilitator may hinder the effectiveness of open and distance learning.

Moreover, regarding the learner support services, the findings indicated that there were insufficient learning resources. Shortage of online materials which are necessary for distance and open learners was a major challenge to attainment of the learner's educational goals. Meanwhile, shortage of computer and lack of internet connectivity within campus area were reported to be the challenges hindering self-determined learning. Sumarson, (2019) show the role of technology devices in facilitating a paradigm shift from teacher-centred towards student-centred.

Therefore, in the open and distance learning context online materials are important for facilitating the concepts of self-teaching and autodidact learning leading to self-determined learning.

Furthermore, the study noted that learners were being supported to gain ICT skills. The findings identified some of the challenges in supporting learners to use effectively online materials, among of them including shortage of relevant online materials. Patel and Khanushiya (2018) argued that it is necessary in

this digital age to support learners to use technology devices because of a paradigm shift from pedagogy to andragogy and then to heutagogy. Sumarson, (2019) encouraged facilitators to create online learning environment equipped with the modern technological facilities such as internet network with special search engines, such as Elsevier, google scholar engine, Scopus journal engine, IEEE journal engine, genesis library and journal engine. The availability of these facilities in learning environment facilitates the concept of self-determined learning.

The study concludes that, the effectiveness of paradigm shift from andragogy to heutagogy depends much on the learner's capabilities in ICT skills and institutional academic support services. The study has revealed insufficient online resources is a major challenge for open and distance learners towards self-determined learning.

Lastly, the current study used a case study of a single campus which had only few diploma ODL students pursuing their studies through open and distance learning. The study recommends for further studies to undergraduate students within institutions or universities which offer programmes through open and distance learning.

References

Ahmad, S., Mehar, S., Siddique, N. and Khan, M. A. (2021). "Global Research on Andragogy: A Bibliometric Analysis". Library Philosophy and Practice (e-journal). https://digitalcommons.unl.edu/libphilprac/5575.

Becker, L. (2004). How to Manage Your Distance and Open Learning Course. New York, USA: PALGRAVE MACMILLAN.

Bernard, H. R. (2006). Research Methods in Anthropology: Qualitative and Quantitative Approaches (4th Ed). Oxford, UK: AltaMira Press.

Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and selfdetermined learning. The International Review of Research in Open and Distance Learning, 13(1), 56-71. https://doi.org/10.19173/irrodl.v13i1.1076.

Blaschke, L. M. (2019). Heutagogy and digital media networks: Setting students on the path to lifelong learning. Pacific Journal of Technology Enhanced Learning, 1(1). httpsdoi.org10.24135pjtel.v1i1.1

Blaschke, L. M. & Hase, S. (2019). Heutagogy and digital media networks: Setting students on the path to lifelong learning. Pacific Journal of Technology Enhanced Learning, 1(1). DOI:10.24135/pjtel.v1i1.1

Blaschke, L. M. & Marín, V. I. (2020). Applications of Heutagogy in the Educational Use of EPortfolios. RED. Revista Educación a Distancia, 20(64). http://dx.doi.org/10.6018/red.407831.

Bryman, A. (2012). Social research methods (4th Ed.). New York, USA: Oxford University Press.

Butcher, N. (2005). Reflection on Open Schooling and National Policy in South Africa. In Bradley, J. (Ed). The Open Classroom: Distance Learning in and out Schools. New York, USA: Taylor & Francis.

Canning, N. (2010). Playing with heutagogy: Exploring strategies to empower mature learners in higher education. Journal of Further and Higher Education, 34(1), 59-71. DOI:10.1080/03098770903477102.

Catts, R., Lau, J., Lee, A. Y. L., & Chang, H. H. (2012). Theoretical and Conceptual Framework for Media and Information Literacy (MIL) Indicators. Draft paper submitted to the Communication and Information Sector, UNESCO.

Chimpololo, A. (2020). An Analysis of Heutagogical Practices through Mobile Device Usage in a Teacher Training Programme in Malawi. Journal of Learning for Development -JL4D, 7(2) 190-203 Retrieved from https://

jl4d.org/index.php/ejl4d/article/view/391.

Cohen, L., Manion, & Morrison, K. (2011). Research methods in education (7th Ed.). New York, NY: Routledge.

Hase, S., & Kenyon, C. (2000). From andragogy to heutagogy: Implications for VET. Southern Cross University, ePublications @SCU. Retrieved from https://bit.ly/2WpZZe6.

Hase, S., & Kenyon, C. (2001). From Andragogy to Heutagogy. Original ultiBASE publication. Retrieved from: http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm.

Hase, S., & Kenyon, C. (2007). Heutagogy: A child of complexity theory. Complicity: An International Journal of Complexity and Education, 4(1), 111-119. Retrieved from https://bit.ly/2QjLoLR.

Holmberg, B. (2005). Theory and Practice of Distance Education. New York, USA: Routledge.

Knowles, S. M, Holton III, F.E. & Swanson, A. R. (2005). The Adult Learner (6th Ed). London, UK: Elsevier.

Lockwood, F. (2017). The Design and Production of Instructional Materials. New York, USA: Routledge.

Mushi, P. A. K. (2010). Principles and Practice of Adult Education. Dar es Salaam, Tanzania: University of Dar es Salaam Press.

Nyirenda, S. D. & Ishumi, A. G. M. (Eds) (2002). Philosophy of Education: An Introduction to Concepts, Principles and Practice. Dar es Salaam, Tanzania: University of Dar es Salaam Press.

Patel, J. V. & Khanushiya, R. K. D. (2018). Paradigm Shift-Pedagogy to Andragogy to Heutagogy in Higher Education. Weekly Journal of Higher Education. 56(30), 0566-2257 Retrieved from:https://www.researchgate.net.

Plano-Clark, L. V. & Creswell, W. J. (2018). Designing and Conducting Mixed Methods Research (3nd ed.). Thousand Oaks, CA: SAGE.

Shpeizer, R. & Glassner, A. (2020). Free Will and Heutagogy. Dialogic Pedagogy: An International Online Journal. Vol 8, 2325-3290. Retrieved from: DOI: 10.5195/dpj.2020.34.

Sumarsono, S. (2019). The paradigms of heutagogy and cybergogy in the transdisciplinary perspective. Jurnal Pendidikan dan Pengajaran, 52 (3), 172-182: http://dx.doi.org/10.23887/jpp.v52i3.22882.

Uday, Y. (2019). Pedagogy, Andragogy and Heutagogy - Continuum and

Comparison. International Journal of Advanced Research (IJAR). 7(8), 1229-1234 Retrieved from: DOI:10.21474/IJAR01/ 9614.

Umashankar, K.1. & Charitra, H. G. (2016). A Study on Andragogy and Heutagogy in Adult Education with Reference to Bloom's Taxonomy. The International Journal of Indian Psychology. 4(81), 2348-5396 Retrieved from:http://www.ijip.in. DIP:18.01.132/20160401.

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