

Original Paper

The Practice of Research Innovation in Higher Learning
Institutions: Implication for Quality Education

Mwanza-Tanzania

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Abstract

This study explored practice of research innovation in higher learning institutions; implication for quality Education. Higher learning with high provision of research activities would attract finance from different agencies. Globally, research exploration contributes significant benefits to society. The study posed three objectives: to identify roles of research in higher learning institutions in Mwanza, determine areas for research innovation in higher learning, to examine possible strategies to curb challenges facing research innovation. Three higher learning institutions in Mwanza city were involved. The research adopted mixed paradigms. A number of 140 respondents were involved in the study. The study adopted cross-sectional survey design, which allows the researcher to visit the field in a single point of time, collect both narrative and quantitative information concurrently, analyze separately and merge it at the end of the study. Data gathering were questionnaires, descriptive guide, and observation. Instruments were validated, piloted; the result indicated 0.81 Cronbach Alpha demonstrating that tools were acceptable. Information was coded using descriptive statistics with the assistance of the package for Social Sciences (SPSS) Version 21. Narrative data was subjected to word clouds program. Various themes emerged and used in report writing. The findings displayed that; research enables learners to be critical thinkers, problem solvers, empower the youths, gives self-confidence, it gives autonomy and provides monetary funds. However, were varieties of challenges facing research innovation as monetary capital, lack of institutional partnership and low learners registration. Hence, government should set policy that would ensure research is given paramount priority in all learning.

Keywords

research, innovation, quality education, higher institutions

1. Introduction

Higher education is viewed to be among the major source of knowledge needed by an individual or society to foster development (Mkulu et al., 2020, p. 155). The idea that students in higher education should be provided with essential knowledge needed to solve variety of problems across the world has been debated by many scholars from different corners of this globalized world (Mahona & Pacho, 2021, p. 13). Globally, higher education traces its lineage as early as antique Greece during Plato's academy to Oxford's universities in 1249 "Anno Domini", the legislation for subsidy tertiary institutions in USA 1862 up to the dawn of E-learning degree in late 20th century (Mkulu & Paschal, 2020, p. 155). The higher learning institution has been changing very fast due to globalization, technology, environmental and organizations thus, the growth has led to the development of higher education improvement in education ambitions. However, the new scenery demands research innovation to convene the challenges of the modern world (Mahona & Pacho, 2021, p. 13). Globally, research plays a vital role in national development. Furthermore, it contributes knowledge; for instance, for the past ten decades, most of the developed countries have been indebted to address and supply wider access to higher learning education to guarantee sufficient venture in high-level research that hinges on visionary policies and more diversified findings. Nevertheless, ten years back most of the first world countries have been indebted to address and supply wider access to higher learning education so as to guarantee sufficient venture in research. Although today there are 22 of the world wide elite and 25 research on higher learning knowledge as supper.

According to the World Bank, research innovation in Tanzania is wanting for enhancement, and transformation in higher institutions' education. In fact nowadays a huge number of Africans learners including Tanzanian students, complete elementary schools without knowledge including research (ILO, 2020). Nonetheless, most of those students leave institutions without skills needed such as science, mathematics and reading. Furthermore, it has been documented that 520 million youths worldwide will need new employment by 2030. However, only 460 million jobs will be created; in addition 50 percent of employment in African countries will remain to be in agriculture which pays very low productivity in this regard was interested to find out research innovation as a transformation tool in tertiary education in Tanzania (ILO, 2020).

Innovation is a process of changing, improving what is existing or creation of original thing for more production. Research innovation is the process of initiating something original. Hence the term **innovation is a process for inventing into a good service that creates value. Research innovation** is about reinventing strategies, products and processes and creating new ideas and performing at the right time. Innovation involves important changes in result intended thus innovations focuses on better

addressing client's needs nevertheless; Research innovation goes hand in hand with quality education. This idea concurs with (White & Glickman, 2007) asserted that innovation is a transformational of new thing. **This article focuses on sustaining innovation because advancement happens when we are looking for improvement for better way of performing at what we have already been used to do. Thus we want to boost the existing** capabilities in available research (Mkulu, 2017). Consequently, research innovation is a key to the transformation due to the fact that it triggers sustainable development and employment creation and research is pillaring for innovating higher productivity, services, creation of employment and eventually boosters the national development.

Quality education is a type of education which provides learners with abilities to become economically productive, develop sustainable, entails issues such as proper skills progress, livelihoods, contribute to peaceful, democratic societies and enhance individual well-being. Quality education focuses on the whole person and it prepares the learner for life not for testing. Furthermore, quality education should focus on whole person and mold learner for lifelong this indicates that higher learning should provide teaching and learning material and directs policy to ensure that learner has access to personalized learning (Nyerere, 1967).

In relation to this study, Darling-Hammond *et al.* (2020) claimed that the globe today is facing challenges in infusing quality learning. Quality should be inserted in every section including higher learning institutions. Quality implies purposeful, transformative, exceptional, and accountable. It based on dimensions such as high standards, zero defects and value for productivity. Nonetheless, higher learning institutions calls for more investment in quality learning systems in order to ensure that, there is evenhanded, harmonized and quality university education system that can contribute to the realization of the national development vision in 2025, which would be characterized among other things, by high quality livelihood a well-educated and learning society. These expectations would come true only if the learning system from elementary to higher learning would be rooted in research (The Tanzania Commission for universities, 2019). Similar to this study the Education and Training Policy in 2014, stresses the need for quality education and training the standards of which are recognized at national, regional and global levels, and production of human resources according to national development priorities. Higher learning institutions are universities, colleges, owned by different groups of people including churches, non-governmental organizations and individual groups which operate independently except for the approval of academic programs.

The word transformation in this study is a changing process of transmutation from one status to a new state, more advances. This change can be applied to a person or association such as an institution or the product. Higher institutions have a significant contribution by means of conditions that provide in-service training, teachers training programs, undergraduate education, preparing learners to be critical thinkers, problem solvers by using research writing. Hence higher learning is a level of education after elementary and secondary level. Furthermore, the word quality in this study implied the

situation of infusing value education, provision of excellent education to learners, infusing skilled to the staff, employing merit lecturers, the quality of buildings and pedagogies, teaching and learning material builds should be the topmost interest (Tremblay et al., 2012).

Walder (2014) looked at innovation in tertiary education at Los Angel-USA. The result of the study displayed that; the provision of research writing to novice learners should be taught and practiced in groups. These findings implied that innovation in higher learning should be introduced in a single group such as political leaders nevertheless; the real innovation needs to be involved by the majority of people in the country so that the implementation could be easy. In addition to this study, The European Common research Data warehouse database (ECORDA) examined higher learning institutions on research innovation. The study discovered that higher learning contributes a lot in national progress. To have effective change innovation must be introduced to the majority. Research innovation as a transformation tool for quality in tertiary level is highly wanted. Quality relates to the growth of critical thinkers' national progress autonomy etc. Nevertheless, some studies recommended joint investigation and this would happen only, if the government invests much in research. Besides this, research innovation could contribute a lot because through research, new techniques of solving problems, discovered would be experienced.

Some researchers commended that, research in African countries do not encourage, continuity of research activity. Although some writers stated that higher learning need to be empowered by provision of knowledge, skills in research, training facilities and motivation. These could inculcate learners with creativity and entrepreneurship interests (Ngongalah et al., 2018). These fact calls for the governments in sub-Saharan countries to increase initiatives that hasten and sustain research based enhances solid underpinning for research, increase research capacity, and enable institutions to provide valuable training. In Tanzania research is a continuing practice captivating place in the scores of higher learning, nevertheless, the effort to associate innovation discoveries among higher learners is not given the desired focus. This study therefore intended to explore on research innovation as a transformation tool for quality education.

Statement of the problem

Research innovation at tertiary level is a serious concern. University plays a fundamental role in molding learners to become creative, critical thinker and job makers. It is documented that researchers in African continent including Tanzania is mainly the weak capacity of research institutes that learners are not well prepared to produce the next generation of researchers. Moreover inadequate research writing, dissemination and publications also exist. Nevertheless, there is rising recognition that research is the key pillar for nation progress. Globally, research exploration contributes significant benefits to society, for instance higher learning education with high provision of research activities would attract finance from different agencies. It provides opportunities to create better policies. Nonetheless, Africa produces less than 1 percent of global research output. African countries visage some of the toughest

issues global, the majority of which can only be solved through vigorous and efficient research. This might deter the progress of the country. There is requirement to convert research into practice in the role of higher education for social transformation. It is in this extent the study aimed to explore research innovation in higher learning institutions: implication for quality Education Mwanza-Tanzania.

The objectives of the study are:

- i. To identify role of research in higher learning institutions in Mwanza Tanzania.
- ii. To determine areas for research innovation in higher learning in Mwanza, Tanzania.
- iii. To examine possible strategies to curb the challenges facing research innovation.

2. Literature Review

The study adopted the Innovation model founded by Bush in 1945. Generally, the model is categorized into stages of innovation. However, a linear model received some criticism. Nevertheless, the model has more strengths than limitations. Innovation model was demonstrated with drawing portraying research progress continues step by step process starting with the fundamental investigation. The linear model aimed at precise activity innovation confined stage by the stage that produces current technology and education which is concerned with transformation and change. The study adopted this model because the model is useful and is applied by various researchers such as (Rothwell & Zegveld, 1985). Furthermore there are two kinds of a linear model of innovation, open and close innovation; to differentiate between the two is the operation (Chersbrough, 2003). This Donets that in doing research we should combine both types of innovation open and close we must seek ideas from external and internal that means from outside and within the learning institutions.

Research innovation is a process that involved not a single person but teamwork such as higher learning management, lecturers, learner, and other stakeholders from external and internal. The model is highly connected to the current study as it deals with research innovation as a transformation tool in higher learning institutions. The model indicates that research innovation is a continuous process from one stage to the next. The model is related to the current study and it has been applied by various researchers. Moreover, a linear model dealt with precise activity innovation restricted in one stage by the stage that produces current technology and education, which is concerned with transformation and change. The study focused mainly on research innovation as a transformation tool for higher learning, because higher learning is a place where learners and lecturers grow in career improvement. Apart from disseminating knowledge, higher learning also contribute a lot to knowledge creation through research writing. Thus higher learning is expected to involve much in research activities. Actual research is a pillar for national growth, designed for higher learning to comprehend and sustain their institutional value, university managers need to involve profoundly in research, and they need to have the required resources, capacities and support from all key internal and external stakeholders.

Role of research in a higher learning institution

Innovation is a transformation of higher institutions. In the 19th century, innovation was about technology while at present, innovation is about reinventing strategies, products and processes and creating new ideas and performing at the right time. Innovation involves important changes in result intended thus innovations focuses on better addressing client's needs nevertheless; innovation goes hand in hand with quality education (Zezeza, 2017). Generally, it is accepted that change is connected to the pool of knowledge available within an organization, in addition, innovation or transformation is linked to research and development, Onu et al. (2012) examined on the transformation of learning institutions in Nigeria the study used pure qualitative approach which cannot be generalized however this study focused on research innovation this study focused on research innovation as tool for transformation.

In addition, this study looked at research innovation as positive change. In relation to this study Onu et al. (2012) examined on the transformation of the learning institutions in Nigeria, this study used pure qualitative research and the results displayed that majority of the lecturers 145 from 33 higher institutions which is equal to or mean 2.64 which was low than the 3.0 minimum mean accepted not have skills to utilize the e-journals and e-books thus creating a hard for them to advance their profession. In addition, it was found out that most of the staff in higher learning do not attend various conferences, in general, they do not attend scholastic researches as one way of advancing their skills and their area of occupation. Lecturers in higher learning institutions are expected to be the pillar in research innovation and they could bring a transformation in universities if they would be informed. This means that lecturers need to be more equipped in research than any body because you cannot share what you do not have hence lecturers need to advance in research.

In Nigeria, Asiyai (2015) examined how to improve quality, in the higher institution. The previous study discussed the roles of various scholars in education to improve quality in higher learning institutions in Nigeria. The study pointed out that persistent and holistic infusing quality in all sectors in higher learning requires the joint hard work of various stakeholders from both inside and outside the universities. Research has connected quality in higher institutions, the learner's intake, university programs, program designs, lecturers, provision of knowledge and learning, students' professional qualification, teaching and learning material as well as non-lecturers for the learners (Baird, 2006). Nevertheless, results demonstrated in the previous study first was a critical challenge to quality in higher learning institutions were funding, the author stated that the management leaders in Nigeria did not find the need to allocate the quantity of budget to higher learning. These findings concur with the World Bank (2012) analysis of budgetary allocation to education in various countries indicates that Tanzania is the least country in terms of budgetary allocation. Similar to Masenda (2021) asserted that Tanzanian tertiary institutions lag on the planet. Statistics indicate that Nairobi University ranked 13th Makerere ranked 14th while the University of Dar Es Salaam ranked 42 yet, other universities were

nowhere to be allocated. In addition, it was stated that universities in Tanzania continue to perform poorly year after year. Dar Es Salaam University secured a position of 42 out of the first 50 best this calls for an urgent measure (Kigotho, 2021).

In relation to this study, UNCTAD (2007) stated that; enrolment in all higher learning institutions in low developed countries is 3.5 percent involve in research writing while 69 percent are financial set apart for research in rich countries. Furthermore, the low developing countries government are devoting only 0.3 percent of their gross domestic product to research. While Haiti, Gambia and Somalia, Cape Verde, and Samoa have lost the majority of their university potential lecturers shifted to the most developed countries looking for better remuneration and a conducive environment. This might be some of the reasons why Tanzanian universities lag behind in the global ranking.

Similar to this study, Jitendra (2017) asserted that the role of global research contributes to a critical role for the sustainability and development of the economy. Therefore, excellence of research is an indicator that the provision of education and learning in higher institutions is expectedly taking place. The support of research in a gigantic and diverse country like Tanzania would assist the nation positively change however some literature asserts that most of the universities nowadays face some challenges such as inequality research, not many universities have obligatory research for individual faculty, unavailability of infrastructure, lack of empowerments from lecturers even from the university managers poor libraries, or libraries without e-journals and e-books, lack of internet connectivity.

Higher learning institutions play vital roles global are expected to create and disseminate knowledge to people, through university learners and lecturers as professionals. This may be through instruction, extension, outreach, production, or research. While each of these foci is more or less overlapping in terms of contribution and relevance, each of them has its degree of significance for higher learning. In this sense, higher learners are expected to be knowledge and skills producers, job creators, problem-solvers for sustainable development. In a similar sense, Lukman, Krajnc, and Glavič (2010) asserted that research is the stamina of higher learning institution positions and their outcomes. Nevertheless, if higher institutions are not practiced in conducting research this responsibility will not live up to its name and nature. Thus, it is important to look into two things when dealing with research in universities: the quality of research being performed by lecturers and students.

Global literature asserted that by 2030 Tanzanian youth 15 million will be seeking jobs nevertheless; the youth in Tanzania are facing the issue of joblessness due to the fact that low level of provisions of education which do not translate the ability and skills of learners. These findings concur with Jitendra (2017) who asserted that learners who are weak in education are a good indicator for the absence of research. Hence research innovation is highly wanted to transform higher learning institutions by empowering learners to be critical thinkers; problem solvers by so doing territory institutions would reduce challenges of unemployment of the youth because the youth are leaders of tomorrow.

University education as the key to supporting economic progress needs to be more flexible and skilful in meeting the challenges of adaptation. Actually, the speed of transformation accelerates; Higher education provides a good example of this phenomenon. In previous years, universities were the source of change-resistant institutions on Earth, however; this is no longer the same today. Higher learning institutions have changed more in recent years and the major change includes an Education system has changed, from privileged to mass education, Increase reliance on tuition fees, rapid enrollment increase, substantial development in the private provision of higher learning, global growing competition, the introduction of teaching, learning, research and outreach, thus research innovation is wanting (Babalolola et al., 2017).

The issue of research innovation as a transformation tool for quality Education in Selected higher learning institutions is not much documented in Tanzania. Some of the reviewed literature used a single approach the current study will fill this gap by using mixed approaches and the strength of data gathering on both approaches would strengthen each approach. Nevertheless, the geographical factor has been seen in the literature review most of the studies were done in first world countries while very few are found in Tanzania hence this study would fill the gap. From the reviewed studies it was also revealed that there was a time gap such as (Asiyai, 2015; Walder, 2014; Chersbrough; 2003; Onu et al., 2012).

3. Methodology

Mixed research approaches were employed in this study; this approach allows the researcher to apply quantitative approach and descriptive approach into a single study. This technique strengthens both approaches, since we believe that each approach has some gaps which can be filled by other approach (Creswell, 2014).

3.1 Target

The population of the study comprised all lecturers, third-year higher learning students, and administrators. Participants were full lecturers with a minimum service period of two years and above. Hence the study population was 2500 population and was considered adequate it provided key information pertinent to the objectives of the study (Burke, 2008).

3.2 Research Design

Explanatory sequential research design (ESMRSD) was adopted in this study where the researcher went to the field twice, first collected information using questionnaire followed analyzed it then based on the quantitative information construct in-depth interview guide visit the field for the second time phenomenology design was used to collect and analyze data on cultural dynamics of the specified research innovation as a transformation tool for quality education. The design was preferred because is a two-phase mixed design in which quantitative data helped to explain qualitative results (Mgenda, 2013; Creswell, 2014).

3.3 Sampling Procedure

The current study adopted both qualitative and quantitative paradigms were employed in current study Stratified and simple random sampling, these techniques allow the respondents to have an equal chance of being selected or there is a random collection of respondents for the research and each participant in the inhabitants had an identical and self-sufficient chance of being elected in the example (Burke, 2008). Stratified, simple random sampling was involved in the study under probability the study involved one hundred academic staff, 30 university Learners who were in third year or final year and 10 managers for higher learning giving a total of 140 participants out of 2500 population. These participants were enough to provide the needed information. Non-probability sampling does not use simple random sampling thus in this study the researcher employs purposive selection to select ten participants out of 40 members in the population.

3.4 Research Instruments

Questionnaire and in-depth interview was used to assemble information. Questionnaire was employed to collect data from lecturers and learners, while an interview guide used to collect information from HLIs' administrators. The researcher used questionnaire because this kind of tool allows the researcher to gather information straight from the participants. Similar to Punch (2009) contends that instrument triangulation strengthens a study by offering the possibility of the strengths of the combined instruments and compensating for the weaknesses of either instrument.

3.5 Validity and Reliability

Instruments were exposed to the research section and peer members in the research investigation Furthermore, the academic staff questionnaire, administrators, and students' questionnaire had an overall Cronbach alpha coefficient of $\alpha=0.81$ correspondence, suggesting that the instrument was reliable (Tavakol & Dennick, 2011). For qualitative tools such as interview and observation the researcher considered checking the trustworthiness of qualitative tools. Involvement of phenomenology technique in data collection requires the validation of interview and document analysis guides (Mugenda, 2013; Creswell, 2014). Ethical consideration was observed during the whole process of research writing.

4. Results and Discussion

This part presents the main findings on research innovation as a transformation tool for quality education in three selected universities in Mwanza, Tanzania. Research is a pillar for national growth; from the findings, it was revealed that there was a very strong relationship between research innovation and quality education in tertiary institutions. The first research question was out to ascertain whether research contributes to higher learning. Moreover, the research findings exposed that research enables learners to be critical thinkers, problem solvers, research empowers the youths, it gives self-confidence to the researcher; it gives autonomy and provides monetary funds. The current finding is in agreement

with Jitendra (2017) asserted that research plays a critical role in a sustainable economy.

Literature portrays that teaching research to learners provides knowledge that is vital to both learners and academic staff it implies that when learners gain research knowledge and skills they are actively involved in writing and applying research methodologies, presents the results finally publish their works to the world. Thus, if learners are provided with the needed education on research, they would become very productive writers and publications. This benefits the universities, learners, the lecturers finally the country will be globally recognized. Hence involving all learners in research is likely exposing them to the world of knowledge. However, it was revealed that most of the lecturers are not committed to research provided to the learners, leadership and efficient harmonization are essential to guide to become capable researchers, but because lecturers do not mentor and harmonize learners and academic staff, learners are not involved in research writing at all, or involve in meager quality investigations Notwithstanding the strong emphasis placed on the need to innovate investigation capability output, dissemination and outcomes, the tertiary education research coordination remains an issue of concerned and this is similar to the accessible data by Asiyai (2015) stresses that research has turned down in writing and publication in current years.

Research for improvement

The researcher asked participants to rank three factors on a scale of 1 to 3 based on the importance from the highest to the lowest, as main concern areas that need to be improved research productivity in Africa, including Tanzania. These part involved financial support, training, support and cooperation. 140 respondents gave answers to this question. For first priority, the highest number of responses 60 percent demonstrating that providing more training and support. Nevertheless a majority of the respondents 61 percent pointed that more funding escalating teamwork was the third priority while a least of 19 percent. Research innovation is a vital to the progression of humanity as it overcomes the kinds of social challenges and empowers society's ability to create new ideas, design product services, and economically competition with other nations. However, the research paradigm, which is needed to enhance middle economy, seems to fall short in terms of meeting the requirements and demands of the Tanzanian. The researches in most of higher learning institutions in Tanzania receive very acute research financial support. One of the interviewee narrated that: every year universities' management plan and submit monetary to officials yet, the allocation of money for research falls remote back beneath 30 percent however, providing enough money to higher learning institutions could solve the problem.

There is a need for Research Innovation in Tanzania

Inadequate research support across Tanzanian universities is a consequence of the limited significance given to research by institutional influential. This has also led to an extensive lack of research management expertise amongst teaching and support staff across all areas. The study discovered skills gaps in identifying bursary, developing proposals, attending conferences, and research uptake. From

the findings it was openly revealed that funding for research in Tanzania remains a serious restraint. The researches in most higher learning institutions in Tanzania receive very acute research financial support. One of the interviewee narrated that: every year universities' management plan and submit monetary to officials yet, the allocation of money for research falls remote back below 30 percent however, providing enough money to higher learning institutions could allow lecturers and learners to involve in research writing.

Areas for research innovation in higher learning in Tanzania

In addition, research innovation is the topmost playing in problem-solving. Research is responding well against corona pandemic through research exploration creation of new skills, various techniques for protections, vaccines and other medicinal treatment is invented yet research is highly needed to provide possible measures to alleviate and curb the issue of covid-19. Research can assist in policy decisions for national development. Government should carry on sustaining research growth. The study result demonstrated that research is a backbone of the nation hence the stakeholders and lecturers should ensure the provision of research to the learners is empowered.

The status of research in higher learning in Tanzania

The researcher was interested to find out how higher learning institutions perform in research. The reviewed studies demonstrated that Tanzania is the least country in terms of budgetary allocation when we compare it with other countries in Africa. The review is portrayed in Figure 1.

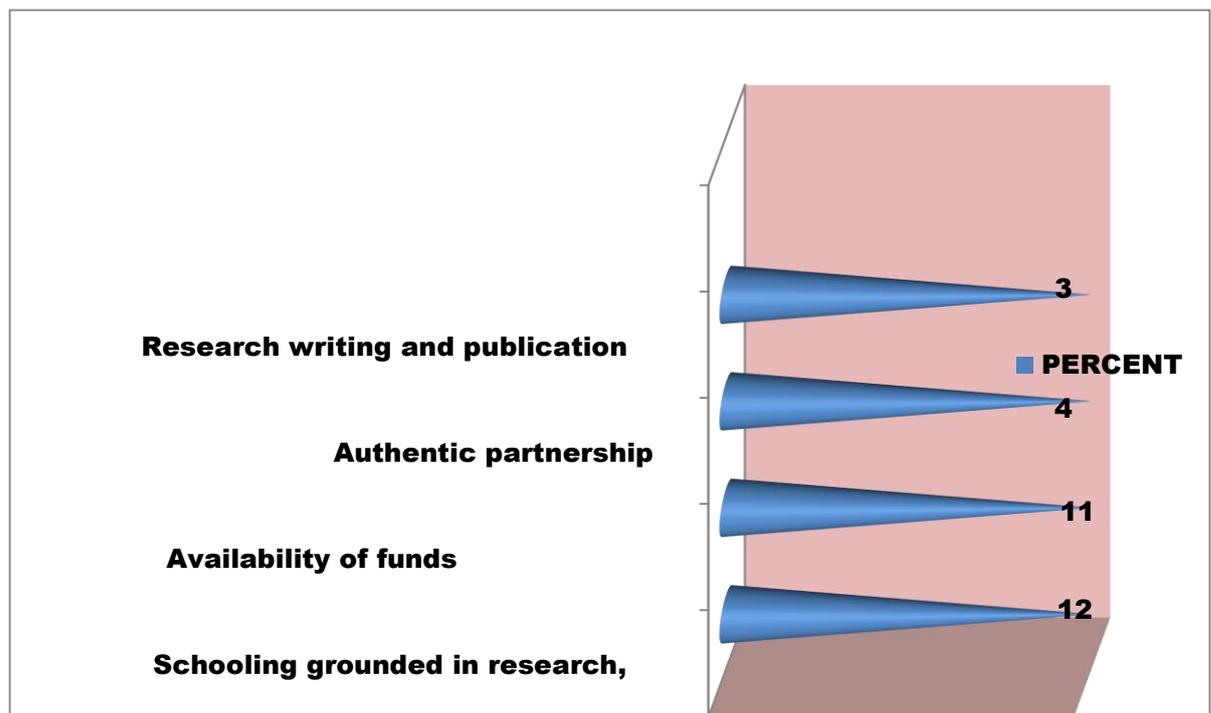


Figure 1. The Status of Research in Higher Learning

Figure 1 illustrated that Tanzania's tertiary gross enrolment rate of 3.1 per cent and is one of the lowest countries in higher learning in Eastern Africa and lags by Kenya's 11.5 per cent, Ethiopia's 8.1 per cent, Rwanda's 6.2 per cent and Uganda's 4.8 per cent, according to UNESCO., in addition, the overall quality of post-secondary education in Tanzania is also low and do not adequately prepare university graduates for current and future formal jobs or self-employment (Gigotho, 2021) this findings indicates that Tanzania needs to struggle and innovation in research this would improve the whole system of education and obtain quality in teaching, learning and research, finally economy development.

To ensure effective research innovation all university managers in Tanzania should guarantee to innovate research. This implies that all members in higher learning institutions should use research inquiry; learners must be provided with suitable knowledge which should be grounded in research, availability of funds, authentic partnerships from within and outside the country. Higher learning lecturers ought to be rooted in investigation inquiry the intent is to edifice rational competence training in universities and all tertiary education ought to be taught by potential lecturers those who are research experts who own self-interest and skills in the public interest. This would enhance research innovation in higher learning. Research exploration is not a work of a single person but it is a teamwork job or cooperation work therefore, should involve all people required.

This study explores research innovation as a Transformation tool for quality Education. The key findings indicated that 77 percent of the respondents claimed that higher learning institutions with the high provision of research activities attract finance from different agencies. A number of participants 73 percent commended that research provides opportunities to come up with better policies, planning and strategies. Globally research investigation contributes a significant benefit to society. Most of the studies investigated specifically actions research have been passed out in higher learning however some of the learning institutions do not have tools for carrying out investigation actions. Research empowers inquisitiveness. Having an interest in learning research takes you far away in life. Research widens your sphere to various opinions and new generating thoughts. It also builds perception and logical skills. The research process rewards curiosity. When you're dedicated to scholarship, you will be always in a place of development. Curiosity is also good for your fitness is associated with higher levels of learning research you feel better satisfaction with life, and it lowers anxious. Figure 3 indicates the summary of the importance of research.

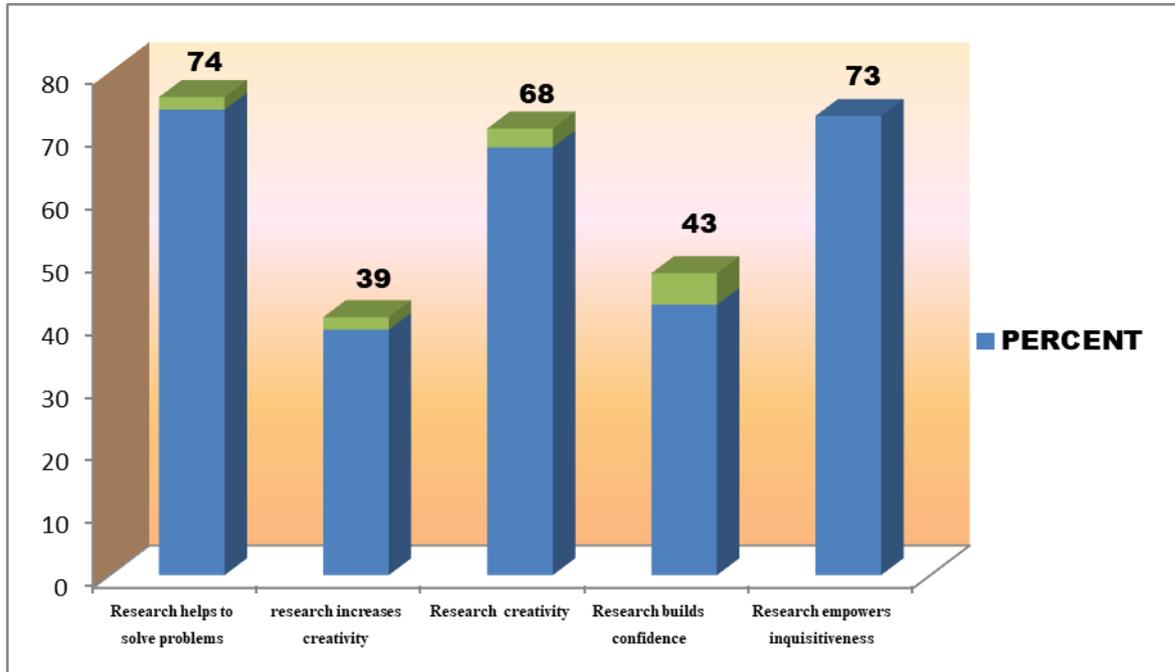


Figure 2. Illustrates the Importance of Research to Mankind (n=100)

Figure 2 shows the contribution of research that helps to solve problems 74 percent of respondents indicated that the role of research is to solve challenges in society and globally in general. Research plays a crucial role in solving various issues such as personal or professional challenges. Vivid example during corona pandemic many researchers involve in investigations so that they come up with vaccines. The majority of the respondents 68 per cent claimed that research helps to look outside and think wider to create a solution for the problem. Some participants 43 per cent commended that confidence is another point that can be brought by investigation. When you are aware that you have gathered adequate data, analyzed and published you become contented and you will feel much more motivated to investigate research and you can become more confident in your solution. Furthermore, Research innovation can aid in policy decisions for national development thus research contributes a lot to national growth.

The study was interested to find out possible strategies to curb challenges facing research innovation

The study result indicated that there were varieties of challenges facing research innovation as monetary capital, lack of institutional partnership, low learners' registration and disengagement between instructions and investigates were some of the limitations that challenged tertiary institutions in investigating knowledge growth in Tanzania.

Lack of monetary funds

The study was interested to evaluate the challenges facing research innovation so as to boost investigation production in higher learning, we need to locate money for research development so as draw citizens nearer to involvement and get occupied in research writing and publishing. Moreover, it has been revealed that majority 68 percent of university managers do not invest in research, while some 14 percent participants displayed that some universities give little financial for research however, 45 percent of the respondents do not attempt to coordinate financially sustainable for research development.

These results concluded that there is a serious need to widen suitable harmonious mechanisms concerning various stakeholders in the research system, including the higher learning leadership in particular. This study exposed that all learning institutions must put a link of supporters, grants from external and internal systems for lecturers' research funding. It is consequently, required those higher learning supply pertinent personnel advance programs like supervising, monitoring and assistance within the diverse department. The corona pandemic has seriously challenged researchers and added limitations in university structures. There have been 25 per cent of the number of people graduating in PHD every year however during corona all schooling in all levels of education abruptly stopped, learners were not able to present their research hence no graduated in time. The research findings indicated that some of the lecturers are not active in research writing and publication as one of the members cited: "I am not encouraged to either write or publish since there is no supports from the university even the government. She added as you know publication needs funds".

Challenges of academic research in Tanzania

In this section, the researcher expected to understand if academic staff was faced with constraints in research growth. Respondents cited several challenges facing HLI's the implementation of research objectives in tertiary institutions such as Irregular financial support, low motivation, outdated study infrastructure, professional turnover, increasing duties resulting from weakening lecturers, learners' proportion which was not related to the teaching staff. These limitations have also led to low research production. Participants also mentioned severe factors that contribute to research declining in Tanzania such as un-seriousness of the education sector, deficient in stressing on science subjects' courses. The majorities of the factories belong to the government yet; do not connect in creativity to develop new products that would improve its competitiveness, poor funding and research publication. Change is inevitable this innovation is potential through scholastic investigation that generates new knowledge, skills, technologies and the potential for action.

Possible strategies to curb challenges facing research innovation

The current study was interested in looking for techniques used for research innovation as a tool for change. Different methods for research innovation were revealed as displayed in Table 1.

Table 1. Techniques for Research innovation (n=100)

Item	Frequency	Percent
Research base learning	56	56
Support learners for self-organizations	50	50
Advance education for transformation	78	78
Increase research mentoring	69	69
Involve outsider stakeholders	55	77
Supply self-reliant modules	55	55
Increase digital skills modules	79	79
Promote and support start-up researchers	37	37

Table 1 indicates various methods which could be used to transform research in higher learning. The findings displayed that: project-based learning 56 per cent, support learners self-organization 50.0 while majority 78.0 per cent of the participants commended that teaching in research innovation services need to be improved, extend research mentoring 69.0 per cent, including external stakeholders 77 per cent however provision of entrepreneurial modules 55 per cent. Nevertheless, the majority of the participants 79 per cent asserted that developing digital skills modules is one of the techniques which could assist research innovation in higher learning, finally, a least of participants 37.0 per cent portrayed that professionals must encourage and support the young researchers to involve in research writing and publications. Innovation in higher learning is not only a single person work but is an act of teamwork a solid system to anchor within a bigger system that enables and draws on a transformation process. Moreover, higher learning institutions would be successful in bringing transformation in universities if varieties of methods would be implemented. Including using sufficient academic autonomy in higher learning, freedom to create new study programs and design their content. Tertiary learning should adopt online teaching and learn including; e-learning, e-journal, e-book, Higher learning must have sufficient autonomy in using the fund to support lifelong expertise, career growth through different financial support streams, involving monetary from university fees. This findings concur with paschal, Pacho and Adewoyin (2022, pp. 37-38) who recommended several strategies for innovation in Higher education. For example provision of fund by the government, improving internet connection and ICT infrastructure as well as application of blended learning as an innovative ways to effective learning in higher education.

Promote research innovation in higher learning institutions

During the interview, one of the participants voiced out that tertiary institutions' lecturers, managers and other stakeholders must work together as a team to facilitate joint innovation among HLI and industries, community organizations. Reward commitment lecturers involve in research provision and mentoring as well as career development. Generate monetary incentives to remunerate research and

teaching involvement is very vital. Hence work with and collaborate with external stakeholders.

5. Conclusion

Like any other institution in the world universities in Tanzania need research innovation that would convert the learners to be successful, creative, crisis solvers, and not job seekers. Research innovation can aid in policy decisions for national development; competence-base, research empowers the youths, it gives self-confidence to the researcher; it gives autonomy and provides monetary funds. The pattern of skills will lead to human resource development and competence building. Hence, the role of tertiary institutions is considered to be critical to social development and economics. The results also demonstrated that there are significant differences in higher learning lecturers' operation of expertise and other applicable materials in their delivery of lectures. It was also revealed that lecturers were not committed to educational researches as a means of updating their understanding in areas of occupation. The exploitation of e-learning e-journal and e-books to mention some were similarly found to be limited however utilization of these materials makes the academic staff successful agents of renovation in higher institutors. Worldwide higher learning is expected to mould learners to be elevated thinkers functioning, contrary and convergent critical thinking, elaboration, transformation and evaluation of knowledge, and traits said to be trainable. The lecturer is supposed to be professional who hold strategic innovation in research and education as a whole because the location they occupy in the education process is very significant. It was found out that research innovation is challenged with insufficient enforcement of research laws, monetary capital, lack of institutional partnership, low learners' registration and disengagement between instructions and investigates were some of the limitations that faced higher learning coupled with inadequate awareness on the important of research were the major factors challenging research innovation in higher learning education in higher learning in Mwanza, Tanzania. In addition, lack of pertinent skills in e-learning consequently can bring severe problems in higher learning.

6. Recommendations

This study brought forth a number of concerns that require the attention of stakeholders:

- i. The republic government of Tanzania should set a policy that will ensure that research is given paramount priority in all tertiary learning.
- ii. The study recommended those higher learning institutions' managers, from government and private sector must invest more in research writing and publications and academic staff should provide varieties of skills and possible measures for research innovation in all higher learning institutions.
- iii. The higher learning institutions managements must critically make a review on the teaching Pedagogy of the higher learning; provide seminars, workshops, refresher courses to academic lecturers to use both experiences, skills in teaching and direct learners to be competent researchers.

- iv. To all tertiary institutions should broaden the results of amount and excellence of investigation accepted in all higher learning institutions moreover results in contributions must be disseminated for implications of findings to the entire public.
- v. The Republic of Tanzania must seek sufficient funds such as physical resources and financial focusing on investigations specifically stressing on research transformation, in general, this might boost the research investigations in Tanzania.

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