

**AN ASSESSMENT OF THE RESEARCH CAPACITY IN ONE OF ETHIOPIAN
HIGHER EDUCATION INSTITUTIONS: UNIVERSITY OF GONDAR.**

By

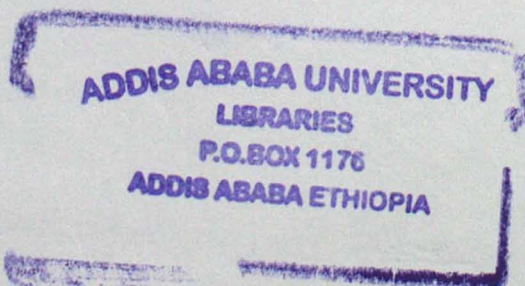
Melese Birhanu Tiruneh

**A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in
Partial Fulfillment of the Requirements for the Degree of Masters of Arts in Educational
Research and Development**



**Addis Ababa University
Institute of Educational Research**

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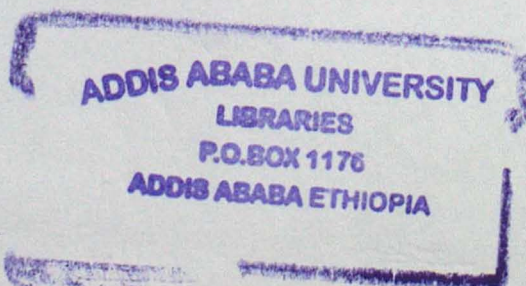
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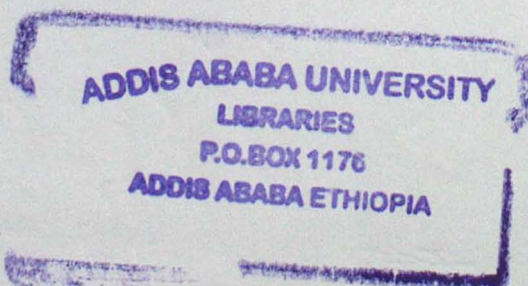
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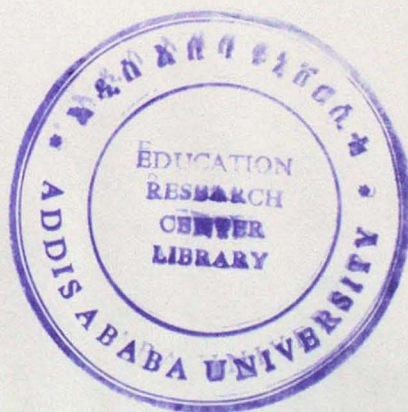


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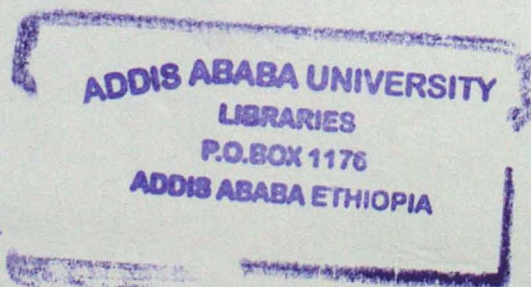
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ACRONYMS

ADRC	Academic Development and Resource Center
BER	Bureau of Educational Research
BPR	Business Processing Re-Engineering
CERN	Center of Education Research Network
DES	Department for Education and Science
DfEE	Department for Education and Employment
DIF	Development International Fund
EEC	Education and Economic Center
ESRC	Economic and Social Research Council
FACS	Faculty of Applied and Computational Science
FSSH	Faculty of Social Science and Humanities
GCMHS	Gondar College of Medical and Health Sciences
GTC	General Teaching Council
HEIs	Higher Education Institutions
HESC	Higher Education Strategic Center
ETQQA	Education and Training Quality Assurance Agency
IER	Institute of Educational Research
KUTERA	Kenya, Uganda, Tanzania Educational Research Awards
MoE	Ministry of Education
NERF	National Educational Research Forum
RAE	Research Assessment Exercise
RCS	Research and Community Service
RPC	Research Publication Committee
RPO	Research and Publication Office
TGE	Transitional Government of Ethiopia
TTA	Teacher Training Agency
UERA	Uganda Educational Research Association
UoG	University of Gondar

ABSTRACT

This study attempted to assess the research capacity in Ethiopian HEIs with particular reference to University of Gondar. To carry out this research, 'Mixed Methods Research Design' was employed to comprehend the general picture of the incident. Qualitative data were obtained through in-depth interviews with six key participants from University academic staff and HESC. Questionnaire was used to gather data from 93 respondents and seconded for triangulation. These respondents were University instructors of UoG. Qualitative descriptions were done to analyze data from in-depth interviews. Descriptive and inferential statistics were processed to analyze quantitative data obtained through the questionnaire. Thoroughly, it was discovered that the majority of university instructors have good perception and conviction toward the importance of research in HEIs. As a principle, conducting and collocating research and teaching work together was critically learnt as one of the major goals of the institution. And most of them have high research confidence. But the quantity of the research projects conducted and published in the university was judged as less. So in-service research training was considered as an unavoidable in put factor to enhance the proportion of the projects as well as instructors' current research skills, practice and participation. Nevertheless, since the university does not have its own sufficient potential research method trainers, its rate plus the proportion of instructors who have ever taken in-service research training so far was not considerably good. It was also examined that the university does not have organized internal quality research audit body /system, and strict selection criteria used to select quality research projects at the university level. Some how good book publication experiences being seen in the university could signal the research competence of the institution. Yet, the status of the University in disseminating the research findings to the surrounding community looked low. For that matter, the RCS office of the University was identified as a responsible body in encouraging, managing, disseminating and utilizing the research projects. Consequently, considering some of the discovered good research deeds being shown, the research capacity of the university could be judged and concluded as some how moderate. To end with, the study recommends that the University has to organize and perform permanent in-service research training to its academic staff as compulsory task of the institution. To do so, it has to rear and possess its own potential research trainers, increase the number of instructors in second and third degrees by designing research focused post graduate curriculum. Finally, the government has to give due emphasis to research and design technology led national research policy so that all sorts of research works in higher education could be practiced in.

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Research basically plays a notable role for ones country socioeconomic development. In countries, research has its own historical, human, cultural and economic background. The history of research work in Ethiopia can be traced back to the time when missionaries, adventurers, and other foreigners began to come to the country. Its scope and coverage, however, was limited to areas like archeology, early human history, socio-cultural descriptions, discovery of the land of the legendary Priester John and the source of Nile (Aragay, 1988:405 & Mekonen, 1990:105 in Almaz, 2005).

In ones country education system, research is believed to have its own prospective impact on national development. Hence, whether it is based on discipline, themes, or institutional settings, research represents a core area of activity with in Higher Education Institutions. It is the concern of all who are involved in the education system rather than of specific groups, organizations or sectors. So research in education is a disciplined attempt to address questions or solve problems through the collection and analysis of primary data for the purpose of description, explanation, generalization, and prediction (Anderson, 1990:4-6).

While dealing about research in an education system, its capacity can be logically questioned and recognized. In fact, research capacity is not simply about undertaking research projects, but is about engagement with the whole research process, including specifying, accessing, interpreting and applying research (Anderson, 1990). The critical beneficiaries of enhanced research capacity should be learners, their families, their communities and, ultimately society as a whole; their interests are best served when education policy and practice are informed by high-quality research.

Most of the educational researchers in the countries of the sub-Saharan region are based in their respective universities. This is because, many of those persons with research skills find universities to be the main if not the only institutions interested in research (Working Group on Capacity Building in Educational Research and Policy Analysis, 1992:3 in Mwiria & Komba, 1996). Further, in many of the Sub-Saharan countries, only universities are able to attract research support from donors and government. However, only a relatively small percentage of educational researchers are well grounded in basic and advanced research skills.

The reasons for this include: limited opportunities for the mastery of relevant skills; limited access to key research equipment such as computers; inadequate exposure to recent literature in their respective fields of interest; and poor training due to a shortage of highly qualified research methodology teachers.

Educational researchers specially those in the universities, are poorly paid; have little access to research funds; are overworked due to recent university expansion which gives them little time for the conduct of the research; have limited exposure to recent literature; have limited opportunities to participate at learned conferences; and have to operate under sometimes very intolerant political regimes in their own countries which often show no respect for university autonomy. In addition, despite the fact that educational research capacity has a positive impact on policy, can also be limited by the relatively poor research administration. The management of educational research in the East African sub-region is characterized by understaffing, underfunding, lack of autonomy, disruption by student strikes and brain drain; individual as opposed to institutional management of research; constant change and transfer of personnel; inability to link the work of the units with work in other institutions that would increase the pool of available expertise; and lack of planning and formulation of clear priorities in building research capacity (Working Group on Capacity Building in Educational Research and Policy Analysis, 1992:3 in Mwiria & Komba, 1996).

To sustain Ethiopian Universities' research base against global competition with in this era of science and technology, there is high time to recognize and support excellent research financially, and foster effective collaboration (Aragay, 1988 & Mekonen, 1990). A key purpose of Ethiopian higher education is to produce competent, adaptable and responsible citizens who can contribute to the development of the country and to transforming the livelihood of the Ethiopian population. The research activities, for instance; undertaken by the Higher Education Institutions (HEIs) are expected to generate knowledge to provide the society and the economy with relevant solutions so that to ensure development, that can address problems at the grass root level and generally contribute to poverty alleviation.

HEIs are also expected to provide a range of services to the community. These services may vary from place to place, but are likely to include such as links with secondary schools, consultancy and short term training and out reach programs in the community. To meet these purposes, therefore, the teaching, learning and research undertaken need to be relevant and to be high quality (HERQA 011, 2007:14).

Clearly, being a national priority; educational research therefore, entrusted to study issues, which lead to solve the pressing problems of the educational system (Tekle, 1984 in Almaz, 2005). Thus, in current Ethiopian higher education reform endeavors; research in education is expected to contribute to the enhancement of quality education while continuing with the quantitative expansion and building a system responsive to national development needs.

With this priority, the Ethiopian government is currently making a significant amount of investment to develop the capacity of the country by increasing the supply of trained manpower to the economy at large. One component of this capacity-building program is strengthening and expanding the existing institutions of higher learning and establishing new ones based on the need of the country. A case in point, the former Gondar College of Medical and Health Science (GCMHS) was one of these higher institutions expanded in to a University level since June, 2004 under the capacity building program of the government.

University of Gondar/UoG/ is one of the public universities in Ethiopia which has been trying its best to get a high national and international recognition in teaching, research and community service. The University is an institution at a highest level of education where one can study for a degree in diversified fields and conduct researches relevant to the development of a nation and to the society. A University that is familiar with the objective reality and over all standards of living of its citizens is truly an asset of a country. For example; this institution represents an evolution of high successful recipe that the founders of Public Health College & Training Center developed 50 years ago. The University is expected to play a vital role in the socio-economic development of this poverty-stricken region of ours. While the university has various tasks, those which reflect phenomenon of change in the society, are education (teaching), research and service.

As research is the cutting edge which enables the society penetrates in to the unknown, the university will give high priority for developing a research strategy based on national policies. Moreover, in accordance with the strategic goals of UoG, research priorities will be based on societal needs and academic inquiries. The University will also continue in strengthening its national and international links with partners of promoting the quality of education, research and services. From its out set, research undertakings are being done in the University as one of its major tasks in order to achieve its mission, vision, and goals which in turn secure quality education. Hence, this study has initiatively targeted to examine the current research capacity of this institution and interested to look in to the role of research in teaching performance and quality education.

1.2 Statement of the problem

Much of the research that has been undertaken in the east African sub-region appears to have had little impact on guiding educational decision-making. In the case of Kenya, Nkinyangi (1983:207 in Mwiria & Komba, 1996) gives examples of several key educational decisions taken without the benefit of research or despite contrary recommendations from actual research findings. There are nevertheless a few cases where education has been credited with influencing policy. Research on examinations, for example, has helped in the modification of examination items to make them more relevant, efficient and equitable (Court, 1983:207 in Mwiria, 1989). However, according to commentators such as Hargreaves (1996), Woodhead (1998), and Tooley and Darby (1998) much educational research is of low quality when compared with other areas such as medicine and that the findings have little 'use-value' for practitioners and policy makers. Many educational researchers are partisan or ideologically-driven and research findings are primarily disseminated to other researchers in academic journals. As the result, the critics do not have 'reasonable expectations' of what educational and social research can achieve (Edward, 2000). Significantly, the Hillage Report took a more even-handed approach to such debates, highlighting the limitations of research but also the lack of interest amongst many policy makers and practitioners in research even when it is of high quality.

Higher institutions have triple missions: the training of highly qualified personnel, the development of new knowledge that is carrying out useful research and rendering services to the community. And research at higher education is an essential requirement for increasing the generation and dissemination of systematic knowledge that enhances economic, social and cultural progresses for the well being of individuals and the society (UNESCO, 1997 in Almaz, 2005). Therefore, neglecting higher education research, tends to affect negatively social and political progress, increasingly marginalizing in the world economy, and finding it ever more difficult to catch up. Experience shows that countries that have been able to invest in higher education research have been in the forefront of development (Teshome, 2004 in Almaz, 2005). So strengthening research-coordinating bodies in higher education would be vital for the existence and enrichment of evidence based teaching and learning process and dissemination of new knowledge within the universities and across nations.

Hence, in Ethiopian higher education institutions; it is likely to identify priority research areas such as capacity building and strengthening, quality improvement, and how the gap between educational research and practitioners could be bridged. For instance from these research areas,

there is doubt whether there is little or no evidence of a direct correlation between research productivity and teaching excellence, the myth that there is a relationship persists, in part because academics want there to be a link. In the same vein, politically the stakes are loaded against evidence showing there is not a link between teaching and research. Neither staff, who wish to be allowed to continue to engage in both teaching and research, nor institutional managers who want to maintain university funding based upon research and teaching have any desire to see the link severed or weakened (Brew and Boud, 1995b:37). Generally, several internal and external reasons tend to make university research very significant though numerous impediments exist. Thus, attention is in focus of comprehending and overcoming those impediments, which seem to stand on the way of research development in Ethiopian higher learning institutions, and it is time that the various impediments are carefully assessed and clear policies and procedures developed. In fact, this research at hand was initiated to investigate such circumstance in one of Ethiopian higher education institutions, University of Gondar.

At AAU, Multiple factors influencing research undertaking in IER were studied as the major challenges to the development, survival and utilization of educational research by Derebssa (2000) and others in other institutions. As a staff, I was also interested to such influential factors in research work and had little knowledge on the research trials and management procedures the University follows and how to get access to conduct research. Thus, I decided to study the research capacity of the academic staff in particular and the University in general. Accordingly, the study attempted to assess the research capacity of the University, and there by identified the problems encountered in conducting and utilizing research as well as tried to observe research roles in teaching performance.

1.3 Basic Research Questions

The study was entirely depending on finding answers for the following basic questions:

1. What does the extent of the academic staff perception and participation in research, and their quantity in conducting and utilizing the research projects look like in the University?
2. What is being performed with regard to the research audit system, publication outputs and the research dissemination mechanisms through Research and Community Service Core Process /RCS/ office of the University?
3. What are the major constraints encountered by the institution in order not to achieve its research objectives with regard to the:
 - a. Management practices of the Research and Community Service Core Process /RCS/ office?
 - b. Availability of instructors trained in research work?

- c. Accessibility of human, financial, time and material resources?
4. What are the most important research promoting mechanisms compulsory to enhance research undertakings in the university?

1.4 Objectives of the study

The general objective of the study was to assess the current research capacity in Ethiopian Higher Education Institutions with particular reference to UoG. The degree of the academic staff research perception and participation, quantity in conducting and utilizing the research projects, the availability of the research audit system, publication outputs, research dissemination modes, and the major challenges encountered by these staff in accordance with the research management practice of the Research and Community Core Process (RCS) office of the University were in focus.

In doing so, the specific objectives of the study were to:

1. Analyze instructors' perception toward research in higher institutions, their actual proportion in conducting the research projects and utilizing the out puts in teaching performance in the University.
2. Examine the availability and practice of research audit system, publication outputs and the research dissemination modes through the Research and Community Service Core Process /RCS/ office of the University.
3. Find out the major problems that hinder in conducting the research projects at UoG.
4. Identify the most important research promoting factors compulsory to enhance research undertakings, and forwarding significant and applicable recommendations as a means to strengthen the research capacity of the University.

1.5 Significance of the Study

Evaluation findings have an impact on policy and can provide guidance for improving a program of an institution or education system. It can also offer a new way of looking at a familiar problem and it is referred as 'reconceptualization (Weiss, 1988a). Therefore, examining the research capacity of UoG was appropriate so as to improve the over all role of research in University teaching performance and then to quality teaching and education policy issues. It is also anticipated that the findings will serve as documented evidence and judgments for University management, instructors, educators, the Agency of ETQAA/the former HERQA/ and other stakeholders regarding the roles of research in an education system.

Particularly, the recommendations that have been forwarded at the end of this research work may serve as guidelines to the practitioners who are engaged in research work in order to seek solutions in the overall process of quality teaching and learning. Lastly, review of literatures and the findings of the study will instigate other researchers to conduct further investigation on related dimensions of the study area.

1.6 Delimitation of the Study

The study was delimited to the assessment of the research capacity in Ethiopian higher education institutions with particular reference to University of Gondar. Considering the likely research practices and challenges described in other literary works of HEIs, the study focused on this higher institution. Currently, the University has been trying to keep quality research and education to its customers such as students. Accordingly, from various deeds of the institution; the study has delimited its examination on instructors' research undertakings, challenges, research capacity building mechanisms and its contribution in teaching performance.

1.7 Limitations of the Study

At the beginning of the study it was assumed that all sample instructors in the study would be involved in responding and returning the administered questionnaires. But, only 78 % of them participated and returned. So the researcher was not too satisfied with the number of the returned questionnaires. In addition, department heads selected for the focus group discussion were not volunteer to come for the prepared discussion program even the program was organized on various days with the help of quality assurance office head. This was a little bit disappointing circumstance for the study. Moreover, some newly assigned higher officials did not appear for interview session due to the fact that they did not have previous keen experience in the issue the study focused.

1.8 Definition of Key Terms

- **Higher Education:** means education offered to students completing secondary education, join programs leading to the award of Diploma, first Degree; Second Degree or Medical Specialty; and/or Doctoral (PhD) Degree.
- **Higher Institutions:** are institutions which offer students courses in different faculties and departments in order to award Diploma, first Degree, Second Degree, or Medical Specialty; and /or a Doctoral (PhD) Degree.

- **Assessment:** involving the making of judgments about the worth and effectiveness of educational intentions, processes and outcomes; about the relationships between these; and about the resource, planning and implementation frameworks for such ventures.(Adel man and Alexander 1982: 5)
- **Educational Research:** as that set of activities which involve the systematic collection and analysis of data with a view to producing valid knowledge about teaching, learning and the institutional frameworks in which they occur (Hillage et al., 1998:7).
- **Research Capacity:** is defined as including the capability to carry out high quality research, the quantity of the research projects undertaken in the institution, and the ability to utilize its outputs, effectively.
- **Research Intensity:** refers to the strength of instructors' research confidence, their degree of participation in research work and the proportion of the research projects they ever conduct in the University, UoG. It is understood as the major component of research capacity.
- **Research Audit System:** is expressed as the method of inspecting, evaluating, checking and confirming the relevance, superiority and high utility value of the research findings.
- **Quality Teaching:** is a planned and systematic instructional process of an instructor considering the acceptable natural standards of students, teaching and learning process and the learning outcomes through observation and practice.

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1 The Concept of Education and Research

According to various scholars in education, educational research is notoriously difficult to define. This is because, as many people have noted, education is a 'field of enquiry' rather than a discipline in its own right; moreover, as a field, it overlaps with a range of disciplines in the social sciences (e.g. psychology, sociology) and the humanities (e.g. history, philosophy). For instance, scholars such as Borg and Gall (1993) indicated that, education is wealth, power and a base for all rounded individual and social development. In our case, TGE (1994) states that education is a process by which man transmits his experiences, new findings and values accumulated over the years, in his struggle for survival and development, through generations. Habtamu (2000, in Kiflom, 2009) has also defined education as it is the way to achieve economic, social and political development of the country. In order to achieve this all, highly competent human-power is needed (Borg and Gall, 1993 in Kiflom, 2009). To meet this need, the role of education should be human investment which is largely responsible for economic growth and national development. So to produce evidence based and well informed human power for sustainable social, economical, political and national development of ones country, it is persuasive to hammer and base education on research.

As to education; it is also important to regard as how research is defined by different writers. Research is defined diversely because of its various nature of activities. According to Damtew (2007 in Kiflom, 2009), research is a power house of knowledge creation. Research is an outlet value for innovation and it is responsible for the broadening and deepening of knowledge (Neary, 2002 in Kiflom, 2009). Research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data. And it is often described as an active, diligent and systematic process of inquiry aimed at discovering, interpreting and revising facts (Firdisa, 2000). In the realm of education, research is the application of systematic methods to the study of educational problems. The focus of educational research is education, and the fore most function is to assist teachers, parents, decision makers and all concerned in the field with the aim of improving the quality of the educational processes, and thus enhancing the quality of life (Asrat, 2007).

By and large, it is promising to articulate that research is a groundwork to solve the prominent problems, for the advancement of knowledge, a means for evidence based learning and teaching the community, as well as for further innovation through the mouth of education.

2.2 Understanding Educational Research and Capacity

In this review, a broad and inclusive definition adopted by Hillage, Pearson, Anderson, and Tamkin (1998: 7) in their review of educational research has been deliberately taken. These authors view educational research as that set of activities which involve the systematic collection and analysis of data with a view to produce valid knowledge about teaching, learning and the institutional frameworks in which they occur. As a result, they have included in their review many different forms of 'research' which vary in terms of the subject matter, funding, purpose, outcome, and method.

Following Research Assessment Exercise (RAE) definitions, these reviewers defined that the subject matter of research refers to that research relating to all sectors of the educational system- pre-school, school, post-school, continuing, further, adult and higher education. And funding is ranging from large scale publicly funded projects to personal unfunded research projects. They did also consider that purpose of the research includes, for example research that aims to produce knowledge which is primarily theoretical, is applied or is a form of action research; involves the development of 'new' knowledge or is a form of 'scholarship', reviewing 'what is known'. In addition, the research outcome is related to research that aims primarily to develop knowledge for its own sake; 'blue skies' research where practical outcomes are unpredictable; research that is designed directly to inform policy, practice, or new materials; that research is primarily for personal development. Finally, they also stated that the research method includes research that involves original data collection or the analysis of secondary data; research based on different techniques - qualitative, quantitative, philosophical, historical etc. What unites the different activities, is that they are systematic and analytical, are conducted for a purpose related to the education system and have been intended to add to the body of knowledge (Hillage, Pearson, Anderson, & Tamkin, 1998: 7)

However, in setting about these scholars' study, they were not only concerned to adopt an inclusive definition of research itself, but also wanted to base their review on a broad definition of 'capacity'. As the National Educational Research Forum for England has recently noted in their working party report on research capacity:

Research is the concern of all who are involved in the education system rather than of specific groups, organizations or sectors. It follows that research capacity is needed throughout the system. Research capacity is not simply about undertaking research projects, but is about engagement with the whole research process, including specifying, accessing, interpreting and applying research (NERF, 2000:1).

From this quote; we can see that authors have defined research capacity as including an understanding of the size of research in the education system, the current research expertise of the community and its degree of utilization. Critically, research capacity includes both the ability to undertake high quality research and the ability to utilize it effectively.

2.3 The Role and Purposes of Educational Research

2.3.1 The Role of Research in the advancement of knowledge

According to the Proceedings on Higher Education and Research Policies in Europe approaching the year 2000 (1984), research in general is an indispensable means of acquiring and advancing knowledge. In this capacity, it is absolutely essential in order to keep a breast of new ideas and developments in the various disciplines. It should be kept in mind, however, that while the advancement of scientific and technical knowledge is important to the welfare of the human race and to its intellectual development as well, the advance of other branches of knowledge has an important role to play in moral, spiritual and ethical development.

The proceedings also asserted that Universities are traditionally the institutions whose primary goal is the advancement of knowledge through research. In their environment much of the new knowledge acquired through research can easily be incorporated in to undergraduate and postgraduate curricula. Moreover, the confidence arising from successful investigation and problem solving and the recognition of the advancing nature of knowledge, are undoubtedly basic benefits from carrying out research. And of course, there is the benefit for those who carry out research in their subject area (in addition to teaching it) that of necessity they have to acquire a deeper understanding of it and to be more aware of developments in it than do colleagues, who have their teaching on published material.

Generally, the enthusiasm that a researcher has for his subject is apparent in his lectures and is communicated to and inspires his students. The universities should continue and strengthen their general system of research in collaboration with the big research institutions, such as CERN, EEC Joint Research Centers (in Ispra and elsewhere), Max-planck-Institutes, CNRS Institutes, etc, which contribute substantially to the safeguarding of research competence and quality. Since, however, university research should span all disciplines and not only science or engineering, it is obvious that all research activities will need the support and stimulus from external links. In

many instances, institutions have been encouraged to collaborate with outside organizations active in the same field, with satisfactory results. Not only has this helped to overcome sometimes introverted approach of the academics and put a wide range of knowledge and expertise at the disposal of the researcher, but it has been often led to a co-operation between the academic institution and the outside organization on a wider front than initially envisaged (Higher Education and Research Policies in Europe Approaching the year 2000, 1984).

The proceeding has also emphatically recommended on the idea that Universities should put more emphasis on producing reviews and synthesis papers. To this end they are particularly well suited, since they do contain people from a wide range of disciplines, while many industrial research organizations or the specifically oriented establishments have people more in a similar mould. In universities those who can look over a broad field are often particularly successful.

The question now arises: Can the university breed types of researchers? To this end this report in Europe suggests that the least one could do is to encourage and support them at an early stage. The quality of the individual is very important when many appropriations are considered. The break throughs in knowledge are usually affected by the talented few. Universities should have the freedom of action to give money to skilled persons. Hence, these skilled persons or researchers can play a great role in the advancement of knowledge which in turn helps the universities attain their educational goals, mission and vision at large.

2.3.2 Research to guide Evidence-based Policy and Practice

Having good evidence on which to base new policies is vital. In relation to this fact, Furlong and White (2000) in their review of educational research capacity in Wales said:

We are reviewing the type and levels of research currently undertaken in Wales and will issue a new research strategy to guide priorities. We are also establishing stronger links with the academic community in Wales so that they can play a full part in developing new 'made in Wales' policy (National Assembly for Wales, 2001b: 24).

The need for good evidence on which to base educational policy and practice is now widely advocated though it was not always so. As Furlong (1998 cited in Furlong and White, 2000) has argued, the story of educational policy and professional development under the conservative governments of the 1980s and 1990s was one of dramatically increasing centralization; research had little role. This idea has been consolidated by the observation of David Blunkett as 'Too

often in the past, policy has not been informed by good research: a former Permanent Secretary once ruefully described the old DES as a knowledge-free-zone.'(Blunkett, 2000).

However, things are very different now though it is important to recognize that there are a number of potentially different approaches. Over the last five years, a number of influential writers, most particularly (Hargreaves, 1996 in Furlong and White, 2000), have argued strongly that, as in medicine, the aim of research should be to provide direct guidance about effective practice in teaching and learning. It is argued that what teachers need is access to evidence from controlled studies (ideally randomized controlled experiments) about the procedures most likely to achieve specific desired learning outcomes in specified types of circumstances.

Despite the skepticism of many educational researchers (Kennedy, 1997; Furlong, 1998; Edwards, 2000 in Furlong & White, 2000), Hargreaves' aspiration to develop a secure research base for teaching knowledge has proved persuasive in some senior circles. For example in 1997, Anthea Millett, then head of the TTA, wrote: 'If there was more research about what worked we would hear teachers talking more frequently about how their teaching affects pupils' learning' (Millett 1997 para 2, emphasis added in Furlong and White, 2000). And David Blunkett, told the ESRC in 2000 'we need to be able to rely on social science and social scientists to tell us what works and why and what types of policy initiatives are likely to be most effective'.

However, McIntyre's and McIntyre's views on the cause of research scarcity (2001) suggest that the relative scarcity of such research must to some extent because of the difficulty of undertaking it with a persuasive degree of validity. This difficulty, as they suggest, is due in part to the technically demanding quantitative research involved and in part to the organizational problems of achieving the willing collaboration of groups of participants. Capacity for research of this kind must involve both a distinctive kind of academic engagement and a strong inter-institutional infrastructure. Capacity for its use depends on policy makers' and practitioners' readiness and ability to be distinctively guided by this type of research-based knowledge (McIntyre and McIntyre, 2001: 4-5). Perhaps unsurprisingly, they found little evidence of this type of research in Wales at present.

Generally, most commentators understand and addressed the relationship between research, policy and practice in more indirect ways.

2.3.3 Research in the Policy Cycle

Although there is widespread skepticism that research findings can be used directly to guide the action of policy makers, there is now a growing commitment to the view that research should be part of a 'policy cycle', entering into that cycle in a number of different ways. As Furlong and White (2000: 14) stated in their review that different forms of research can, for example, be used as part of the policy planning that is putting issues on the policy agenda, helping policy makers recognize their current and future information requirements, and reviewing what is already known; as well as part of policy development which includes piloting new initiatives, and developing specialized policy instruments, for instance, new forms of assessment, specialized curriculum materials. Moreover, different forms of research can also be used as part of evaluation which helps for finding out what worked, what did not work, and linking past experience back to further policy planning. Another study demonstrated in a study of policy making in vocational education in Australia; emphasizing the benefit of research in the policy cycle as:

The policy process is characterized by a number of stages (and) research of different types can potentially play a part at each stage. (Research can be used in) ... problem identification and agenda setting, (or) linked with the subsequent policy formulation phase ... Research can also contribute at the evaluation phase, which provides opportunities for programme fine-tuning and adjustment to changing circumstance (Selby-Smith, 2001: 3 in Furlong & White, 2000).

Finally, a key issue for them in examining policy making at different levels of the educational service in Wales and Australia had therefore been to explore the ways in which research currently or might in the future enter in to the policy cycle.

2.4 Research with in Higher Education

Several important functions of university research have had a strong impact on both university and the society, as well as on their interference. Some of them are discussed in detail below.

2.4.1 The Role of Research within Higher Education

Recent debates and policy initiatives have meant that educational research now has a much higher public profile than 10 years ago. The fact that there is a growing recognition of its potential in the development of policy and practice is to be welcomed. However, one disadvantage of that debate has been that the focus on the role of research in policy and practice has marginalized some of its other purposes, most particularly its role within higher education. For some writers such as Moore (1998), one of the main purposes of research is its contribution to teaching within higher education and as such it is not, and should not be confined to the

directly practical. There are many more questions that need to be asked about society and its educational processes than the merely practical ones. As David Blunkett has acknowledged 'We need research which (amongst other things) leads to a coherent picture of how society works' (Blunkett 2000, para 55 in Furlong and White, 2000: 16)). There is of course long standing debate about whether research is a 'necessary' part of higher education. He further stated the view that research is central to teaching in higher education; it is after all how new knowledge in a given discipline is produced. At the same time, not every lecturer has to be an active researcher.

As Barnett (1990) persuasively argues 'Knowledge in the context of discovery and knowledge in the context of transmission are entirely different enterprises' (Barnett, 1990). Nevertheless, collectively, the higher education community does have a responsibility to maintain the output of research if it is to maintain the quality of its teaching programs. Again to quote Barnett's 1990:

...for effective teaching in higher education to take place, someone, somewhere should have engaged in research. This does not imply that all teachers should engage in research. It does suggest that teachers corporately have a responsibility to assist in keeping alive the research tradition (Barnett's 1990: 124)

On the other hand, in order to be a high quality teacher within higher education, every lecturer:

has a professional obligation to understand the key conversations going on in the research community...and staff ... need to have the time and resources to keep up with their field of study so that they are immersed in its conversations. (Barnett, 1990 :130-135)

As to Barnett, this would suggest that, to be effective, all lecturers in higher education need to be participants within a 'scholarly culture' even if not directly engaged in research themselves. Quality assurance procedures alone (however stringent) are not enough to ensure high quality education. However, one of the strategies most frequently used by managers within higher education to develop and maintain such a 'scholarly culture' is to support staff in their own research endeavors.

2.4.2 The Link between Research and Teaching in HEIs

There is much in the literature about linking research and teaching and strategies for doing so. The links are highlighted in Kolb's learning Cycle (1983) where the research is likened to evidence that is reflected upon, conceptualized and subsequently tested. The concrete experience could be a research related experiential learning activity. The cycle of learning highlights the importance of reflection on experience followed by demonstration that this experience has

contributed to increased attainment of knowledge and professional attributes. Kolb (1983) cited in Furlong & White (2000) shows that learning to be a circular process where the cycle begins again and the learner reflects further refines and experiences again. Kolb illustrates that students of the Medical Radiation program, for instance, link discipline specific knowledge, professional practice and research based process through case based learning. Students investigate topics related to patient cases and must consult evidence in the literature to apply best practice recommendations to the case study. A further reflection on experience gained in their clinical placements allows the student to connect their learning to professional practice. Evidence based practice is embedded into the curriculum and students develop skills in literature searching, identification and critical appraisal of evidence that they then share with their peers in tutorials.

In the same vein, strategies for universities to link teaching and research are explored by Jenkins and Healey (2005). These are categorized into developing institutional awareness, supportive pedagogy and curricula, research policies and university structure to support the nexus. There are numerous ways of linking teaching and research as suggested by Healey (2005). The linkage varies and curriculum design can be influenced by whether; the emphasis is on research content or research processes, the students are treated as the audience or participants, and the teaching is teacher-focused or student-focused.

Healey also argues that if students are actively involved in conducting some or all of a research project they will gain more benefit than if they are simply observers. He lists out the methods of linking research and teaching such as bringing data and findings from research into the curriculum, developing students' appreciation of research in the discipline, developing students' research skills (explicitly, in addition to other disciplinary and generic skills), using assignments that involve elements of research processes (e.g. literature reviews, bidding for grants, drafting bids or project outlines, analyzing existing project data, presenting at a 'conference'), using teaching and learning processes that stimulate research processes (e.g. project-based modules, dissertation modules, problem-based learning), giving students the opportunity to work on research projects alongside staff (e.g. as a Research assistant), giving students first-hand experience of commercial consultancy (e.g. as an 'intern', as work-based learning, as a consultant assistant or as a supervised consultant).

To do so, it is important to let the teachers be experienced researchers, which may pave the way to effective teaching and learning.

2.4.3 The Function of Research in University Teaching

The traditional concept of the unity of teaching and research in universities has certainly contributed very much to the progress and development of our tertiary education system. In view of the fact that, as a rule, a teacher not actively engaged in research can not easily cope with the rapid expansion in his field, i.e. universities should expect every member of their teaching staff to be engaged in some sort of research. On the other hand, research, especially at the post graduate level, not only enables a young student or scholar to firmly expand and nail down his knowledge, but has on numerous occasions substantially led to important contributions in many areas (Higher Education and Research Policies in Europe Approaching the year 2000, 1984). With reference to this proceedings, it is highly desirable to have some sort of research as an ingredient of undergraduate training. Students should at least be allowed to have glimpses of the methodology of research and get a first impression of how and what research might contribute to their career. This may be possible and it is certainly encouraged, where the number of students is reasonably small. In a mass system of higher education with hundreds of students in a class, it is out of the question that every student could be involved in research. No matter how important this may be for undergraduates; the actual situation is different from postgraduate training.

The Proceedings of Higher Education and Research Policies in Europe Approaching the year 2000(1984) has also added that the decisive aspect in the future will be the improvement of the quality of research. To keep up high quality research at an international level, certain branches of research are bound to be concentrated in certain institutions and even in certain sections of the institutions. Some institutions are going to be more research-oriented than others. It is quite natural that with in every university there will be a division of labor and that some departments or some disciplines will for some time be more research-oriented, more active and more productive than others. These all facts do assure that research plays a vital role in university teaching. So every university teacher would be required to be a researcher.

In justifying the need for a teacher to be a researcher, Hawes (1976) observes that the classroom teacher as a potential research-worker starts his task with very great advantages. He knows his own local conditions better than anyone else is likely to do: he has the support and confidence of those with whom he works: the children, the parents, the community members... etc.

In fact, Hawes goes on to add that two powerful reasons exist in support of teacher-based research. The first has to do with the very serious deficiency of educational information with regard to local problems and local conditions. Such data are necessary as a basis for educational

planning. Secondly, once a teacher becomes engaged in research activities in which his/her colleagues are also involved, he/she becomes a participant in the process of planning and improving an education system rather than a mere part of a machine. Besides, if teachers engage themselves in research activity they will have a multiplier effect on their students. Consequently, it will help in the development of research culture in schools. This all dictates and assures that teacher- based research is reasonably important as far as evidence- based teaching learning process is required in order to deliver well qualified education which in turn produces well equipped and skilled graduates.

2.5 Research and Community Services of Ethiopian HEIs

UNESCO's views on research in higher education (1995) support the view that no system of higher education can fulfill its mission and be a viable partner for society in general unless some of its teaching staff and organizational entities-in accordance with their particular institutional goals, academic potential and material resources-also carry out research. The key to success for university departments lies not only in relevance and excellence in teaching but also in research. In order to sustain societal and public support, universities should prepare themselves to respond to societal needs in their education, training and research activities. The links between research and teaching have to be clearly articulated. Research should be undertaken towards the overall renewal of higher education institutions to deliver societal expectations and provide relevant and quality education and training to their students.

There is also further evidence to maintain the Ethiopian Higher Education Proclamation on research in higher education (FDRE, 2003a) which underscores that undertaking research and studies to utilize the country's potentials by laying down necessary educational and institutional systems(article 6) as one of the major objectives of higher education institutions in Ethiopia. As part of the overall objectives of providing quality and relevant education, training and services to community, higher education institutions are required to contribute to national development and needs of the society. Thus, as clearly demanded in the higher education Proclamation, Universities in Ethiopia are increasingly expected to undertake and disseminate research and studies based on national priority challenges (articles 14 and 15).If the current higher education expansion and reform is to pay the country its full dividends in contributing to national productivity growth over time, university research will need to be given more visible and explicit attention in the higher education policy, institutional strategic planning and budget allocation processes(World Bank, 2004 in Teshome,2007).These institutions are expected the most

knowledgeable and enlightened members of the society concentrated or have passed through. They have a burden to the alleviation of social and economic development challenges of the society and the country through research, studies and community services. Innovation, relevant adoption and adaptation and transformations do not just happen but have to be encouraged by the right climate, the right incentives and the right support.

2.6 Quality Research and Assessment

According to Namuddu (1991:53 cited in Mwiria & Komba 1996:11) much of the research generated in areas of Eastern and Southern Africa is of relatively poor quality. She blames this on the relatively poor methodological techniques applied in the conduct of the research and the poor presentation of the data collected. Some of the factors contributing to the poor quality of research products include poor teaching research methodology courses in the sub-region's educational graduate programs; researchers' limited exposure to relevant literature in their fields of interest; and lack of relevant research technology. Others include the commercialization of research as the most able researchers tend to be simultaneously engaged in several pieces of commissioned research while also carrying out other responsibilities, and ,in the case of MoEs, inaccurate data gathering and analysis techniques, partly because of their inability to attract qualified researchers.

Mwiria & Komba (1996) have stated that the quality of the research generated is also limited by the lack of adequate opportunities for peer reviews of research findings and conclusions, partly because of fallen morale and also because of the funding crisis being experienced by the sub-region's research institutions. Opportunities for subjecting research methodologies used and the conclusions reached by researchers to close intellectual scrutiny (such as seminars and workshops) are becoming less common with every passing year. Secondly, many of the works published in local journals and departments are not really seriously evaluated mainly because there is little competition for such publication opportunities (Mwiria & Komba, 1996). This directly reflects that how much the quality of research conducted in Eastern and Southern Africa including Ethiopia has been degraded especially due to lack of research skills from the researchers as well as the absence of potential quality research assessors or auditors who can consciously, excellently and effectively examine the research findings studied, consult and correct these the seemingly energetic and/or weak researchers who may always encounter research and outreach challenges at their disposal.

2.7 Research Dissemination and Utilization

This part highlights some of the methods used by the researchers to communicate their research findings and the extent of communication with policy-makers.

2.7.1 Research Dissemination modes

Mwiria & Komba (1996) in their report addressed that research carried out in the area of education is disseminated in several ways. A few university departments produce research bulletins and research profiles of on-going and completed research. Because of a severe shortage of funds, however, many such publications come out rarely and irregularly. A second form of dissemination is the organization of workshops. Some research institutions such as the Bureau of Educational Research (BER) at Kenyatta University organize national research seminars to which researchers from other research institutions and MoE officials are invited to participate in discussions of research findings focusing on specific themes. The problem with such national-level workshops, however, is that they are very rare indeed. Workshops have also been organized by existing research networks such as the Uganda Educational Research Association (UERA) and Kenya, Uganda, Tanzania Educational Research Awards (KUTERA). In the latter case, these workshops are held following the completion of the research projects by grant recipients.

Academic seminars provide a third opportunity for the dissemination of research findings. The Institute for Development Studies of the University of Nairobi and the BER (Kenyatta University) used to organize weekly seminars to discuss recent research findings. Regrettably, both these departments now hold seminars very irregularly because of both declined staff morale and the engagement of staff in other survival activities in view of very low salaries. Journals provide a further opportunity for disseminating research findings. But like research bulletins, university calendars or annual reports, these are published irregularly because there are not enough articles, the article reviewers and editors find it hard to meet deadlines, or because the journals are not economically self-sustaining. Apart from these outlets most research products are kept either by individual authors or in small and inefficient local documentation centers and units which rarely share their stock with the main university or departmental libraries (Namuddu and Tapsoba: 1991:5 in Mwiria & Komba, 1996)

2.7.2 Communication with Policy-Makers

In addition to the shortcomings just discussed above, the report by Mwiria & Komba also evaluated that research tends to have little chance of influencing policy because there are no

effective mechanisms for communicating with policy-makers. Very limited advertisement of available research is undertaken by the producers of research and the libraries in which these products are stored. These scholars at Kenyatta University further elaborated that effective dissemination is also hampered by the language in which most research results are published. The problem here as they indicated is that both one of the heavy dependence on the English language and also sometimes sophisticated academic jargon in which results are reported. Third, the use of the available research results for policy formulation is hampered by the absence of effective research coordinating units. Perhaps even more significant is the fact that very limited dialogue takes place between the producers and customers of research products. This situation has not been helped by the distrust characterizing relations between universities and governments and the absence of adequate opportunities for formal and informal interactions between researchers and policy makers (Mwiria & Komba, 1996:13).

2.8 Research Capacity in Ethiopian Higher Education Institutions/HEIs/

2.8.1 Research Circumstances in Ethiopian Higher Education

Higher education research in our case is seemingly becoming the hot Agenda though University expansion policies and strategies have been gratefully emphasized and made it strongly reluctant. Teshome (2004; 2006b cited in Teshome,2007:123) concluded that the higher education system in Ethiopia could fulfill its missions effectively and be a viable partner to society when the faculty and the organizational entities of universities carry out research, through the expansion of quality graduate programs with appropriate support from government and stakeholders. Higher education institutions need to undertake research and studies to enable students as problem-solving citizens and knowledgeable experts.

Most Ethiopian higher education institutions, both public and private, are not engaged in research and studies as much as required of them (Habatamu, 2003 in Teshome, 2007). This may be related to lack of clear national institutional policies and strategies for higher education research and studies except the general provisions of the higher education Proclamation. The failure to develop an overarching vision of research makes it difficult to see measurable progress in research or its contributions, to leading aims of the university or the public (AAU, 2005). Generally, these and other circumstances can be taken as indicators that can ascertain the persistence of less progress in research in Ethiopian HEIs.

2.8.2 Research Extent in Ethiopian HEIs

At this present time, the extent of higher education research in Ethiopia is not comparable even with other sub Saharan Africa countries. Teshome (2007:123-124) has clearly put that most institutions are currently grappling with the problems of coping with high student population and the faculty is mainly focusing on teaching and learning and not on research and studies. There is lack of earmarked budget for research, linkages with community and industry/business. As Teshome described in his study, research is a crucial activity and must be assigned a high priority by making major annual allocations of funds, and creation of an enabling environment to conduct research. However, most students and faculty are not involved in relevant research due to lack of budget and lack of clear strategy of interventions and capacity. Hence, as he asserted; capacity of students and faculty for research should be enhanced.

Moreover, Teshome in his analysis has also discussed that one stark is that the research publications produced and cited in international arena by Ethiopian university researchers is negligible. It is significantly below the sub Saharan Africa average and by large very few compared to Kenya and Egypt, among others. For instance, between 1993 and 1997 there were only 1609 articles that were published and cited from Ethiopia, while that of Kenya and Egypt were, respectively 6364 and 9730. During the same period, Sub Saharan Africa had 56,110 published and cited articles, basically a reflection of the lack of research in the institutions of higher learning in these countries. More over, according to the Commission for Africa report (2002, in Teshome, 2007), about 60% of Africa's total expenditure on research in 2000 was in South Africa alone. For such matters, Teshome has repeatedly tried to underline in his study for this tangible fact that budgeting constraint is the prime cause for reluctant research work in Ethiopian HEIs.

Similarly, one important study; AAU (2005) looked closely that budget allocated for research in most institutions is very low and unpredictable. Undertaking and/or arbitrary allocation of research funds, poor monitoring of funds and limited contribution of research to learning and teaching are endemic problems of Addis Ababa University. The situation is not different in many of other universities in Ethiopia. Although several government documents and strategies indicate a significant commitment to research, the amount allocated or apportioned to universities is negligible. Furthermore, universities are not proactively engaged in research and studies taking advantage of the importance stressed in different government policy and strategy papers. Some of the research undertaken and coordinated by some agencies

could have been better utilized for basic and applied research and studies and be more productive if they were directly earmarked for the universities. These warrant a better focus and coordination to enhance and utilize the research capacity of universities in terms of human resource and facility.

2.8.3 Factors Affecting Research Capacity of Ethiopian HEIs

Research capacity and its contribution could be influenced by a number of factors. These factors vary at different times and settings. Different researchers have indicated hindering impacts on research works. Adane (2000), citing Hummadi's views on university research problems (1989) has presented a list of problems which universities in developing countries are facing in research. It can be summarized as follows:

- 1) lack of trained and experienced personnel
- 2) lack of financial support
- 3) lack of ample staff-time for research
- 4) problems related to library and laboratory facilities
- 5) absence of well established and supporting organizational structure for research
- 6) and lack of visiting exchange programs between universities

In the same year, Derebssa (2000) on his part also made a study on factors influencing research undertaking in IER identified the major challenges to the development, survival and utilization of educational research in the Institute of Educational Research/IER/; such as insufficient and/or unsustainable funding, inadequate skilled research staff, inadequate facilities, unattractive salary, undeveloped research culture, and weak research demand by policy makers. Apart from IER, in the great majority of cases, the structures of departments or units of educational researchers are not well developed (Derebssa, 2000). He further explained that even if there are research units/services in different colleges/universities and regional offices to initiate and promote educational research, educational research activities are generally scarcely structured in most of them. Many of these and to some extent similar problems are persisting in the context of Ethiopian colleges and universities. In line with this, Taye (1993) highlighted the following major difficulties encountered by researchers at Addis Ababa University: lack of sufficient budget, absence of incentives, under utilization of research

outcomes, unfavorable teaching situations, lack of technical skill and competence, and administrative delays.

According to the statements stated in Kiflom (2009), lack of dissemination and utilization of research findings are persisting problems for conducting research. Many of the studies of educational issues in higher learning institutions remained shelved in archives, libraries, and documentation centers. If there is no dissemination of findings, there is no utilization of research results and this in turn will discourage teachers from being involved in further research. This all idea has also been supported by the research study conducted by Firdisa (2000) in his study entitled as "Impediments to do satisfactory educational research work in line with the new education and training policy" indicated some of the prominent and influencing factors of educational research happenings in Oromiya regional state:

Lack of incentives, lack/inadequate funding, time constraint, lack of competence of experts and teachers, lack of support and encouragement from top management, research endeavors and findings are not publicized and are left in shelves, lack of conducive climate for research (office space, equipment, stationary, computer with accessories etc)(Firdisa, 2000).

Further more, in that same year, Adane (2000) cited in Kiflom (2009) considered the factors which were taken as a persisting problems for conducting research in Bahir Dar Teachers College are heavy teaching load, absence of library and laboratory facilities, the problem of up-to-date journals and books, absence of budget, absence of experienced researchers, lack of encouragement and administrative support, absence of research link with other colleges, absence of a well established effective and autonomous organizational structure for educational research, and the absence of research culture.

As most of these researchers investigated, lack of financial resources is one of the prominent factors that usually hinder instructors' research capability in higher education institutions of our country. Research inevitably calls for recurrent expenditure; frequent travel expenses, transport cost, assistant fees, supplies and charges of secretarial services. The individual researcher can not properly cover these huge costs (Tsegaye, 2000). Besides, when research funds are allocated, getting it on time as need arises could not be possible due to administrative delays. The problem is not only a matter of getting the approved research fund, but it is also getting it exactly on time with out too much red tap (Seyoum, 1985).

Generally, regardless of these impediments that obstruct them from conducting educational research, teachers by virtue of their important position in educational system are required to

participate in educational research to improve quality of teaching learning process. On top of this, if the current higher education expansion and reform effort is to pay the country its full dividends in contributing to national productivity, universities need to give more visible and explicit attention to research. Further effort should be exerted from all concerned bodies, to alleviate the problems and provide the essential inputs for higher education research.

2.9 University Research Capacity Building Mechanisms

Commission for Africa, in the year 2002, recommended that every country needs good research universities and centers of high level research, studies and training. Scientific knowledge and skills enable countries to find their own solutions to their problems, and bring about step changes in areas of health, agriculture, water supply, energy, natural resource management, conservation and exploitation, technology development, climate change, and many innovation areas. That is one strategy to reproduce the system of excellence. Centers of excellence act as springboards to developing scientific capacity (Commission for Africa, 2002). The commission elaborated that such centers unlock potentials of innovation and technology to accelerate economic growth, build national capacities of knowledge generation and adaptation, and enhance overall capacity for development of society. That was one of the critical paths that India followed to become one of the leading countries in areas such as IT and biotechnology.

For his strong argument in the study, Teshome (2007) has also commented that "It is not good enough to tell the cream of Ethiopians that they can go abroad and study in the state-of-the-art technology. The country needs researchers, graduate students and innovative professionals to become competitive in the knowledge-based economy of the 21 century". This implies that if centers of excellence are well established and furnished with material and developed human resources, an enhancement of research capacity of our country will be followed. He has again based his case on his previous research finding that few years ago there was a proposal to establish centers of excellence, including in Ethiopian Universities (Teshome, 2005c).

A center of excellence may be a single independent institution, or a network of laboratories and departments within an institution or broader associations of institutions. High quality research that could be undertaken in centers of excellence could serve as effective mechanism and opportunity of countering brain-drain and attracting the experienced and seasoned members of Diaspora. It also enhances productive engagement and recognition of home residing researchers with high level research. The establishment and full support of centers of excellence

could also attract assistance from organizations such as the partnership for African Higher Education, Nelson Mandela Foundation Melinda-Gates Foundation, etc., whose resources are not yet tapped by the Ethiopian higher education and research system.

Teshome has additionally suggested that with in the existing universities, there is a potential to develop centers of excellence in different disciplines. For instance, Jima University could easily develop centers of excellence in medicine and community health, spices and horticulture; Mekele University in mining and geology; Bahir Dar University in water resource and fisheries, industrial technology; and Hawasa University in natural resources and biotechnology, fisheries. The already existing institutes of patho-biology, Ethiopian studies, Development Research, etc. could also be developed in to centers of excellence. The adoption of strategies of establishing centers of excellence could boost research capacity in the nation, provide opportunity for faculty and students to benefit from the state-of-the-art facilities so established, to generate, adapt and adopt knowledge and technologies to improve the economy and competitiveness of the country. The university system should have close and coordinated working relations with those centers of excellence outside of it.

However, it may be most economical and practical to have graduate level trainings in these centers of excellences, as students would support the research and study activities and also create opportunity for bright students to pursue a career. One important aspect that should not be overlooked is to link these institutions of excellence with internationally known institutions in terms of joint undertakings and staff exchange, as well as training in some areas. The incentive and reward to undertake research for the faculty is not going beyond academic promotions and the mechanisms are not clearly put in place by higher education institutions. The slow development of graduate programs in the universities in Ethiopia is also a factor for the limited research undertakings (Tehome, 2006b). In many institutions several projects and research funds are not institutionalized and the resources are not effectively and transparently used for the student and faculty research with in the framework of the graduate programs. Furthermore, institutes of the centers of research are not linked with academic units in terms of collaborative research and utilization of research outputs for teaching and learning. The culture of the faculty towards research and studies needs a lot of attitudinal changes and capacity building.

Despite the fact that the importance of higher education institution academic staff involvement in research activities in their disciplines and overall social needs was given due recognition in

different documents and proclamations, practically the research capacity of institutions of the country seems to be negligible.

As a higher institution, university of Gondar is anticipated to carry out rewarding research and offer outreach services by and large for the development of the country and in particular to the region. Having this theoretical and practical assumptions as well as the general remark seen in the above review text by various scholars about the general trend of the research capacity in foreign and Ethiopian higher education institutions, it was desirable to examine and assess the research capacity of this university. Hence, an effort has been made on this study so as to make available evidence-based information about the current capacity of research undertaken in UoG.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Design of the Study

Since this research is an evaluation research type, 'Mixed Methods Design' was preferable to a single design. Because mixed methods design involves collecting both forms of data which were very appropriate for the over all intention of the study through which the investigator had to provide the most accurate information about the current research capacity of the university practically possible in an evenhanded manner as well as it was very significant to better understand and describe the theme of the study. This method was also quite important to ensure that the information gathered and acquired had the depth and detail necessary to enable the assessment produce a report from which conclusions could be drawn with a certain degree of confidence. Hence, for the winning path of the study; both qualitative and quantitative research designs were employed. In the case of qualitative research design, the researcher was the main instrument of data collection. Qualitative data were given more emphasis and used to obtain details of the subjective experiences of the research participants who were potentially involved in the study area where as the quantitative data were engaged to survey and get relevant information from the sample respondents for triangulation purpose.

The mixed methods design involves concurrent or simultaneous, but data collection and analysis were separately done for the two types of data in which one type of data is used to verify, substantiate, or support with other type of data. Therefore, in this study, qualitative data were analyzed and then cross-validated by the quantitative result about the research undertakings of the university gathered by the survey questionnaire. The results of data analysis from the two forms were mixed in the discussion and interpretation part of the study by bringing the two outcomes together.

3.2 Research Setting

University of Gondar was the relevant setting of the researcher to conduct this research on the problem under study. The university was preferred because the researcher had primary information about the occurrence of the problem. In addition, the researcher had better access to information that was central to the success of this study. The researcher supposed that he would easily contribute to the professional support of academicians in the university as well. As an academic staff of the university; the researcher has personally interested in devoting himself in research works that contribute to the academic staff development of the university.

The University is located in the Amhara National Regional State situated at the gate of the former classical town, Gondar; north of Lake Tana about 700 Kilometers away north of the capital of Ethiopia, Addis Ababa. UoG, a University that is familiar with the objective reality and over all standards of living its citizens is truly an asset of a country.

The University has three campuses such as campus of Medical and Health Science College, Maraki campus and Tewodros campus. The main campus, which is located at the down hill of Maraki campus; known as Tewodros campus where Faculty of Applied and Computational Science/FACS/ is found. At the top of the hill adjacent to Tewodros campus, Maraki campus has been established which is the home of Faculty of Social Science and Humanities/FSSH/. The oldest and the third campus is Gondar College of Medical and Health Science /GCMHS/.

The University is generally comprised of one college, four faculties and four schools, namely: Gondar College of Medical and Health sciences/GCMHS/; Faculty of Social Sciences and Humanities/FSSH/; Faculty of Applied and Computational Science/FACS/; Faculty of Management Science and Economics/FMSE/; Faculty of Veterinary Medicine/FVM/; School of Education; School of Technology; School of Law and School of Agriculture. According to the well organized strategic goals of the regional government for education, the University had a plan to enroll 12,000 students and offer training for 135 undergraduate and 10 post graduate degree programs by the year 2009/10. The university will also strive to have at least three centers of excellence in the areas of Health Sciences, Tourism Management and Biotechnology and stimulate the use of information and communication technology and so on. If these goals are realized, there will be no doubt of a tremendous societal change in relation to socio economic development of the region.

3.3 Participants and Sampling Techniques

The study included College of Medical and Health Sciences/GCMHS/, Faculty of Social Science and Humanities /FSSH/ and Faculty of Applied and Computational Science/FACS/. However, the rest 2 faculties and four schools were excluded from the study because they have been recently established and may not have research experienced staff and therefore it was believed that sufficient data about the entire research capacity of the university might not be developed as compared to these the selected College and the two Faculties.

The aforementioned College and the two Faculties; GCMHS, FSSH and FACS were selected using purposive sampling technique. Stratified available sampling technique was used to select 22 departments both from the college and the two faculties which were considered as

the strata of the study. Accordingly, the departments of public health, pharmacology, nursing, midwifery, occupational health, environmental health and community health were selected from GCMHS; Psychology, English Language and Literature, Anthropology, Civics and Ethical Education, Geography and Environmental Studies, Development and Environment Management Science were selected from FSSH and Biotechnology, Mathematics, Chemistry, Biology, Statistics, Information technology, Physics, and Computer Science were selected from FACS. The sample instructors from each department were selected using available sampling technique. This was because the researcher believed that the data obtained from all those sampled academic staff members would be exhaustively gathered, relevant and understood. From the total population that is from the whole academic staff of the University, all sample instructors (120) from the sampled departments were proposed in the study but only 93 of them were practically involved in responding to the self-administered survey questionnaire.

Purposive sampling was used to select the higher official, general director of HESC of MoE, the general director of the Research and Community Service Core Process/RCS/ office, the director of editorial board office of GCMHS, Public and International relations officer, and also other two academic staff members of UoG. Accordingly, six major participants were involved in the in-depth interview which targeted the problem under study.

3.4 Data Collection Instruments

For the purpose of increasing the validity and credibility of the study, mixture of instruments of data collection was used. This assisted to triangulate the collected data one to the other. Hence, the following data gathering tools were used in the study.

Document Review

The available RCS documents that constitute the RCS staff profile, the office's strategic plan, list of the titles of the research projects, the names and size of the teacher researchers by faculty and department, who ever conducted research projects and those who have been currently conducting the projects, figures of the allocated research budgets to some faculties and the college were reviewed. Mean while, the general objectives of the RCS office, the relevance and importance of the research titles of the submitted research proposals were skimmed to check whether they were to the point of the academic issues or not. In addition, the statistical document from the human resource office of the university was referred to know the current total academic staff size of the institution since the year 1999 E.C in order to compare the total staff size against the size of those academic staff members who ever conducted

research. Consequently, promising documentary data were gathered and substantiated with the interviews and responses from the questionnaire.

Interviews

Semi-structured interview guides were prepared to collect information from the key informant of HESC of MoE and other relevant academic officials of the University, the study site; such as the director of the RCS office, the chief director of the editorial board office of GCMHS, one experienced instructor and member of the editorial board, public and international relations officer, and also from another key interviewee, an instructor. The interview questions focused on the entire research capacity of the University since years. And these questions were conversed, discussed in detail and captured very well using tape recordings.

Questionnaire

Copies of the questionnaire were self-administered type. They were distributed to all the selected sample academic staff available in each department of the selected Faculties and the College of the University. The questionnaire focused on the instructors' perception toward research in HEIs, the proportion of conducted research projects and its academic role, research publication extent and degree of dissemination by the RCS office as well as the extent of utilizing the research outputs by these academic staff in their university teaching. All the items of the questionnaire were developed by the researcher in accordance with the literature reviewed.

3.5 Validity and Reliability of Data Gathering Tools

Prior to data collection, a number of related significant literature reviews on research in higher education especially those forwarded by the educational research reviewers from Wales University were carefully revised to keep the relevance and quality of the contents of the instruments. The academicians and educationalists concerned in the field were requested and consulted to comment on the survey questionnaire prepared for data collection. Two instructors from institute of educational research and psychology department of Addis Ababa University as well as one qualified academician in research from University of Gondar provided significant comments on the questionnaire; they tried to remove and modify few questions seemingly irrelevant to the topic of the study together with their deep professional advice. Additionally, they forwarded crucial suggestions on the interview questions and tried best to correct and check the prominent research variables to be included and discussed in the study.

Finally, pilot testing was performed with 30 instructors selected from four departments of University faculty which was not included in the study. Thus, instructors from department of Business Management, Marketing, Tourism Management, and Accounting were used for pilot study. Reliability of items was computed using Cronbach Alpha. Hence, the reliability of the items scale was found to be 0.83 for instructors' questionnaire. (See Appendix 4). In general, the item total reliability ranges between 0.821 to 0.846. The item total statistics reveals that the exclusion of any single item with lower reliability shows very minor changes on the reliability of the rest of the items. As the consequence, most of the items were retained with slight modification in its wordings and only with one removed item.

3.6 Procedures of Data Collection

At the very start the researcher himself and the purpose of the study were enthusiastically introduced to the University management just to create conducive conditions and cooperation, with the help of the formal letter written from Institute of Educational Research of Addis Ababa University. And then permission from president office was very immediate. Next relevant participants of the interview were respectfully contacted and good rapport was easily gained. Data from the interview were gathered with informed consent of the participants. Each of the participants was again personally contacted and negotiations were held on the purpose of the study in order to make sure that the participants were willing and ready to involve themselves in the interview. They were ethically told that the information obtained from them would be kept confidential and any statement of participants' identity would not ever be made in any case. All the interviews were held in each of the participants' office after they approved on the appointments arranged by the participants themselves at any time they feel comfortable.

Copies of the questionnaire were personally distributed to instructors in their respective departments and offices with the presence of the researcher with the help of the faculty deans and department heads. The personal contact of the researcher to each instructor was very important because most instructors knew the researcher's previous responsibility as a trainer in their earlier pedagogical training programs organized by the University as well as it was a good opportunity to make them motivated and recognize as the study would be very crucial to implement the objective of the academic staff development unit of ADRC under quality assurance and enhancement office of the university. Hence, the return of the questionnaire was some how facilitated though few unreturned questionnaires were unfortunate and very indispensable.

3.7 Methods of Data Analysis and Interpretation

Both qualitative and quantitative methods of data analysis and interpretation were used. The qualitative data gathered through interview, document review, and open-ended questionnaire were qualitatively analyzed in the form of paraphrasing and interpretation considering the context in which the records or reports were developed and discussed by categorizing them according to the major themes and basic research questions of the study. The qualitative data from these sources were briefly described as it was reported by the interviewees. Direct quotes from key informants were quoted as it was expressed so as to show their original views and arguments when ever judged as important for each topic under discussion.

The data gathered through closed-ended questionnaire were entirely entered in to Statistical Package for the Social Sciences (SPSS, Version 15). Descriptive statistics namely frequencies, percentages, mean values and standard deviations were computed to determine the current perception, rate and status of the research agendas, practices and undertakings in the University.

Inferential statistics such as Chi-square, Analysis of Variance (ANOVA) and post-hoc tests were run to analyze the quantitative data. Chi-square was useful to perceive and observe the expected rate of instructors' research confidence, their rate of participation to the annual research conference of the University. One way analysis of variance was employed to observe whether there was significant difference among the sample College and the Faculties in terms of the number of instructors who have [?] ever taken ^{- TAKEN} in-service research training, conducted the research projects, published and unpublished the research findings. Scheffe's test was performed whenever ANOVA indicated statistically significant differences among the groups. Moreover, Univariate ANOVA test was also employed to see the effect of the major factors such as the rate of in-service research training taken and the availability of sufficient research fund on the proportion of instructors conducted the research projects. Besides, frequency charts such as pie chart and bar graphs were used to display clearly the occurrence and the status of the research out comes already tested qualitatively and statistically.

Finally, both qualitative and quantitative data were integrated and discussed in the discussion part of the study.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

In this Chapter, the qualitative and quantitative data collected through different data gathering tools are presented and analyzed. Data gathered via interview, document review and open-ended questionnaire are categorized and qualitatively described based on the major themes and research questions of this study. Quantitative data obtained through close-ended questionnaire are summarized and presented in tables, bar graphs, pie chart and quantitatively analyzed.

4.1 Characteristics of the Participants

Interview sessions were conducted with six (6) key informants among the University academic staff and HESC. The characteristics of the interviewees are indicated in Table 1 below.

Table 1: Characteristics of key Participants involved in the Interviews

<i>Participants</i>	<i>Working Place</i>	<i>Educational Status</i>	<i>Academic rank</i>	<i>Position</i>	<i>Year of Service</i>	<i>Sex</i>
I-1	University of Gondar	MSC	Assistant Professor	General Director of RCS in UoG	5 years	M
I-2	University of Gondar	MSC	Professor	Director of the Editorial board	11 years	M
I-3	University of Gondar	MSC	Assistant Professor	Member of Editorial Board	11 years	M
I-4	University of Gondar	MSC	Professor	Instructor	16 years	M
I-5	University of Gondar	MA	Lecturer	Director of Public Relations of UoG	5 years	M
I-6	HESC	PhD	Professor	Director of HESC	4 years	M

As we can see the character of each research participant described in the last column of Table 1 above, all of the participants were males. When we see their working place and educational status, five of them were the academic staff of University of Gondar /UoG/ and they were masters' degree holders where as the sixth (I-6) interviewee was director of HESC and a PhD holder.

With regard to the participants' academic rank, one of them was lecturer, the other two were assistant professors and the rest 3 were professors. Especially, the two professors from UoG have got the rank of professorship not because of the educational status they have rather in case of publishing books for their research findings. Concerning their position, the lecturer has been assigned and working as director of public and international relations office of UoG. The first (I-1) participant, the assistant professor; is the general director of the research office;

Research and Community Service Core Process /RCS/ office while the third (I-3) one, an assistant professor is an instructor and member of the editorial board in the College of Medical and Health Sciences (GCMHS) of the University. The two professors, have been working as director of the editorial board of GCMHS and instructor at UoG, respectively. And the sixth (I-6) professor has been working in the Agency of Higher Education and Strategic Center (HESC) appointed as general director, and he was formerly president of Awassa University. All of these participants have 4 to 16 years work experience at their current work place.

The academic rank of the participants and the positions they hold would tell us their optimum experience in research and out reach services. So the participants' academic rank, their work position and place, and year of service observed could have an influence on their research knowledge, skills and experience, and they are research experienced people and were considered as relevant respondents of the study conducted on the capacity of research practices at UoG.

Questionnaire was used to collect quantitative data from the sample instructors of the University. The characteristics of the sample respondents participated in responding to the survey questionnaire are summarized and presented next in Tables 2 and 3.

Table 2: The Respondents by College/ Faculty, Age, Sex, and Service Year.

Variables	Characteristics	College/Faculties							
		GCMHS		FSSH		FACS		Total	
		No.	%	No.	%	No.	%	No.	%
Sex	M	30	32.3	29	31.2	31	33.3	90	96.8
	F	1	1.08	0	0	2	2.15	3	3.23
	Total	31	33.3	29	31.2	33	35.5	93	100.0
Age	25 years and below	11	11.8	14	15.1	14	15.1	39	41.9
	26-35 years	19	20.4	11	11.82	17	18.27	47	50.5
	36-45 years	1	1.1	3	3.2	2	2.2	6	6.5
	46 and above	0	0	1	1.1	0	0	1	1.1
	Total	31	33.3	29	31.2	33	35.5	93	100.0
Service Year	5 years and below	25	28.9	24	25.8	25	28.9	74	79.6
	6-10 years	5	5.4	3	3.2	6	6.5	14	15.1
	11-15 years	1	1.1	0	0	2	2.2	3	3.2
	16-20 years	0	0	1	1.1	0	0	1	1.1
	21years and above	0	0	1	1.1	0	0	1	1.1
	Total	31	33.3	29	31.2	33	35.5	93	100.0

Table 2 presents the characteristics of sample respondents in terms of the frequency and percentage of their distribution in the College & faculties by age, and sex and service year. For simple reference of each figure in the table, we can just follow the total numbers and percentages written in bold along the rows and the columns. About 33.3% (31), 31.2 % (29), and 35.5 % (33) of the respondents were selected from GCMHS, FSSH and FACS, respectively. Among these total respondents, 96.8% (90) of the them were males and only 3.23 % (3) were females. The figure shows a greater discrepancy in sex between male and female sample instructors in which males are about 30 times greater than females. Female sample instructors were very few in number as compared to males in UoG. Of course, this significant gap in sex among instructors did not have any influential impact on the result of this study unless another study in gender case is required.

When we see the respondents' characteristic in age wise, 41.9 % (39), 50.5% (47), 6.5% (6), 1.1% (1) of them were in the age range of 25 years and below, 26 to 35 years, 36 to 45 years, and 46 and above years, respectively. The proportion of respondents who have the age of 25 years old and below, and 26 to 35 years was by far greater than those of 36 to 45 years and, 46 and above years old. This indicates that most of the sample participants were young and young adults, and they are found in the productive age group.

On the subject of these respondents' stay in their university teaching, 79.6 % (74), 15.1 % (14), 3.2 % (3), 1.1 % (1) and 1.1 % (1)-of them had 5 years and below, 6 to 10, 11 to 15,

those who have served from 6 to 10 years, and 16 to 21 and above years were less in size. Hence, most of the sample respondents in the university teaching have served only for 5 years and below. Where as only few of these respondents served for long years, for example; only 1.1 % of them served from 16 to 21 and above years. Some how long service years of the participants in their respective University may have a positive impact on their research knowledge, skill and experience. However, from the finding it seems that considerable percent of respondents are less experienced.

In addition to the characteristics of the sample respondents described in the above Table, it was also imperative for the researcher to refer to the other vital characteristics that are related to the study area and may have an impact on the findings of the study.

Table 3: The Respondents' Educational Status, Academic rank, and Teaching load per week

Variables	Characteristics	Frequency	Percentage/%/
Educational Status	Diploma	1	1.1
	Bachelors	48	51.6
	Masters Degree	43	46.2
	PhD	1	1.1
	Total	93	100.0
Academic Rank	Graduate Assistant I	21	22.6
	Graduate Assistant II	20	21.5
	Assistant Lecturer	14	15.1
	Lecturer	33	35.5
	Assistant professor	4	4.3
	Professor	1	1.1
	Total	93	100.0
Regular Teaching load per week	6-10 periods	58	62.4
	11-15 periods	29	31.2
	16-20 periods	5	5.4
	21 periods and above	1	1.1
	Total	93	100.0

When we look at the educational status of these sample respondents in the first row of Table 3, 51.6 % (48) , 46.2 % (43) of the respondents were Bachelors and Masters Degree holders where as only 1.1 % (1)) of them was Diploma holder and the other one was PhD holder, respectively. Almost both the first and second degree holders had comparatively greater share of the staff profile. Where as Diploma and PhD holders had the lowest share of 1.1%. From this description, the sample respondents from the university with their educational status from

Diploma to the PhD level participated in this study. As resulted from various findings, the instructors who have better educational status could have better research experience than those having less educational status. This can imply that the educational status of an instructor seems to provide him/her an opportunity and skill to conduct research.

In University of Gondar, the academic rank of an instructor, for example; to be an assistant or associate professor, and professor is awarded in accordance with the research performance he/she shows in the institution. There fore, the investigator was very much considerate during the study to the respondents' academic rank they have in their university stay. As shown in the same Table, 35.5 % (33) of the respondents were lecturers. And 22.6 % (21) and 21.5 % (20) of them were Assistant Graduate I& II, respectively. But only 4.3 % (4) were Assistant professors and 1.1 % (1) of them had full professorship. This reflects that the sample respondents who were lecturers in their academic rank were greater in size as compared to each of the academic rank of other respondents.

From the university experience, most of these respondents got the rank of lecturer not because of their research performance shown for their academic promotion in the institution rather after they have pursued their Second Degree. Of course, they got their Masters Degree through the completion of their research work for Masters' thesis. But, the number of respondents who were assistant professors and professors were very less as compared to both Assistant graduate I & II as well as those of Lecturers. From the higher education institution's experience, usually being assistant/associate professor and professor is strictly awarded if and only if an instructor conducts a research project and able to publish books for his/her worth full research findings. So from the percentage of the sample respondents who were professors, we can say that the size of sample respondents who have got their professorship as the result of their research performance was seen very less at UoG.

In order to prove or disprove why most sample instructors in the University especially those who stayed as lecturers were greater in number than professors, it was also essential to see their regular teaching load per week. Because if they were overloaded with their class room course teaching, they could not get another free work time which may in turn forbid them not to conduct research and get their subsequent academic promotion they deserve from the institution.

For instance, the last row in Table 3 above, 62.4 % (58) and 31.2 % (29) of the respondents from the total sample teach 6 to 10 periods and 11 to 15 periods per week, respectively. And

only 5.4 % (5) and 1.1 % (1) of them teach 16 to 21 periods and above per week. Respondents, who teach some credit hours that is only 6 to 10 and 11 to 15 periods (or, maximum 2/3 hours per 12 hours of a day) were greater by far than those who teach 16 to 21 and above periods (or, minimum 4/5 hours per day). This description of percentage simply informs us that most sample respondents in the university could have considerable amount of time per week beyond their teaching work so that they could devote these spare times in conducting research projects. For that matter they could be promoted to the desirable academic rank.

4.2 Research and Community Service Core Process /RCS/ Office of UoG

In the very beginning of the study, the key informant from the former Research and Publication Office/RPO/ of the university disclosed that due to the new BPR approach - Business Processing Re-engineering being piloted in the University, the name of the former research office the RPO has been changed in to Research and Community Service Core Process/RCS/ office. This is because, as the officer expressed; due to the fact that research should go together with community service. Plus, as he added; there is no the letter P in the acronym RCS means does not mean that the publication work is omitted in the structure. Publication work is handled by the knowledge and technology transformation process officer which is one of the RCS office core processes.

General Objective of the RCS Office

At the very beginning, it was mandatory to concentrate on the general objective of the Research and Community Service Core Process/RCS/ office as far as the investigation was paying attention to assess the entire research capacity of the university. This was because the office is a research coordinating office which is expected to manage the over all research activities of the institution. Hence, it was important to understand and examine its institutional role after all. Since the director of the RCS office was one of the key participants of this study, he stated the general objective of the office as:

...the general objective of this office ... is to conduct basic and applied research in order to generate knowledge and technology which can potentially serve the community. Plus, to give other community services such as health education, consultancy, developmental activities such as rehabilitation of the environment, legal aid, short term training. In addition, continuing education, distance education, summer programs are also being coordinated by the RCS office which handles them through teaching and learning core process, and health care through hospital service core process. Generally, the RCS office has its mandate of addressing such objectives in research and community service at the university level.

February 20, 2010; at 8:00 to 11:30 A.M

From the above quotation, we can see and understand that research and community services have been given equal emphasis as the mission of the university which is one step to socialize research.

Administrative Position of the RCS Office in the Structure of the University

Demanding to comprehend the administrative position of the RCS office in the organizational structure of the institution was also vital just to examine how much the research practice has been appreciated at the University level. Elaborating that the new BPR approach by which the University has 3 core processes such as teaching learning core process, hospital service core process, research and community service core process/RCS/, the director witnessed the subsequent facts about the administrative position of the office that is being under AVP.

In the structure of the University, the RCS office has been organized at the level of general director. Certainly, RCS is among those 3 core processes organized in the university. The RCS office is being administered under AVP-Vice President for Academic, Research and Community Service of UoG.

February 20, 2010; at 8:00 to 11:30 A.M

Potential Staff of the RCS office

As described in the previous subsection of this part, the RCS office is a research coordinating office of the University. Therefore, it was also important to check the availability of proficient and sufficient staff that can potentially run the mission of the office. Because, the accountability of the RCS office of the institution in managing the research practices can easily be affected by the shortage of potential staff that is skillfully able to manage and administer the over all research undertakings with in the university. Unless and otherwise there is well staffed RCS office, striving to meet the over all research goal of the institution will be a challenging task. Thus, the study was initiated to scrutinize the availability of potential staff in the RCS office of UoG through interviewing the key informant from the office. And the informant addressed the upcoming thoughts.

RCS is well staffed though there are two vacant places, which are left purposely. However, we can say that RCS is well staffed. RCS has 6 officers such as study and information officer, research liaison officer, budget, market and promotion officer, knowledge and technology transformation officer, and Community service liaison officer who are postgraduates of economics and statistics, Animal Science, Business Management, Development studies, and business administration, respectively.

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For more clarification on the characteristics of these described potential staff, the document constituting the list of these staff profile was reviewed. So we can look at Table 4.

Table 4: *Potential Staff or Officers (Os) currently Available in the RCS office of University of Gondar*

<i>RCS' Officer(O)</i>	<i>Sex</i>	<i>Department</i>	<i>Educational Status</i>	<i>Position</i>	<i>Work Experience in RCS office(yrs)</i>
O-1	M	Veterinary Medicine	MSC	General Director of RCS office	> 3 years
O-2	M	Economics	MSC	Study and information officer	7 months
O-3	M	Statistics	MSC	Study and information officer	7 months
O-4	M	Animal Science	MSC	Research liaison officer	7 months
O-5	M	Business Management	MA	Budget, market and promotion officer	7 months
O-6	M	Development Studies	MA	knowledge and technology transformation officer	7 months
O-7	M	Business Administration	MBA	Community service liaison officer	7 months

With his response, the participant further elaborated that these officers are academic staff who have been teaching courses in their own respective departments in addition to their office duties. They are, as the informant disclosed; facilitators of the research process and the purpose of having them is just to facilitate the work of the RCS office. For this assertion, he explained the following.

They are not fulltime workers of the RCS office. Currently, it has been agreed that these RCS staff have to work 50% in RCS and 50% teaching/6 credit hours per week. And also, according to the new BPR; the university senate legislation declares that the instructor's working time has been divided in to 3 under which Teaching work accounts 45%, Research work accounts 40%, Community service accounts 15% of the total allotted time of the work.

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Moreover, the director mentioned that even he him self being working at the position of general director of this research office has been teaching 25% /3 credit hours / of his time at his home base faculty, faculty of Veterinary Medicine in addition to his excessive duty type management in the RCS office. Hence, from the director's first expression and the present staff size; the RCS office seems well staffed. Mean while, from his words; these officers have been teaching courses 50 % (6 credit hours) of their time at their department and they are facilitators

of the research work in the office but not full time employees or officers. This shows that they can not totally devote themselves in the office's variety of research duties which require dedicated managers and auditors who can critically evaluate, for instance; the research areas of the proposed projects or those under study, and set the selection criteria to select potential reviewers from the university staff. Because at least such major works are expected from the RCS office. In fact their field of specialization may correspond to the assigned office work (See Table 4 above).

However, another interviewee who was the member of the former RPO office board disclosed the reverse about whether the RCS office is well staffed or not as follows.

No. we can not say that the RCS office is well staffed. As to me well staffed means, the office has skilled staff officers who are well experienced in research through times and be able to evaluate the research projects proposed and submitted as well as under study, and the quality of the research findings and finally can make them ready for publication. Even after publication, they are also expected to evaluate the quality the way the findings were published as proposed by the university. But, I haven't ever seen the office doing such important duties since years. This is because it does not have potential staff for such works. Therefore, I can't say that the RCS office is well staffed.

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As the staff profile depicted in Table 4 shows, all the assigned part time teacher officers in the RCS office have only 7 months work experience but not long years experience in this office except the director who has more than 3 years experience in coordinating this research office. At all encounters he has good and enthusiastic management ability as he has been showing for the university staff and to each teacher researcher since his presence. However, a lot of challenges seem to exist on the way. Therefore, generally from these all rationales discussed with these interviewees and the document reviewed, the RCS office seems in a good start but it is not that much possible to conclude that as it is well staffed.

Research Management System of the RCS office

Among the practices of RCS' research management processes, receiving, organizing, selecting and handling the research proposals submitted by the instructors in each year is apparently done. On this issue, the director described the procedures followed to manage the research proposals submitted by instructors, and what criteria the office used to select the right research proposals. The following stated statements were taken.

The RCS office posts the announcement for the research proposal submission date specified from April to May. Then the teacher researchers submit their proposals to the RCS office. The officers explore the proposals whether they have been submitted based on the standard research proposal format or not, and then send

them to the selected reviewers available in different disciplines. These proposals are distributed unanimously and by type to these reviewers based on their relevant field of specialization related to each research title studied in order to make the review fair, precise and relevant and come up with good decision to accept or reject them using rating scale evaluation system which ranks as 1,2,3,4. Next to this unanimous research proposal evaluation, the reviewers return it to the RCS office with in a considerable time. Then the office calls the Research Publication Committee / RPCs / for discussion, and major decisions made based on the scales rated by the reviewers. Then the office starts announcing and funding the selected proposals.

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From the above statements about the procedures followed to manage the research proposals, it seems that the office is the receiver and distributor of the research projects from the instructors to the reviewers and then to the research and publication committee. Meaning it looks that the RCS office research management system is based only on organizing the research projects for the reviewers and the decision makers, the RPCs. This role might seemingly lead us to pose question whether this management system is conducive or not in the eyes of the teacher researchers of the University. Hence, data were gathered from the sample instructors using the survey questionnaire to see their degree of agreement on the availability of conducive research management system. And the finding reflected that the majority of them decided as they disagree and strongly disagree on the availability of conducive research management system at the RCS office as shown in Table 5.

Table 5: Instructors' level of Agreement on the Availability of Conducive Research Management system at the RCS office of UoG

<i>Variable</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
RCS has conducive research management system	Strongly Disagree	13	14.0	14.0
	Disagree	50	53.8	67.8
	Agree	26	28.0	95.8
	Strongly Agree	4	4.3	100.0
	Total	93	100.0	

Table 5 shows that the majority 63 (67.8 % cumulative) of the sample respondents reflected their level of disagreement on the availability of conducive research management system at the RCS office of UoG. From this figure, we can judge that the office's research management system looks some how not as conducive as expected.

The RCS office's Degree of Recognition in UoG

Since the RCS office of the University is believed to focus on research and out reach services of the community, it was also rationally right to desire, comprehend, and examine the extent of the office's recognition at national, regional and institutional level in terms of its

research practice. Because as it was reflected in their responses, all the sample instructors and interviewees were much concerned to understand the office's over all role for the university. In relation to this point, the key informant expressed his thought as follows:

Of course, since the former time the university has been regionally and nationally recognized institution in research work especially related to health even in East Africa. For instance, College of Medical and Health Science of the University accounted 1/3 of the published research journals in a country wide but not currently. However, this currently established RCS office's degree of recognition is not at national and regional level unless in the behalf of the University. But the office is recognized in the University level.

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As disclosed by the participant, it was revealed that the RCS office level of recognition in research is limited only to the University level but not at the regional and national level. This level might have in turn limited the research publication opportunity and capacity of the office. There fore, promising and justifiable promotion or recognition would be required.

4.3 Instructors' Perceptions toward Research in Ethiopian HEIs

Initially, it was indispensable to know the entire perception of the academic staff of UoG in terms of the knowledge they have towards research in Ethiopian HEIs. Thus, instructors' perception was examined through the concept that research should be considered as the only primary goal of HEIs to solve community problems and then teaching university students based on the research findings. Accordingly, an evaluative study was conducted through the key participants of the research. The data solicited through in-depth interview revealed that differences were observed on the perception of instructors whether the primary goal of a higher institution is research or research should be equally considered as one of the other institutional goals such as teaching and community services. On such issue the first interviewee from UoG stated the following.

Yah ..., I am not sure whether the primary goal of one university is research. In fact, research is one of the mandates of HEIs .But this is not really a research institute. Because the main responsibility of the university is teaching. Of course, each academic staff can devote 25% of his/her time for conducting research. When we look the primary goal of the institution, teaching is very required. It is good the purpose of teaching staff is conducting research to solve problems and generating knowledge and teaching the students. But this is not always possible.

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In the same vain, another interviewee from HESC of MoE higher officials at the federal level; described as follows:

In the first place teaching, research and community services are the 3 primary goals of Ethiopian HEIs in our case. Teaching and research are inseparable. Because no research with out teaching the result of the research, or no teaching with out researching the existing or new knowledge. So, unless the university is only a research institute, it can not only proceed with research as a goal as far as the research findings are to be communicated with the end-users such as students. This implies that teaching is naturally there with in the utilization of the research out puts.

April 15, 2010; at 1 P.M

These two informants at higher education, tried to identify that research work should go consistently with university teaching as one of the goals of the institution rather than being the only primary goal of HEIs. On the other hand, the other key informant was very much interested on the idea that if possible research should be even considered as prerequisite to teaching, and he eagerly uttered some how different from the above suggestions and commented as:

Yes, not if possible but it should be. It is true. But in our institution the problem is research done only focusing on some disciplines. For instance, our college teacher researchers deal only with health issues. But we must go out of this problem and at the first place we must be good researchers in any discipline prior to our teaching task in this university.

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During recommending on this argumentative discussion, he looked very surprised and seriously taught the researcher that research should not be conducted only for the sake of teaching a specific subject area but also the teacher researchers of the university should go beyond this and try to adapt the research work as their own prior business in any case studies as far as they are scholars of higher education institution. However, he was also persuaded by the idea that the two, research and teaching must go together. Therefore, the findings from the statements by these interviewees showed that university instructors have strong comprehensive knowledge on research as one of the primary goals of HEIs rather than being the only primary goal unless those institutions are research institutions.

Essentially, more or less similar passion was discovered through the quantitative data gathered from other sample respondents via the questionnaire. So sample instructors were asked to rate accordingly their research knowledge on the variables described below in Table 6.

Table 6: University Instructors' Perception toward research in HEIs at UoG

<i>Factors</i>	<i>Responses</i>	<i>No</i>	<i>%</i>	<i>Cumulative Percent</i>
The importance of research in HEIs	Very Low	2	2.2	2.2
	Low	2	2.2	4.3
	Medium	4	4.3	8.6
	High	15	16.1	24.7
	Very High	70	75.3	100.0
	Total	93	100.0	
Conducting research on community problems for knowledge advancement and teaching it as the primary goal of HEIs	Disagree	4	3.3	3.3
	Agree	28	28.3	31.5
	Strongly Agree	61	68.5	100.0
	Total	93	100.0	

The instructors' perception toward research in HEIs was measured through their general knowledge they have about the importance of research in HEIs, as well as about conducting research on community problems for knowledge advancement and teaching that knowledge or finding to university students as a primary goal of HEIs.

So as displayed in Table 6 above, among the total sample respondents, 70 (75.3 %) of them rated as Very High while 2 (2.2 %) of them rated as Low and Very Low each for the first factor that is the importance of research in HEIs. Since those 91.4% (Sum of 75.3 % & 16.1 %) rated very high and high is greater 21 times in proportion than those 4.4% (Sum of 2.2 % & 2.2 %) rated very low and low, it indicates that most of the sample instructors in UoG have comprehensive knowledge and good perception towards the importance of research in HEIs though few of them rated low and very low which is surprising. Because when they rate like this, what comes immediately to our mind is the presence of such instructors in the university, who have low perception toward the value and importance of research in HEIs which may in turn tells us their low level research knowledge background which is not usually expected from University staff.

In addition, 61 (68.5%) and 28 (28.3%) of the respondents decided as Strongly Agree and Agree, respectively where as only 4 (3.3%) of them Disagreed for the suggested variable indicated in the second row of Table 6. The percentage of those who strongly agreed and

agreed is significantly greater than those disagreed. Therefore, from this sample proportion, most instructors in UoG believe in the idea that conducting research on community problems for knowledge advancement and teaching that finding to the university students should be considered as the primary goal of HEIs. This seems to indicate that the majority of instructors do not agree with teaching only the published teaching materials.

From the findings, instructors' belief on the importance of research in HEIs; the principle of considering research as one of the primary goals of HEIs as well as the conviction they have about conducting research on community problems for knowledge advancement and teaching that finding or knowledge to the university students as the primary goal of HEIs seems strong. Therefore, instructors' perception toward research in HEIs can be judged as good at UoG.

4.4 Instructors' Research Intensity in UoG

The research intensity of a higher education institution can be treated in terms of its academic staff research confidence and participation as well as in terms of the proportion of the research projects they ever conduct. When we see the research intensity of UoG, substantial findings were investigated through the in-depth interviews and document review through Research and Community Service Core Process (RCS) office of the University in terms of the instructors' level of research confidence, size and their degree of participation in research projects and seminars and annual conferences.

4.4.1 Instructors' level of Research Confidence

Instructor's research confidence may naturally affect the research intensity of the institution from the ground. Unless an instructor has research confidence on him/her self even with high research skill, it is obvious that success in research may be unimaginable. So an attempt was made to examine instructors' self-confidence towards conducting research projects in their institution. For that matter considerable data were collected from the key informant from the RCS office; and he stated the following suggestion based on the survey study previously made by the office.

As the survey done and announced by our office, while assessing the rationale the instructors have behind conducting their research projects; we have got that most of them conduct research not just for the sake of research, or for knowledge generation or community service but for the sake of academic promotion. Of course, they might have good research confidence. However, due to a lot of cases, or problems, their research confidence on research projects might have been affected and could have not positive attitude towards research.

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From the reply made, the instructors' research confidence may be good which was obviously expected from them as higher institution teachers. But, their low attitude due to other variety of problems might have negatively affected their research confidence. As the result they might not conduct research unless they need to be promoted to the next academic rank even if they are confident.

To counter check this suggestion, the expectation or the availability of the research confidence of the instructors; further examination was tried using Chi-square test through the responses made by the sample respondents using the questionnaire. See Table 7.

Table 7: Instructors' level of research confidence at UoG

Item	Responses	Observed N	Expected N	Chi-Square(a)	df	Asymp. Sig.
Instructor's level of research confidence	Low	3	23.3	40.376*	3	.000
	Medium	14	23.3			
	High	40	23.3			
	Very High	36	23.3			
	Total	93				

*p<0.05

Table 7 depicts that the majority of the respondents 40(43.0%) and 36(38.7%) rated as they have high and very high level of research confidence, respectively; in conducting research projects in the university. The difference was statistically significant ($\chi^2(3, n = 93) = 40.376, p < 0.05$) among the four alternatives (Very High, High, Medium and Low) given to respondents about instructors' level of research confidence at UoG. As depicted from the Chi-Square goodness of fit test result Table, the instructors' self-confidence to conduct research projects in the university can be labeled as high and very high which can prove and assure the above suggestion by the informant.

In fact, other problems or their low attitude might have negatively affected their research confidence in conducting the research work. And those predictable problems have been subsequently examined in this study (see section 4.9).

4.4.2 Research Projects Conducted by Instructors at UoG

The interview with the director of RCS office was deeply continued in order to judge the proportion of the research projects conducted by the instructors of the university.

*df--Refers to Degree of freedom

*Sig-Refers to Significance

From the discussion, it was found out that the research projects that have been conducted since the year 1999 E.C. were very small in size. This minimal proportion of projects in turn could reveal that the academic staff ratio conducted research looks minimum. The director explained this affair as:

In fact, all of the academic staff of the university is expected to conduct research. However, only some of them have ever submitted their research proposals to the RCS office from the year 1999 to 2002 E.C. So it can be seen that very few of them have conducted the research projects as compared to the enormous total number of the instructors available in the university.

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In addition, he took out his office document, showed and provided additional data for further consolidation and examination. The datum was the accurate statistical document of the RCS office. From the reviewed document, the statistical information which shows the number of teacher researchers ever conducted the research projects since the year 1999 E.C.; has been organized in Table 8 as shown below.

Table 8: Research projects conducted from the year 1999 to 2002 E.C in UoG.

Research Project Year	College/Faculty								
	GCMHS			FACS			FSSH		
	Staff Size	Conducted research		Staff Size	Conducted research		Staff Size	Conducted research	
	N	N	%	N	N	%	N	N	%
In 1999E.C	209	8	3.8	84	0	0.0	50	6	12
In 2000 E.C	223	5	2.2	98	0	0.0	77	5	6.5
In 2001 E.C	281	8	2.8	147	3	2.0	109	5	4.6
In 2002 E.C	323	9	2.8	185	5	2.7	142	10	7.0
Total staff size & conducted research projects	323	30	9.3	185	8	4.3	142	26	18.3
Total size of instructors conducted research projects (1 project conducted in average by 3 instructors) 1x3=Total	30x3= 90			8x3= 24			26x3=78		
Sum of Grand Total Staff Size	650 (100%)								
Sum of Total Size of Instructors who conducted research projects	192 (29.5%)								

Table 8 constitutes the total size of instructors available in the University plus the research projects conducted by the instructors in each year since 1999 E.C. When we see (in the Table) along the vertical columns of each Faculty and the College, both the total staff size as well as the number of the research projects conducted by the instructors are relatively increasing. However, the percentage of the research projects conducted particularly at the Sample College

shows some decline from 3.8 % to 2.2 % after the year 1999 E.C but increased since 2000 E.C, and it looks almost constant in those two consecutive years.

When we refer to the total staff size in the fourth row from the last, from the total size 323, 185, and 142 of the academic staff, 9.3 % (30), 4.3 % (8) and 18.3 % (26) of the research projects at GCMHS, FACS, and FSSH have been respectively conducted by the instructors since the year 1999 E.C. When we observe the ratio of these conducted research projects against the total staff size, the calculated percentage of each increases from FACS (4.3%) to GCMHS (9.3%) to FSSH (18.3 %). If we see the percentage only relative to each total staff size, FSSH takes the first rank, and GCMHS & FACS rank as second and third, respectively. However, when we see only the actual size of the research projects conducted in stead of their percentage, a greater size of the research projects conducted was found at the College, GCMHS. Therefore, GCMHS becomes first, FSSH & FACS become second and third. Because 90 teacher researchers found at GCMHS are genuinely greater in size than 78 and 24 researchers available in each of the two consecutive faculties. (See the 3rd row from the last in Table 8)

Generally, from these findings; it has been clear that the sum of total size **192 (29.5%)** of the sample instructors who have ever conducted the research projects is less as compared to the grand total staff size that is **650 (100%)**. (See the last two rows in Table 8)

However, though the number of research projects conducted is less; the status of research in UoG seems to become good. Because the number of instructors conducting research projects has been recently increasing since the year 1999 E.C .With regard to this event, in-depth interview was outstandingly made with the usual participant who has research and presidential experience there in the University and disclosed the following statements.

.....I think the number of instructors in research is now increasing. Though, most of our staff are junior staff, the number of instructors who have 2nd and 3rd Degrees has been recently increasing, and it is in parallel, I think; and the number of researches conducted by these people is also increasing.

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Moreover, further examination was sustained. So Percentage, Mean and Standard Deviation, and One-way analysis of variance (ANOVA) were employed just to cross check the above finding with the data collected from the sample instructors through the administered questionnaire. So see Table 9 next.

Table 9: Instructors who ever conducted the research projects in University of Gondar

Variable	Responses	No.	%	Cumulative Percent
Instructors conducted research projects in UoG	Not at all	62	66.7	66.67
	1 time	20	21.5	88.17
	2 times	7	7.5	95.67
	3 times	1	1.1	96.77
	More than 3 times	3	3.2	100.0
	Total	93	100.0	

As shown in Table 9, the frequency of the sampled respondents who said 'Not at all' was 62(66.7%) where as the total sum of frequency of those said 1 time, 2 times, 3 times, and more than 3 times was 31(33.3% sum of percentages).The size of the respondents who said 'Not at all' is two times greater than those said 1 time, 2 times, 3 and more than 3 times. This indicates that the proportion of the sample instructors who have ever conducted the research projects was by far less than those who did not conduct, which corresponds with the above finding observed in Table 8.

In general, the findings obtained through the document review, interview discussion and the questionnaire showed that the quantity of the research projects conducted so far by the instructors at UoG looks less though the number of these research projects under study and studied has been currently increasing.

Table 10: Instructors conducted the research projects in University of Gondar

College/faculties	N	Mean	SD
GCMHS	31	1.03	1.303
FSSH	28	0.43	0.634
FACS	33	0.15	0.364
Total	92	0.53	0.931

Table 10 portrays the mean and standard deviation of the proportion of sample instructors ever conducted the research projects among the sampled College and the two Faculties. As depicted in the Table, the College and the Faculties; GCMHS, FSSH and FACS had a Sample Mean and SD of 1.03(1.303), 0.43(0.634) and 0.15(0.364), respectively. The highest mean among the College and the two Faculties was scored by the participants from GCMHS (M=1.03, SD=1.303) and the lowest mean went to FACS (M= .15, SD=.364).Therefore, the greater number of sample instructors who have ever conducted the research projects seems to

be found at GCMHS of UoG which corresponds with the finding obtained from the document review depicted in the previous Table 8.

More over, whether there were statistically significant differences observed among the sample College and the two Faculties on the size of these instructors or teacher researchers conducted the research projects was tested and checked using One-way analysis of variance (ANOVA). See Table 11.

Table 11: Summary of One-way ANOVA of Instructors conducted research among the College and the two Faculties.

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.835	2	6.417	8.645*	0.000
Within Groups	66.067	89	0.742		
Total	78.902	91			

* $P < 0.05$

As shown in Table 11, analysis of the variances for the variable that is the size of instructors conducted the research projects indicated in Table 9 shows significant differences among the sampled College and the two faculties $F(2, 89) = 8.645, p < 0.05$. Given an over all significant differences among Faculties and the College, post-hoc test (Scheffe's procedure) was performed to determine the College responsible for the observed differences in Table 12 next.

*SD-Refers to Standard Deviation

*Sig-Refers to Significance

Table 12: Mean Comparison of the College and the two Faculties on the Size of Instructors Conducted Research Projects (Scheffe's procedure).

(I)College/faculties	(J)College/faculties	Mean Difference (I-J)	Sig.
GCMHS	FSSH	.604(*)	0.03
	FACS	.881(*)	0.00
FSSH	GCMHS	-.604(*)	0.03
	FACS	0.277	0.46
FACS	GCMHS	-0.881(*)	0.00
	FSSH	-0.277	0.46

*P < 0.05

As it is depicted in Table 12, statistically significant differences were observed between GCMHS and FSSH ($p = 0.03$); GCMHS and FACS ($p = 0.00$); FSSH and GCMHS ($p = 0.03$); FACS and GCMHS ($p = 0.00$). However, there was no significant difference observed between FSSH and FACS faculties ($p = 0.46$). Hence, the groups responsible for the significant differences shown on the size of instructors conducted the research projects might be GCMHS and FACS (Mean Difference (I-J) = 0.881).

In addition, the director of the RCS office emphatically and strictly explained the reasons why the size of instructors who have conducted the research projects has been very minimal as compared to the available total staff size since the year 1999E.C. He said that this was especially because of lack of in-service research method training to the academic staff, and hence it could create skill problem as well as the insufficient fund allocated to and available at the RCS office. Similarly, the second participant also rationalized that the presence of considerable number of instructors who have not yet conducted research was might be due to the fact that they do not have the research skill, the methodology of doing research.

For more general understanding, we can also clearly observe the research events at UoG on the bar graph shown at Figure 1 next.

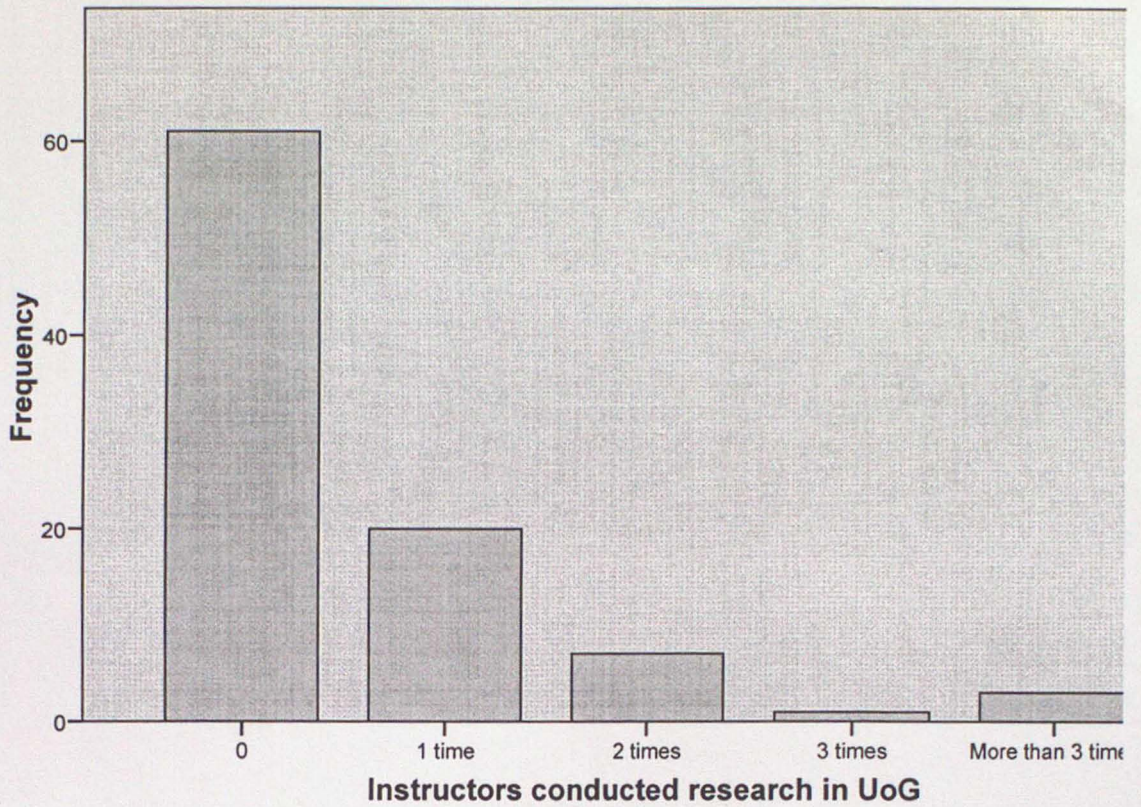


Figure 1: Bar graph displaying the events of Instructors conducted research projects at UoG

- 0- refers to Instructors have not ever conducted research projects
- 1 time – refers to Instructors conducted research projects only for one time
- 2 times - refers to Instructors conducted research projects only for two times
- 3 times - refers to Instructors conducted research projects only for three times
- More than three times- refers to Instructors conducted research projects for more than three times

4.4.3 Instructors' Research Involvement in UoG

When we see the research participation of instructors of the University in accordance with the above finding, it was observed as it is not bad and very good but it leans to good. This finding was found out based on the consolidation made on the view of the participant from the RCS office of UoG. It has been quoted as:

Instructors' participation in research is not as expected. As a higher education institution, the university expects all the academic staff to participate in research and out reach activities; but what currently being observed is not as such. Because instructors can not allocate 25% of their time for research in our case except some eager instructors conduct research even by their pocket money. But if we see from the general view, the staff research participation is almost good.

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As the research office of the University, the RCS office should professionally expect that all the academic staff should always participate in the research arenas. However, the discovered finding with this respect showed that a considerable number of the academic staff research participation was not frequent rather they did participate sometimes and rarely. Those who participate frequently were few in number. However, this may not totally lead us to say that the staff research participation is not good. So in particular to their rate of participation to research seminars and annual conferences organized by the university, their involvement in research seems good. With this regard another participant said the following.

I think it is good. Because different instructors from various disciplines of all faculties and the college participate in the annual research conference. But the problem is there is only short period of time that is not enough to let all instructors present their research papers.

February 26, 2010; at 3:10 to 4:30 P.M

For counter check, the non-parametric test; Chi-Square goodness of fit test was used to examine the current participation of the staff to the research seminars and the annual conferences whether as it was expected or not. And the Chi-square test result showed that the participation was seemingly good. See in Table 13 next.

Table 13: Instructors' rate of participation to research seminars and conferences in UoG

Item	Responses	Observed N	Expected N	Chi-Square(a)	df	Asymp. Sig.
Instructors' rate of participation to research seminars and the annual conferences	No	20	46.5	30.204*	1	0.000
	Yes	73	46.5			
	Total	93				

*p<0.05

Table 13 reveals that the majority of the respondents 73(78.5%) said 'Yes' as they have participated to the research seminars and the annual conferences organized in the university while 20(21.5%) of them said 'No'. Those respondents said Yes 3 times greater than those said 'No'. The difference was statistically significant ($\chi^2(1, n=93) = 30.204, p < 0.05$) among the two alternatives (Yes, No) given to the sample respondents about the expected sample instructors' current participation to the research seminars and conferences of UoG.

So the proportion of sample Instructors' research involvement or participation to the annual research conference in the university seems good almost as it was expected though all instructors do not equally participate.

Generally, from this and the above findings; the instructors' research intensity of the institution currently becomes some how good though the proportion of the teacher researchers conducted the research projects is minimal.

4.5 In-Service Research Training Extent in UoG

In order to examine, assess and tell about higher education institution's research status, it was also a command once and many times for the study to recognize, estimate and state instructors' research skill through important research input factors such as in-service research training. Hence, in this part the extent of in-service research training taken has been considered as imperative input factor to energize and at the same time to examine the rate of the research practice at the study area, UoG. Thus, discussion was held with an informant on the extent of the in-service research training taken by the instructors; who is one of the experienced instructors in the University and shortly replied;

"....as far as I know I did not come across with any research training in the college. So it is No".

February 26, 2010; at 3:10 to 4:30 P.M

How ever, the participant from the RCS office stated that the training has been given to the academic staff once since last year.

RCS is interested to give in-service research training particularly to new academic staff once per year. Till this time, RCS has prepared and provided two round research methodology trainings; funded by DIF. Moreover, it is also going to be given this year.

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With reference to the selection of the research methodology trainers, this participant enthusiastically mentioned the procedures the office follows as:

RCS recruits the research trainers from AAU as well as from UoG. To select these potential trainers, the office bases its criteria on the suggestion given by the college /GCMHS/ and faculties' academic staff who knows these trainers very well during their undergraduate and/or post graduate study. For example, among the potential trainers from AAU, selected by GCMHS College staff was from Medical faculty of AAU, who is a good statistician as well as one from Addis continental institute- private institute. Plus, another Professor from GCMHS of UoG, can be mentioned as the selected trainers of the first round research methodology training given by the University in 2001 E.C.

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The participant while expressing the training had two rounds, he continued his discussion on the second round training procedure as:

For the second round research training organized by our university, potential trainers were selected with the consultation of our Faculty of Social Science and Humanities(FSSH), Faculty of Management Science and Economics(FMSE) and other external College consultancy to give the research training to these faculties' academic staff. So one trainer from AAU College of Education, and another one from FBE as well as for practical quantitative research method software tools training such as SPSS, EP form, SAS, an Indian lady from College of Medicine of UoG and one potential trainer from statistics department of UoG were selected to train the staff of FSSH,FMSE, law Faculties.

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The informant again emphasized that the RCS office does not have specified criteria used to select the potential research trainers rather the office let the University staff from each faculty select the trainers.

The informant also put the rationales why to select these trainers from other institutions such as from AAU instead of only from UoG.

Because in the first place in UoG there are no potential skillful research trainers especially from FSSH, FMSE, and Law. This is because most instructors are not well experienced /skilled in research work due to the fact that they are young Bachelor and only some of them are Masters' degree holders. However, it doesn't mean that no research trainers in UoG particularly from GCMS and even at FSSH and FMSE unless they are few in number. And also just to share research work experiences between AAU and UoG potential research trainers.

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As it was stated by the interviewee, the in-service research training was given only once for the first time plus all of the instructors might have not taken this training, and no adequate research trainers in UoG. Hence, the number of instructors who have not taken in-service research training seems high. Moreover, the data obtained from the respondents via the survey questionnaire more or less reflected similar circumstance.

Table 14: Frequency of Instructors taken In-service research training in UoG

<i>Variable</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
Instructors taken in-service research training	No	78	83.9	83.9
	Yes	15	16.1	100.0
	Total	93	100.0	

As depicted inTable14, 78(83.9%) of the sample respondents said “No” for the variable where as 15 (16.1%) of them said “Yes”. Those sample instructors not taken in-service research training 5 times greater than those taken. Therefore, this can show us that most of the sample instructors in the University have not taken in-service research training. Might be, some of them have got this chance during the 1st or 2nd round training organized once in 2001 E.C.

For more clarification, we can also clearly look at figure 2 the pie chart shown next.

Basic in-service research training taken

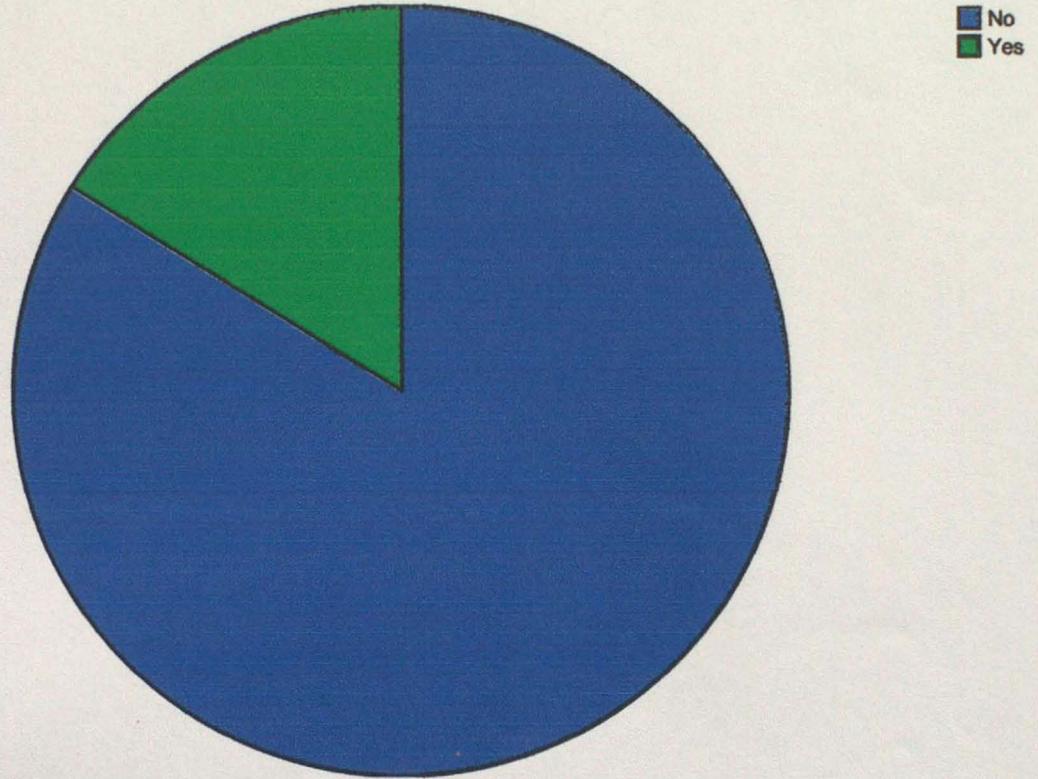


Figure 2: Pie chart clearly displaying the Size of Instructors taken In-Service Research Training in UoG.

4.6 Research Audit System in UoG

Ethiopian higher education institutions are more or less preferred to comprise their own internal research audit system and produce quality research outputs. As one of higher education institutions, University of Gondar is also expected to organize its own institutional research audit system in order to supervise, manage and identify the quality of the research proposals and the relevance of the findings. To examine the existence and role of this system in the University, the usual key interviewees were asked.

The first participant from the RCS office responded as:

“.....no research auditors in our institution organized at the university level but in the new BPR approach, there is a plan to establish it. However, the University has its own review system.”

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For the question raised during the discussion on how to select relevant research projects proposed and keep the overall quality of the research findings of each conducted project, he further added the procedures followed in order to select appropriately quality research proposals as:

Reviewing the proposals has its own method. If the research proposal reviewed is for knowledge generation, it is given to the selected potential reviewers considering the problem area with their field of specialization. Otherwise, if it is for technology wise, it is forwarded to technology specialists though we currently don't have them. Generally, these kind reviewers and other potential quality research auditors are too required and must be organized by the university as soon as possible at least for future success.

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From the above statements, though the procedures followed by the reviewers are some how good and give the opportunity to some eager researchers, we can easily see that the research findings may not be totally audited and not appropriately and precisely performed owing to the absence of the auditors at the university level. This in turn obliges that the institution has to be quick enough in establishing its own research audit system.

Additionally, employing relevant research proposal selection criteria is also professionally anticipated from the office as the research office of the university. With regard to these criteria aspired from the RCS' research management system, the former chief member of the RPO office put exactly his knowledge on whether strict relevant selection criteria are being currently used by the office or not as follows.

To tell you frankly, I don't know the selection criteria used by the RCS office now. But when I was a member of this office board, we sent the research proposals to the reviewers and then received their comment. However, the only intervention we did was when ever one reviewer accepts the other rejects. At that time the board decided for the proposals' acceptance or rejection. Otherwise, we didn't have any other strict criteria to select these proposals, and now I don't know what the RCS is doing.

February 26, 2010; at 3:10 to 4:30 P.M

These all facts had been also ascertained by the following voice of the other research experienced participant of the university, an influential interviewee for this study; who was recently the president of the university, and the present chief executive director of the editorial board office in UoG.

...it is difficult to say this and that. The RCS follows its own way. When I was in the president office, there was no an organized committee at the university level so as to audit the quality of the research proposals and even the progress of the RPO office's research management system. So there is no such auditing system in the university.

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Summing up, from these all facts addressed by the professionals; it was revealed that as there was/is no organized quality research audit system/body as well as strict selection criteria used to select quality research proposals and the research findings at the university level except the would be research proposal reviewers available at the department level.

4.7 Research Dissemination and Utilization Modes in UoG

In the reign of prospective researchers at University of Gondar, it is obvious that the research findings are hopefully solving the problems being identified .However, unless these findings are essentially disseminated to and utilized by the end users, these researchers' effort and value for social and economic development of the country would be in vacuum and no one may recognize their potential even, locally. From this general truth and understanding, the presence of mechanisms of disseminating the research out puts and identifying the responsible body in the university were substantially initiated as an issue of this study and judged.

Thus, the critical participant responded and discussed the following.

So the answer is No. There is no any mechanism of disseminating the research findings even the published ones. But, it is the responsibility of the RCS office. Since there is only one Journal, Ethiopian Journal of Health and Biomedical Sciences published by the college, other faculties have to work hard at least to use this journal as a means to disseminate their research out puts Because they don't have their own Journal to disseminate their research work.

February 26, 2010; at 3:10 to 4:30 P.M

Another key informant who have recently published book in food and nutrition stated that:

Though both Journals and books are published by some of the academic staff, most of the research out puts are shelved in the library. Of course, textbooks and manuals are used by the university students who attend the library. Other wise no easy means of disseminating the out puts to the internal and external community unless orally presented to the annual research conference of the university. Even I don't see any responsible body that arranges the dissemination mechanism except some external organizations that might use the out puts. That is why we the staff always raise the question that the out puts do not have any linkage with the policy makers.

February 26, 2010, 2:30 to 3:00 P.M

Another interviewee who outstandingly experienced in publishing books for his research findings at UoG at his side enthusiastically disclosed that research presentation to the university's staff and students annual research conference should be encouraged as one of the disseminating mechanisms of the research findings. This is regularly done. But as he said, the other dissemination strategies must be strictly followed with regard to the publication. It is mainly the interest of the researchers that matters in publishing the manuscripts.

In addition to these explanations, he put the following remarks.

Still the senior staff and the university should encourage their junior staff to disseminate their findings to the local community. For instance, meetings can be arranged locally and presentations are to be made by the researchers using simple or local words such as Amharic that can be easily comprehended by the local people.

February 30, 2010; at 8:00 to 10:30 A.M

Here in his final particular response, what the participant exactly recommended was that encouraging the junior staff to use local language as simple disseminating mechanism of their research findings should be initiated by the university officials, by the senior staff and the RCS office. In fact the RCS office may tell the teacher researchers in the institution to communicate locally their findings to the local community. In case of the local language Amharic, it was also acknowledged by another proponent at Bahir Dar University.

Accordingly, he quoted the next single responsive statement on the cover page of Yallew (2009) Amharic version research book as:

One of the indicators of the status of ones country educational development is that the kind and quantity of books written and published in local language. (Dawit Mekonen in Yalew, 2009)

For counter check this all suggestion, the data obtained through the questionnaire were treated as shown in Table 15 next.

Table 15: Responsible body of disseminating the research findings at UoG

<i>Items</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
Responsible body of disseminating the research findings	RCS	48	51.6	51.6
	Faculties	3	3.2	54.8
	Departments	5	5.4	60.2
	Individual researcher	21	22.6	82.8
	Others	1	1.1	83.9
	Undecided	15	16.1	100.0
	Total	93	100.0	

As indicated in Table 15, the greater frequency 48 (51.6%) of the sample respondents responded as the RCS office is the responsible body where as some 21(22.6%) of them responded as the individual researcher is responsible. This can reflect that the RCS office is the responsible body in disseminating the research findings. But a considerable percentage 15(16.1%) of the respondents responded as undecided. And this may also point that the presence of some other university instructors who may not know who should be the responsible body.

Secondly, in order to judge the degree of disseminating the research findings by the University, we can clearly look at Figure 3 next.

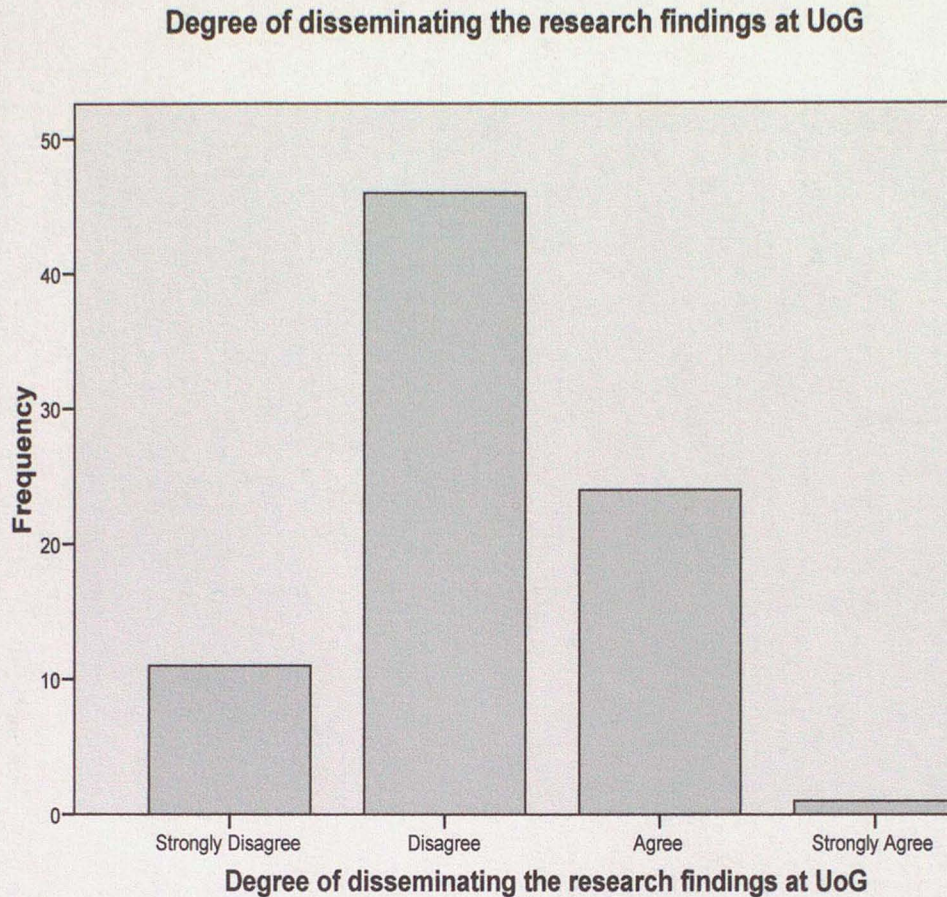


Figure 3: Bar graph depicting Instructors' level of Agreement on the degree of disseminating the research findings at UoG.

In the above figure, the bar graph for those respondents who rated as Disagree is longer than the bar graph for those who rated as Agree. Meaning that the RCS office's degree of disseminating the research findings was not as it was expected by most of the sample instructors. Therefore, this finding could show that the status of the university in disseminating the research findings to the end-users such as to the surrounding community seems some how low.

Moreover to become quite clear with these all the above findings from the interview and the quantitative data, it was also essential to deal with the research dissemination and utilization modes used by the university and the challenges encountered. So the modes and suggested challenging factors have been critically dealt in the subsequent sub-sections.

4.7.1. Research Seminars and Conferences in UoG

In the University, it was examined that research seminars and research conferences are the reputable research dissemination and utilization modes used by the instructors at the college/faculty and university level, respectively. Of course, the students and the staff annual research conference of the institution is a more exaggeratedly used research dissemination mode than faculty seminars. Along with this major finding, it was also desirable to judge for how many times the conference is better to be prepared so as to satisfy the research needs of the university staff as well as the outside community. Normally, with regard to the frequency of this annual research conference organized by the university and other related cases; the key informants consecutively stated as follows.

It is suggested that one time research conference suffice. But, it does not mean that research seminars, workshops are not prepared and given by different faculties and the college. For instance, Veterinary Medicine, GCMS, FSSH, and other faculties prepare these programs more than once per year. Though some research conference schedules may be necessary to be reshuffled, it is certainly enough because the researchers can get enough time to do critically their research duties such as data collection, and analysis and come up with relevant findings so as to present it to the conference, fruitfully. But at the College and Faculty level, more than once conference program is essential. Since the purpose of the research conference is to upgrade the students and instructors' research work performance, time is very much required particularly for teacher researchers. Any ways, we do also recommend that more than one time research conference is redesigned if and only if other deterring factors are fulfilled. But the problem is time constraint even to disseminate the research findings during the conference with in a year to the University community as well as the outside.

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In relation to this, it was also important for the investigator to raise the quality matter or the status of the instructors' research findings presented to the conference. Again the organizer of the conference from the RCS office said;

The status of the quality of the research findings of teacher researchers is almost medium. That is in a University wise the quality of the research findings can be rated as medium in average though there are higher rank and lower rank research findings.

February 20, 2010; at 8:00 to 11:30 A.M

Another interviewee, who is one of the potential members of the editorial board office of the institution; while describing as one time research conference per year is enough at University level; he also consciously stated that the research seminars organized at the college and faculty level in each semester can serve the RCS office as means of assessing the quality

of instructors' research findings. In the same vein, the other prominent informant reported the following information on the frequency of the annual research conference hosted once per year by the institution.

It depends on the number of people who can potentially conduct research. Since this is the academic staff and students' research conference, students can only be able to conduct it once per year in addition to their classroom learning time. For instructors, for different reasons such as lack of fund that can support the research work more than once as well as the staff is getting lower salary so that they engage themselves in other additional teaching work which can generate money instead of doing research.

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As stated by the participant, the frequency of the annual research conference depends on the number of instructors who can potentially conduct research more than once and research fund.

In order to see the number of these researchers, the data were collected from the respondents through the questionnaire. Consequently, it was observed that the size of instructors who have ever presented their research findings to the annual research conference was very minimal. Their percentage has been described in Table 16 below.

Table 16: Rate of Instructors' Research Presentation to the Annual Research Conference of UoG

<i>Items</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
The research findings presented to the annual research conference	Not at all	81	87.1	87.0
	Once per three years	4	4.3	91.3
	Once per two years	4	4.3	95.7
	Yearly	4	4.3	100.0
	Total	93	100.0	

As shown in Table 16, out of 93 sample respondents, 81(87.1%) of them have not ever(Not at all) presented their research findings to the annual research conference organized only once per year where as only 4(4.3%) of them have ever presented their research out put each year (yearly) to the annual conference. Even, the proportion of sample instructors presented their research work to the annual research conference once per 2 and 3 years accounts only 4(4.3%) from the total, which is very nominal.

4.7.2 Research Publication Practice at UoG

Research publication can also be taken as one of the standardized way of research dissemination modes to the out side community in general as well as to the University staff in particular. But, what matters is the availability of skillful researchers together with well organized and able research and publication office in that institution. In this respect, we can see the following sub-sections.

The Extent of Research Publication at the RCS Office of UoG

As a higher education institution, the study was very much concerned to investigate the extent of the research publication practice at the RCS office of UoG whether facilitated or not. In case of this, the research participants interviewed successively addressed their professional witness in this proceeding part.

I don't think so. What I see is the RCS office works only with the provision of ethical clearance for the proposed researches submitted to the office. They simply receive the research work, give consent and finally say ok and give feedback. It is simply a paper work. This means there is no facilitated publishing opportunity in the RCS office of UoG. Moreover, the office doesn't have its own Journal published by the office itself at the university level except the College's Journal, Journal of Health and Biomedical Sciences. But, the name of the office says RPO; where and when do they ever publish the research findings? So from my experience in this institution there is no publication at the RCS office at all rather than giving only the ethical clearance.

February 26, 2010; at 3:10 to 4:30 P.M

Almost similarly, another prominent participant; the professor who has recently owned more than three published books; reported the following points from his keen experience.

I will say the facilitation role for publication at this pointing time is very minimal. What they are doing is they allocate some amount of money for the students and staff and release that money and finally they require the researcher to settle the costs. In fact, they also require the researcher submit the final report of the research. Otherwise, they don't follow whether the researchers publish their research work or not and the RCS office does not publish it. So most of those, who try to publish their research out put in the college's Journal; are only the staff from the medical and health science college/GCMHS/ and few people from veterinary medicine faculty.

February 30, 2010; at 8:00 to 10:30 A.M

Besides, the informant from the RCS office assured this fact as:

In the university, there is a Journal named as Ethiopian Journal of Health and Biomedical Sciences which is published only by the College, GCMHS. This is because the medical college has experienced and skilled researchers so that it could publish its own Journal. Other instructors

such as from natural and social science and other faculties in related study areas can also use this Journal. However, other faculties do not have their own Journal. This shows that there are gaps between these faculties and the college.

February 20, 2010; at 8:00 to 11:30 A.M

From this all facts discussed with the participants of the interview; it was found out that the extent of the RCS office research publication practice is not as facilitated as expected. This was because the office doesn't have its own Journal used to disseminate the research findings to the end-users except the only Journal published by the College which may not always incorporate other faculties of the University. So the role of the RCS office in using the published materials to disseminate the research findings seems minimal.

In addition, data were collected from respondents through the questionnaire so as to examine Instructors' perception on the extent of the research publication system being practiced by the RCS office. Their rated responses' result implicitly showed that significant size of sample instructors didn't get the RCS' research publication practice facilitated as they expected. Accordingly, their level of agreement is described in Table 17.

Table 17: Instructors' level of Agreement on RCS' degree of research publication.

<i>Variable</i>	<i>Level of Agreement</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
RCS' facilitated research publication system	Strongly Disagree	7	7.5	7.5
	Disagree	42	45.2	52.7
	Undecided	21	22.6	75.3
	Agree	22	23.7	99.0
	Strongly Agree	1	1.1	100.0
			93	100.0

As revealed in the above Table, 42(45%) of the respondents replied as they 'Disagree' where as 22(23.7%) of them decided as they 'Agree'. The cumulative percentage (52.7%) of those at the side of disagreement is greater 2 times than the percentage (24.8% cumulative) of those at the side of agreement. This reflects that the majority of the sample instructors do not agree on the availability of facilitated publishing practice at the RCS office of UoG.

And among them, 21(22.6%) of the instructors didn't decide on the given responses, and they described in their open-ended question as they do not have any knowledge on the publication practice of the RCS office. This might indicate the office's low level of publication recognition by the university staff.

Table 18: Frequency of Instructors who ever published and unpublished their research areas studied at UoG.

<i>Variable</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
Instructors' rate of publication of their research areas	Unpublished	27	29.0	69.2
	Published	12	12.9	100.0
	Undecided	54	58.1	
	Total	93	100.0	

As depicted in Table 18, it was observed that 12 (12.9%) of the sample instructors ever published their research areas studied where as 27 (29.0%) of them unpublished. The number of those published is less 2 times than those unpublished. And it was also revealed that a considerable number 54(58.1%) of instructors didn't decide whether they published or unpublished. As it was read from their additional responses provided to the open-ended question, this might be because they didn't ever conduct research in their University stay or they might not get the opportunity of publishing their research findings studied.

Table 19: Summary of One-way ANOVA of Instructors' Published and Unpublished the Research Areas Studied among the sample College & the two Faculties

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.101	2	0.050	0.221	0.803
Within Groups	8.207	36	0.228		
Total	8.308	38			

*P>.05

As shown in Table 19, statistically significant differences were not observed among the sampled Faculties and the College with respect to the size of sample instructors who ever published and unpublished ($F(2,36)=0.221, p>.05$). So Post Hoc Test (Scheffe's procedure) was not performed. This can show that the sample instructors who ever published their findings is small in size in all of the sampled College and the two Faculties.

*df- Refers to Degree of Freedom

*Sig-Refers to Significance

Potential Assessors of Quality Research Findings for publication

As far as the University uses research publication as one of the research output disseminating strategies, it was also mandatory to assess the availability of qualified assessors who are able to measure the worth and relevance of the research findings to be published.

The informant from the RCS office ascertained that the other faculties of the University can also have their own Journal and the office is ready to assist them. And also bearing in mind the Journal publication experience of the medical College, he described the publication procedures followed.

In order to assess the internal quality of the research findings at the university level, there is an organized research publication committee/RPC/ that assesses the quality of the submitted research proposals and its relevance for the annual research conference of the University. The RPC follows its own procedures to assess the quality of the research findings for publication. So for the time being, the assessors are the RPC members. However in the new BPR approach, the University has to possess quality research finding body which enables the institution own relevant and scientific research findings in the future.

February 20, 2010; at 8:00 to 11:30 A.M

Of course, the RPC is there. But, the University doesn't have that much organized quality research assessing body that may in turn tell us the quality of the research findings being published even by the medical and health science college is under quotation. However, there are good publication experiences shown in UoG such as books are being published though they are few in number.

Book Publication Experience at UoG

Through out the study, it was also very much substantial to scrutinize the book publication experience adapted and adopted by the academic staff members of the university as long as this study was an evaluation research/T'inatawi Gimgema/ and required to describe the entire research capacity of the institution. The instructors' rate of book publication experience at the institution can be an indicator of the existence of quality research findings confidently researched. Hence, the typical interviewee; the director of the RCS office again added the practice of book publishing experience at UoG. During the interview session at his office, the participant mentioned the names of those sample instructors who published their own books as shown next in Table 20.

Table 20: Frequency Table showing Sample Instructors who have published books for their research findings at UoG

No.	Instructor's Name	Faculty	Educational Status	Academic Rank	Position	Publication Status	Sex
1	Instructor-I	GCMHS	MSC	Associate professor	University President	Published	M
2	Instructor-II	GCMHS	MSC	Professor	Editorial Board Director	Published	M
3	Instructor-III	GCMHS	MSC	Professor	Instructor	Published	M
4	Instructor-IV	FSSH	PhD	Assistant professor	Instructor	Published	M
5	Instructor-V	FSHH	MA	Lecturer	Instructor	Published	M

As depicted in Table 20, the number of instructors who have ever published books for their research findings seems insignificant. As compared to the total number of instructors (650) currently available in the University, only 5 academic staff could have their own book publication. Means only 0.57 % of them which is less than 1% have book publication experience though their book publishing effort is personally admired and appreciated comparatively among other lots of instructors in the university. Among these 5 instructors, 3 (60 %) of them were from College of Medical and Health Science(GCMHS) and only 2 (40m%) of them were from Faculty of Social Science and Humanities (FSSH) but none was found from Faculty of Applied and Computational Science (FACS) which was one of the sampled faculties of this study.

Generally, the findings showed that a gap between the GCMHS and other two sampled faculties such as FSSH and FACS was observed in the proportion of instructors published books at UoG. However, as the director said; it does not mean that other instructors from other faculties which were not sampled in this study could not have such publication experience. Or it might be because their research works might have not been submitted to and recognized by the RCS office.

Determinant Factors of Research Publication Practice in UoG

In order to make the research dissemination and utilization process visible through publication, it was also important to address the determinant factors of the publication system done at the RCS office of the University. Accordingly, the key informants listed out the important deterring factors of the publication practice.

Among the major publication problems, lack of appropriate Journal for some fields of study such as for faculty of social science and humanities ,law, management science and economics, applied and computational sciences of UoG; the low standard of researchers; fund constraint from the university unless funded by other NGOs.

February 20, 2010; at 8:00 to 11:30 A.M

Hence, the absence of appropriate reputable Journal, low standard of researchers which may indicate researchers' low quality of research outputs as well as their low capability of communicating actively their research findings to the publishing agents and insufficient money allocated for publication work were found out as the foremost challenges which have been negatively influencing the research and publication practice of the university.

Another typical informant member of the editorial board of the University also stated the following points.

Firstly, there is no responsible, research experienced and skilled staff assigned there in the RCS office. Secondly, there is no communication between the college and other faculties, and the RCS office. The only communication is done only during the annual research conference. Plus, no promotion done by the RCS office for the research works. The other determinant factor is it takes time when the reviewers review the proposals because no specified review schedule and the reviewers are not paid. For instance, many instructors need to apply for publication but no scheduled time to do so appropriately and consciously.

February 26, 2010; at 3:10 to 4:30 P.M

The other key interviewee from the editorial board expressed the subsequent major factors deterring publication.

There is no sufficient number of experienced people who can serve as the member of the editorial board, serve as editor in chief. Then the quality of the research findings that would be published in that Journal will be poor. This will seriously affect the acceptability of the research published in that Journal. So the credibility of the research published in such Journal will also be poor.

February 30, 2010; at 8:00 to 10:30 A.M

Thus, the absence of responsible, research experienced and skilled staff assigned there in the RCS office, lack of appropriate Journal for some fields of study, communication deficiency among the college, other faculties, and the RCS office, nonexistence of specified review schedule, shortage of sufficient number of experienced people who can serve as the member of the editorial board and editor in chief were investigated and revealed as the major determinant factors of the publication practice of the university.

4.7.3 Challenges in Research Dissemination and Utilization

The process of research dissemination and utilization simply refers to an activity of transferring the already conducted research findings from the researcher to the end users. While this is activated by the researchers, variety of problems or limitations are encountered on the street where the exchange made between the researchers and the customers, the community. With this, the following statements were stated by the key informant from the RCS office.

Most of the Journals are published in English so that the local people can not easily understand the research out puts disseminated so unable to utilize it eagerly and effectively. Hence, these out puts edited in English language has to be translated in to our local language to use it successfully. There is no also clearly stipulated system to take over the research out put from the researcher to the end users. But, in the new BPR; the office has assigned one officer, knowledge and technology transformation officer to transfer the out puts to the community.

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Briefly, using English language and lack of stipulated system to take over the out puts from the research to the end-users were strongly and repeatedly mentioned as the major challenging factors of research dissemination and utilization.

Generally from these all findings, it was actually seen that the instructors' rate of research presentation to the annual conference, the extent of the RCS office in research publication and dissemination process of the institution could be considered as minimum.

4.8 The Role of Research in Teaching Performance in UoG

From the ground, the primary reason that initiated this study and derived to assess the research capacity of the University was not only for the sake of mere evaluation of the current research practices of the institutions but also to investigate the function of research in university teaching in accordance with the mission of the institution. Then, it could be possible to see and judge the research capacity of the institution. For that matter, it was essential to focus on the idea that whether research has been considered in teaching performance or not, and how much the instructors of UoG understood this premise was rigorously examined through the commencement of the key interviewees as well as the respondents' suggestion provided through the questionnaire.

The agenda of the discussion was whether the research policy indicator has been there in the strategic plan of the University or not. Hence, whether the strategic plan of the university dictates that the annual research plan should go together with the annual teaching plan or not was exhaustively dealt. So it was tried to analyze how much the relationship between research

and teaching was importantly considered. With this, the first participant replied to the interview question and expressed it as:

Sure, there is a research policy indicator in the strategic plan of the University. I remember when I was a member of the senate; the senate was responsible to design the university calendar and approved with it to mediate these two things, research and teaching. And it has also been stated in the university legislation.

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The other interviewee also similarly elaborated as;

As far as one is an academic staff of the University, he/she can devote 25% of time for research and 75% for teaching. I hope all the academic staff knows this allocation of time. My worry is what proportion of the academic staff is taking 25% of their time to do research. May be less than 25% of their time; they use for research.

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Further, the participant also suggested that to conduct research using 25% of any teacher researcher's time, it is advisable to consult with the department head to allocate properly the time for research. Because the teacher researcher would evacuate his/her classroom teaching, for example; for data collection.

From these informants; it was perceived that the University strategic plan and its legislation have considered research as a policy. To this end, time has to be properly scheduled for teaching and research work in order to perform each duty regularly with out losing one of them. Hence, the suggestion warranted that teacher researchers should allocate 25% of their working time to conduct research.

Next to this, the discussion with the interviewees was continued; especially seeking their professional recommendation on the relationship between teaching and research as well as the value given to research in teacher performance evaluation of the university. So they critically addressed the following.

Research has to be consistently done with teaching. They can not be isolated. For me the two are inseparable. For instance, for curriculum or content change, or modification, research based evidence is compulsory. Therefore, research has to go with teaching. In addition to this, since it is one of the criteria for teacher promotion from the 1st academic rank to the next, research has high value in teacher performance evaluation in our institution. For instance, if you want to be promoted from lecturer to assistant professor and do not conduct research, you are lost. So it is given high value in teacher performance evaluation.

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Again, the second participant ascertaining that research should go consistently with teaching; intensely disclosed that;

An academic staff who is not capable of publishing specific number of manuscripts or researches with in a specified period of time shouldn't serve as an instructor. This is a policy, for example; in most universities in UK. If you are not doing research, you can not stay in the university. In fact, the policy should go in use one step, for instance; in our setting, a person who is unable of publishing one research out put in 3 or 4 years time should not be allowed to continue as an academic staff in this university. Such type of policy will force the instructors to conduct research. In fact, people want to be promoted to the next academic rank. But, in my life year in this university; I know people who served for more than 15 to 20 years with out publishing a single research.

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At times during the discussion, this participant was very much astonished with the reality that he has observed from some of the so called instructors such as senior clinicians in the University with out a piece of published research work in their discipline they are called with and teaching the University students. Intervening to the conversation, he further tried to indicate that lack of skill for how to conduct research, or methodology of doing research made them so reluctant. This could be actually true for any staff in any case. Since the research methods skill potentially enables the staff how to follow the steps of conducting research which is very basic, its absence would make them research free teachers and/or idle too in research work. Finally, their teaching performance may be affected and ineffective.

Moreover, it was also necessary to check the above facts in accordance with the instructors' actual knowledge on the intention whether research is counted in their teacher performance evaluation, teacher promotion, utilizing their research findings to enhance their subject matter knowledge, modify or change the course content they employ to teach, having integrated research and teaching work plan in their course outline or not, and finally whether research should be done as perquisite to teaching or consistently.

So the actual information gathered from the sample respondents through the questionnaire has been tabulated next in Table 21.

Table 21: Proportion of Sample Instructors who have Knowledge on the Role of Research in Teaching Performance at UoG

<i>Items</i>	<i>Responses</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
Research performance is considered in teacher promotion	No	19	20.4	20.4
	Yes	74	79.6	100.0
	Total	93	100.0	
Used integrated research and teaching work plan	No	84	90.3	90.3
	Yes	9	9.7	100.0
	Total	93	100.0	
Used research for content improvement	No	59	63.4	63.4
	Yes	34	36.6	100.0
	Total	93	100.0	
Research to enhance subject matter knowledge	Very low	1	1.1	1.1
	Low	1	1.1	2.2
	Medium	3	3.2	5.4
	High	21	22.6	28.0
	Very High	67	72.0	100.0
	Total	93	100.0	
Research done consistently with teaching	Strongly Disagree	1	1.1	1.1
	Disagree	7	7.5	8.6
	Agree	43	46.2	54.8
	Strongly Agree	42	45.2	100.0
	Total	93	100.0	
Research for quality teaching and education	Disagree	4	4.3	4.3
	Agree	22	23.7	28
	Strongly Agree	67	72.0	100.0
	Total	93	100.0	

As we can see the numbers and their percentage written especially in bold in Table 21 above along the vertical column, **79.6 % (74)** of the respondents said “Yes”, **72%(67)** of them rated Very High, and **45.2 % (42)** of them Strongly Agreed for the raised items i.e. research performance is considered in teacher promotion, research used to enhance subject matter knowledge, and research done consistently with teaching, respectively where as 20.4%(19) of the respondents said No, 1.1%(1) of them rated Very Low, and 1.1%(1) of them Strongly Disagreed for these same items. Hence, from the observed percentage of the sample respondents; we can possibly say that the majority of sample instructors of the University seem to have good theoretical research knowledge and belief on the principle that the research performance of an academic staff should be considered in teacher performance evaluation; teacher research work is important to enhance subject matter knowledge of an instructor, and therefore research should be done consistently with teaching. Consequently, the majority 72 % (67) of the sample instructors from the total sampled population strongly agreed on the fact that research is important to promote quality teaching and then to assure quality education of the

University. Nevertheless, few of the sample instructors reflected that they do not know and believe in such important factors.

On the other hand, when we observe the rest two variables in the above Table 21; 84 (90.3%) and 59(63.4%) of the respondents said “No” on the questions raised whether they used integrated research and teaching work plan, and used research for content improvement, respectively. But, only 9(9.7%) and 34(36.6%) of the respondents said “Yes”. Since the frequency of the sample instructors who said “Yes” is by far less than those said “No”, we can suggest that a lot of sample instructors have not ever used integrated research and teaching work plan in their course outline as well as they have not ever used their research findings for course content improvement in their institution though some of the them have used. However, 34(36.6%) of them ever used research for content improvement which may reflect the presence of considerable number of instructors utilizing or applying research in their teaching which is appreciated.

Here from these all findings, it seems clear that the mere general knowledge and belief of an instructor on the role of research in teaching performance may not be taken for granted for his/her precise research skill application to teaching work at UoG. However, an instructor can organize and possess research based teaching as far as he/she applies his/her research knowledge and skill to the class room teaching learning process.

To this end, as long as research was considered too beneficiary and mandatory to teaching, it was also very essential to think, look for and examine the factors which hinder and promote the research undertakings at the institution in the next sections.

4.9 Major Factors Hindering Instructors' Research Work in UoG

In our previous discussion, it was clearly dealt that more than 66.7% of the current sample instructors at UoG have not ever carried out research. In addition to this, the actual data reviewed from the RCS' office document also showed that from the total 650 (100%) academic staff available in the University from the year 1999 to 2002 E.C.; averagely only 192(29.5%) of the instructors conducted the research projects. This minimal number of teacher researchers conducted the research projects in the university rationally guided the researcher to further investigate the major hindering factors of the staff research work. Hence, though there are a number of research deteriorating factors; only the major influential factors have been sequentially discussed in this section.

4.9.1 Shortage of Adequate Research Fund at UoG

In the study area, during each interview session it was repeatedly discussed by the interviewees that lack of adequate research fund is the most serious influential factor among the other determinant factors of research work. Obviously, research requires money which is the fuel for an engine then to have an engineer that is the researcher who is the driver of an engine that is his/her research, and must naturally deserve it alike the food chain in the biology of human and animal species. Other wise, even minute research findings can not be easily investigated with out any financial support because any moment requires energy which is neither destroyed.

In this regard, interview was held with the research participants who were recently president of the University and member of the former RPO office board, respectively. So they emphasized and put that the shortage of the research fund was a major challenge. The first participant said:

....budget allocated for the research was very minimal. Before 2 years, it was only 300,000 Birr allocated to the research work at the university level. And lack of group research work which encourages group researchers to exchange research skill each other is also another factor.

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Similarly, the second participant also believed and put his idea as:

Among the main problems in conducting research in our university, for example; the first one is shortage of fund. The second one is time constraint. The other deteriorating factor is lack of in-service training .No research training is given to update our instructors' research skill in order to encourage them to conduct research. The other main important one is encouragement. There is no staff encouragement in research work. So these are the major challenging factors among which lack of fund ranks first.

February 26, 2010; at 3:10 to 4:30 P.M

Additionally, the data obtained from the respondents using the questionnaire showed the same circumstance that shortage of adequate fund was rated as the first major influential factor which could negatively affect the proportion of the research projects conducted by the university staff. See Table 22 next.

Table 22: Instructors' level of Agreement on the existence of Adequate Research Fund in UoG

<i>Influential Factors</i>	<i>Level of Agreement & Disagreement</i>	<i>No.</i>	<i>%</i>	<i>Cumulative Percent</i>
Adequate research fund available in UoG	Strongly Disagree	33	35.5	35.5
	Disagree	45	48.4	83.9
	Agree	13	14.0	97.9
	Strongly Agree	2	2.2	100.0
	Total	93	100.0	
Fast and on time Research fund support at UoG	Strongly Disagree	27	29.0	29.0
	Disagree	49	52.7	81.7
	Agree	14	15.1	96.8
	Strongly Agree	3	3.2	100.0
	Total	93		

Table 22 shows that among 93 sample respondents who were asked to rate their level of agreement and disagreement on the availability of adequate research fund in their university, 78 (83.9 % cumulative) of them showed their total level of disagreement where as only 15 sum or (16.2% cumulative) of them reflected their total level of agreement. Similarly, 76 (81.7 % cumulative) of the sample respondents put their disagreement thought on the accessibility of fast and on time research fund support from the university but only 17 sum or (18.3% cumulative) of them expressed their level of agreement. For both factors, the proportion of sample instructors who totally disagreed by far greater than those agreed. So it seems that a significant shortage of research fund allocation was observed as well as even the accessibility of that minimal fund was not released fast and on time to the staff researchers.

4.9.2 Lack of in-Service Research Training

As it has been exhaustively dealt in the previous section, in-service research training is very essential as far as research is one of the primary goals of HEIs. To meet this institutional goal, universities require trained and skilled staff researchers. In fact, as a strategy this training should have also been successfully practiced and reality at UoG. However, the finding showed the reverse. Of course, the Research and Community Service/RCS/ office of the university prepared and provided once in-service research training particularly to the new academic staff. But, its extent was not as successful as it was expected so that the number of instructors conducted the research projects has been very minimal. Moreover, we can also look at again the following two bar graphs at figure 4 & 5 which show the parallel proportion of sample instructors who have taken in-service research training and conducted the research projects.

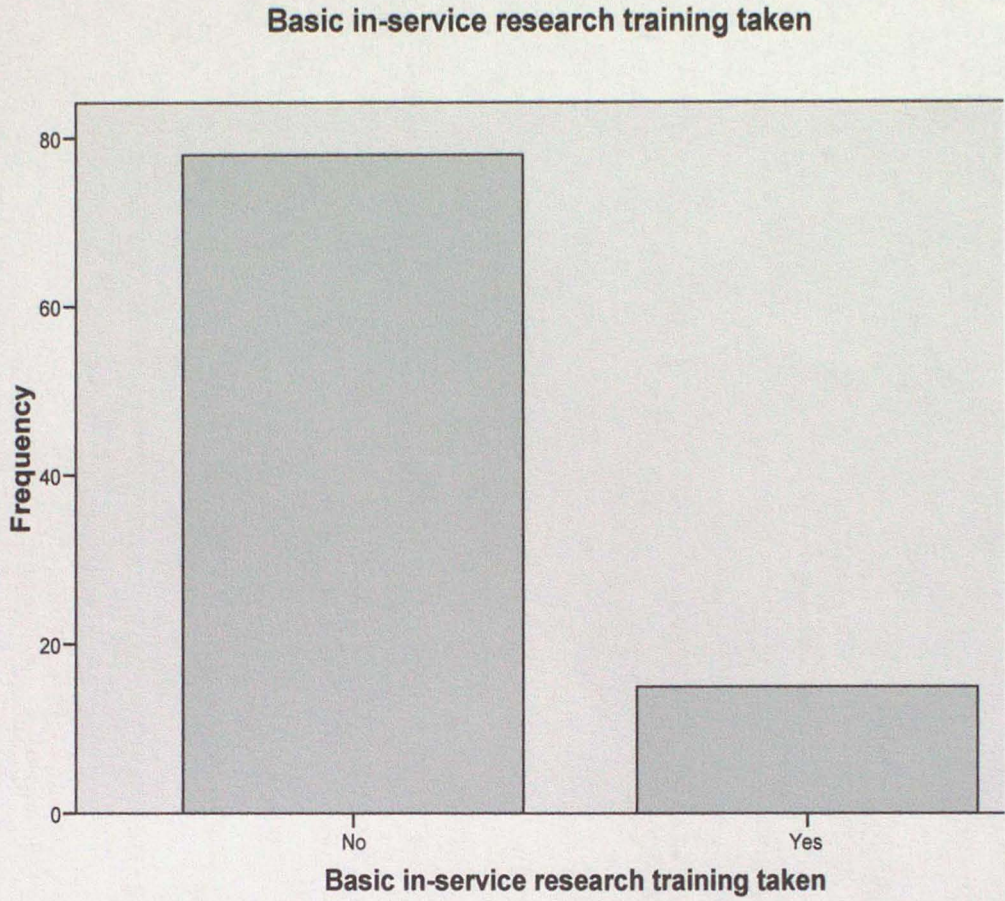


Figure 4: Size of Instructors who have taken In-Service Research Training in UoG

**No-refers to the proportion of sample instructors who have not taken in-service research training*
**Yes-refers to the proportion of sample instructors taken in-service research training*

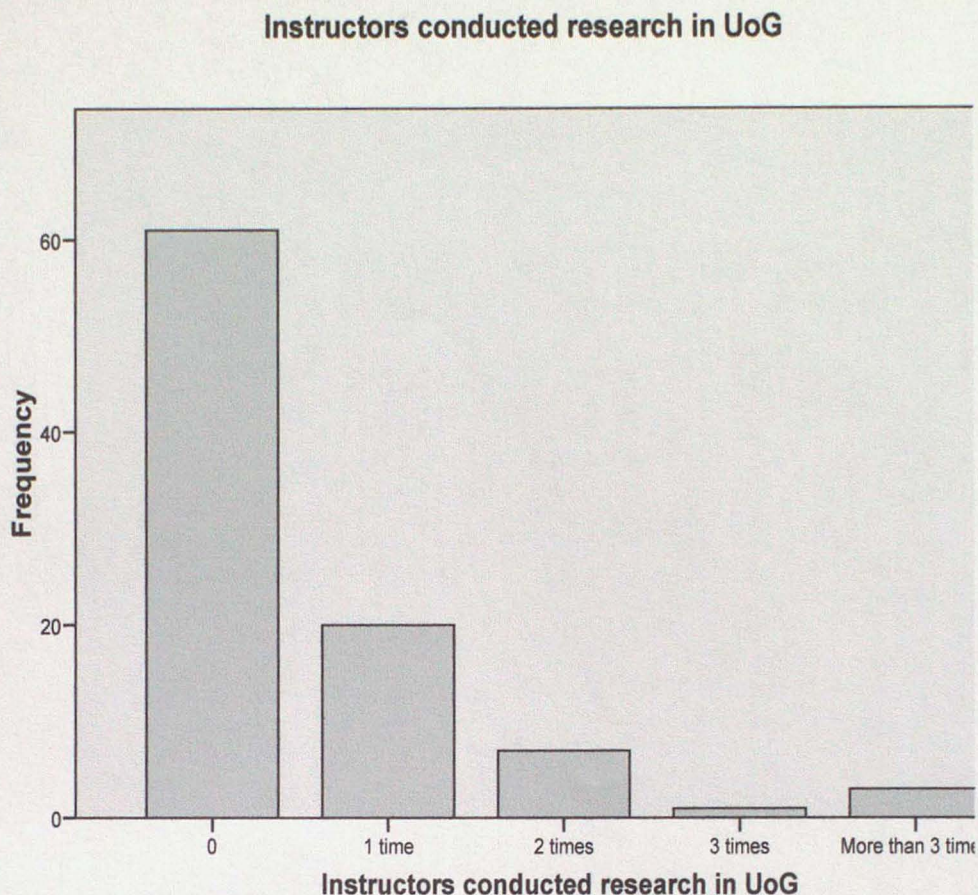


Figure 5: *Size of Instructors who have ever conducted research at UoG*

The length of the bar graph for the number of the sample respondents who said 'No' for in-service research training at figure 4 is as high as for the number of respondents who said '0' time in conducting research at figure 5. This describes the proportion of instructors who have not taken in-service research training is almost equivalent to those who did not conduct research. Here from the length of the two bar graphs, we could also observe that as the less opportunity of taking in-service research training increases, the less chance of conducting research projects also increases. Therefore, it could be found out that lack of in-service research training could also be another serious hindering factor of instructors' research project work at UoG.

4.9.3 Lack of Sufficient time for Research work

Time is one of the important factors that determine the teacher researchers' attachment to research. In the same manner, one of the research participants at UoG judged time as the second major research deteriorating factor next to the research fund.

Among the main problems in conducting research in our university, for example; the first one is shortage of fund. The second one is time constraint.

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However, the finding observed from the quantified responses of subjects of the study through the questionnaire seems to contrast with what was suggested by the above interviewee.

Table 23: Frequency Table viewing the level of Instructors' Suggestion on the Existence of Sufficient Research work Time at UoG

Variable	Responses	No.	%	Cumulative Percent
Sufficient research work time	Strongly Disagree	10	10.8	10.8
	Disagree	28	30.1	40.9
	Agree	43	46.2	87.1
	Strongly Agree	12	12.9	100.0
	Total	93	100.0	

As shown in Table 23, the percentage 55(59.1 % cumulative) of respondents who put their total level of agreement is greater than the percentage 38 (40.9 % cumulative) of those who disagreed. Meaning that more than half of the sample instructors believed in the availability of sufficient research work time though there were also a considerable number of instructors who disagreed on its sufficiency.

These the nearest proportion of instructors' suggestion together with the above contrasted qualitative judgment imply that research work time may not be the serious determinant factor alike the two factors such as research fund and in-service research training at UoG. Nevertheless, it can also hinder the instructors' research work. And therefore, this finding seems to tell us that as far as the adequate research fund is fulfilled for the skilled or trained researcher, time can not that much determine him/her as long as it is used efficiently.

Finally, according to the above findings; among these three hindering factors, shortage of adequate research fund and in-service research training were found to be the major influential factors more than time.

Hence, in order to see the effect of those the first two major identified hindering factors such as lack of in-service research training and sufficient fund (Independent variables) on the frequency of instructors conducted the research projects (Dependent Variable); the quantitative data collected from the sample respondents were tested using Univariate ANOVA as shown below in Table 24.

Table 24: *Univariate ANOVA test of Factors' effect on the Size of Instructors Conducted the Research Projects at UoG.*

Factors	Responses	N
Basic in-service research training taken	No	73
	Yes	15
Adequate research fund available at RCS office	Strongly Disagree	31
	Disagree	44
	Agree	12
	Strongly Agree	1

Table 24 indicates the number of sample instructors who replied as 'No' and 'Yes', and rated as Strongly Agree, Agree, Disagree and Strongly Disagree for the factors; basic in-service research training taken and adequate research fund available at the RCS office, respectively. Those who said 'No' for basic in-service research training were 73 almost proportionally corresponds with those 75(Sum) respondents who rated as disagree and strongly disagree. Their proportion is by far greater than those said 'Yes' (15 of them) and rated as Agree & Strongly Agree (13 of them), respectively.

This comparable maximum proportion of the sample instructors for these two variables might show us the analogy of the two factors; basic in-service research training taken and adequate research fund available at the RCS office, could negatively and seriously affect the proportion of instructors conducted the research projects to be less at UoG.

4.10 Factors Promoting Research Undertakings in the University

Ethiopia is currently requires higher education institutions which base their teaching learning process on research in order to come up with fundamental social and economical change for its people. Possessing such universities is not as simple as forwarding the issue rather it requests a thorough investigation of identifying mechanisms promoting research. These mechanisms are strategies which essentially strengthen the research knowledge and skill of the teaching staff that is the milestone of the mission of the university. Hence, from their

research experience; participants were interviewed to sort out the major research promoting mechanisms in the University, UoG and suggested as follows.

The number of instructors in second and third degrees should be increased. Because when they do Masters or PhD, their knowledge in research will also be enhanced and advanced. The other strategy is allocating some how sufficient amount of fund for research available for competition bases. Arranging in-service research training is another important factor. Especially, in second and third degree, the curriculum should be designed in such a way that it gives emphasis to research. In our college, for example; students of surgery are not required to be examined in their skill of research methodology through research projects rather only to attend lectures believing traditionally that no exam means no study. This is not a good curriculum. And there should be a tradition of group research. For instance, the junior staff might have an interest to conduct research but their research method skill may restrict them. So when they conduct with senior staff, one the quality of the research out put will be good. Two, the junior staff can learn a lot from the senior staff how to conduct research in a number of ways.

February 30, 2010; at 2:00 to 4:30 P.M

In relation to the postgraduate curriculum of the health specialties in Masters of Public Health (MPH) program at the College of Medical and Health Sciences launched by the University, a document was reviewed. The document contained the course breakdown in which research methods course has been designed as a compulsory course which is expected. However, through out the 2 years MPH Masters program; only 3 weeks (not months) have been allocated for the research methods course in addition to 16 to 18 credit hours for other course work. Totally, the post graduate students in this discipline take maximum of 24 credit hours only that may not be an adequate course training time.

Here, at the first place the curriculum lacks additional credit hours not only for the course work but also for basic and advanced research methods courses as long as it is a study for specialization. Therefore, as the first participant commented above, only 3 weeks time allotment for research methods course is not professionally recommended as well as from the nature of the Masters Degree study. Because acquiring research method skills is not a one time shot rather it requires course wise training through out the two years time along with other academic courses, and again separately so that students would comprehend and trained very well for the why and how to conduct research in each subject specialty.

Next to this, significant suggestion on the other vital mechanisms spit out by the second participant was:

The RCS office of the University, the college's editorial board office and other faculties have to be organized. The university has to have well skilled research

experienced man power that really promotes the practice of research in the institution. In-service research training for instructors has to be given to up date their research skill and make them capable and up to date researchers. Because science has its own base at each stage. Plus we need to have fund from the government as well as from the RCS office itself. The RCS has to form a bilateral and multilateral links with other non-governmental organizations.

February 26, 2010; at 3:10 to 4:30 P.M

Having said this all, the participant has also emphasized that the RCS office of the institution has to organize its own means of publishing its own Journal or form a link to other Journal press institutions. The research areas must be relevant, worth full, the priority problems of the country, and feasible. And also must obey the government policy because we can not go out of the policy of the country if we need to implement the findings. He further stated that there should be clear communication between the researcher and the policy makers so that the researchers could send their research out puts to the executive bodies for implementation.

The key interviewee of the RCS office of the university at his side, from his office research management experience; also strongly put some factors promoting the research practice of the University.

Well furnished research laboratory, infrastructures, and important inputs should be ready and fulfilled in the university. Therefore, the government has to give due emphasis to research in the national policy so that should allocate sufficient fund and also the RCS office itself has to generate its own budget or money from other agencies. To do so, potential staff is required at the office. And also we have to motivate teacher researchers and equip them with research skills and make our environment conducive for them so that they can develop positive attitude toward research and conduct it.

February 20, 2010; at 8:00 to 11:30 A.M

Totally, all the above key informants stressed that up grading the educational status of the academic staff, designing research focused postgraduate curriculum, allocating sufficient fund on competitive base, providing in-service research training, encouraging group research work, creating collaborated means between the RCS office and other related offices of the university, research infrastructures, fund raising system by the RCS office, potential staff in the RCS are the important major factors to enhance research capacity in UoG. Thus, our government should put vigorous emphasis on research in the national policy of the country. Further, to consolidate the assessment on the importance and contribution of these and other identified research promoting factors at the institution, respondents in the study were also inquired. See Table 25 next.

Table 25: Frequency of Instructors' Remark on the degree of Importance of Factors Promoting Research Undertakings in UoG

Factors	Degree of Importance											
	Least Important		Less Important		Undecided		Important		More Important		Most Important	
	No.	%	No	%	No.	%	No.	%	No.	%	No.	%
Instructor's positive attitude toward research work	1	1.1	2	2.2	2	2.2	9	9.7	22	23.7	57	61.3
Availability of sufficient research materials	6	6.5	5	5.4	1	1.1	7	7.5	19	20.4	55	59.1
Organized & fast research administration system of the university	3	3.2	5	5.4	3	3.2	8	8.6	19	20.4	55	59.1
Helpful research management system in RCS office	3	3.2	3	3.2	1	1.1	12	12.9	21	22.6	53	57.0
Specified budgetary procedures ensuring research fund allocation at the university level	2	2.2	3	3.2	1	1.1	15	16.1	23	24.7	49	52.7
Instructors' educational status	6	6.5	4	4.3	3	3.2	18	19.4	24	25.8	38	40.9
Encouraging research publication system of the RCS /RPO/ office	2	2.2	6	6.5	1	1.1	17	18.3	32	34.4	35	37.6
Instructors' opportunity of getting in-service research training	4	4.3	5	5.4	2	2.2	18	19.4	31	33.3	33	35.5
Research being counted in teacher performance	6	6.5	5	5.4	1	1.1	12	12.9	43	46.2	26	28.0
Grand Total	33	35.7	38	41.0	15	16.3	116	124.8	234	251.5	401	431.2

When we look at the number and percentage of sample respondents rated for each of the factors listed in the above frequency table, their proportion increases from the least important to the most important along the horizontal rows for each factor except those rated undecided. And the maximum rate of respondents for each factor ends up with at the scale of most important. Moreover, when we observe the grand total of each rated scale except those rated undecided; it also increases similarly from the least important and ends up with the maximum number and percentage at the scale of most important.

When we see along the column, the proportion of sample instructors rated as most important for each factor increases from 26 (28.0%) to 57(61.3%) and so does their rank of importance. For instance, among these most important factors; Instructor's positive attitude toward research work rated as the most important factor by 57(61.3%) of the instructors which ranks first, and

that is why their research perception has been evidently presented and analyzed first in section 4.3 of this study.

Hence, sample instructors of the University largely consider all of these factors as the most important research promoting factors in their institution though very few of them rated them as least and less important. And in the open-ended questions; these sample instructors additionally suggested that giving smooth and fast ethical clearance to the teacher researchers and encouraging those staff in research activities should be adapted and adopted by the RCS office of the university. Generally, since the proportion of those sample instructors rated as the most important, more important and important by far greater than those rated as the least and less important; we can possibly say that all the factors could be the essential means or mechanisms to promote the research undertakings of the university. Therefore, these all findings can be briefly taken as guarantee to say that these all factors are the major important factors used for promoting research undertakings of the university if they are fulfilled and implemented very well.

To sum up all what has been presented and analyzed in this chapter, in the last part of the survey questionnaire; the research participants particularly the sample instructors were asked from their experience to judge and rate the status of conducting the research projects in their institution, UoG. And then the larger proportion of them rated the capacity of the research undertakings of the university as **moderate**. Their general judgment in terms of their proportion has been displayed on the next bar graph shown at figure 6.

The status or capacity of conducting research at University of Gondar

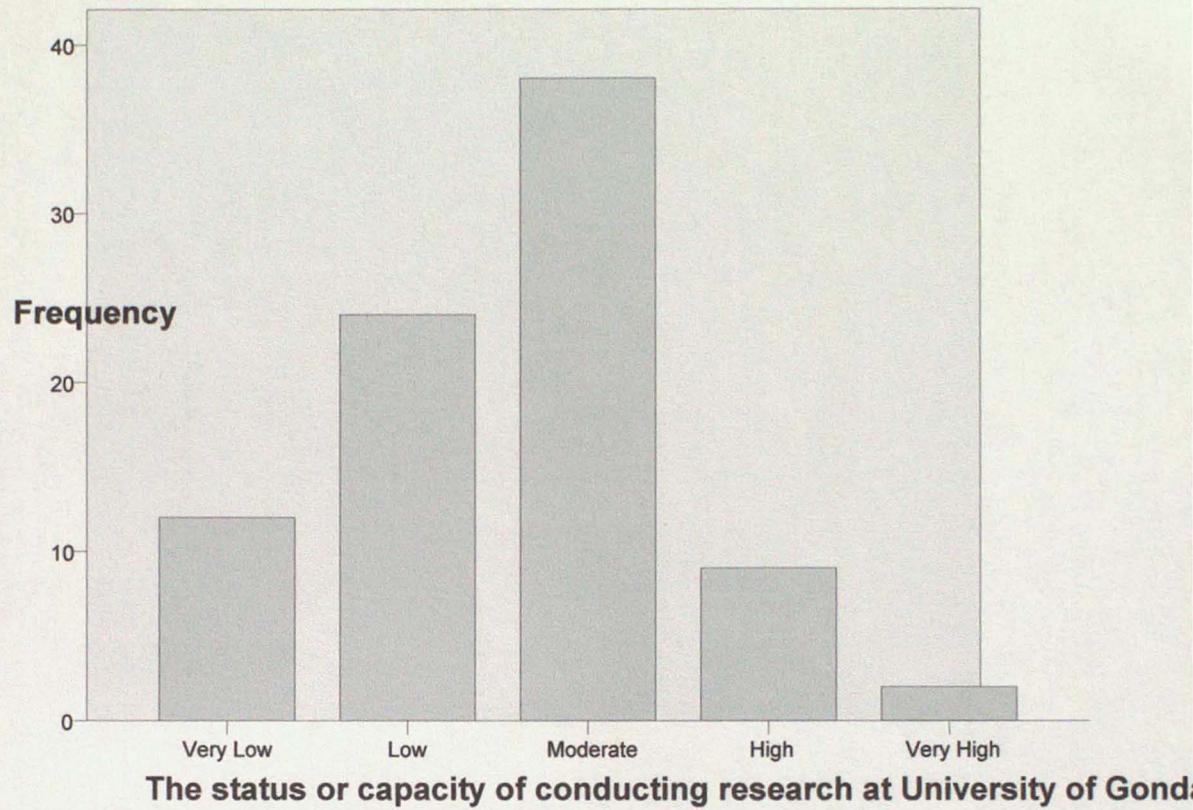


Figure 6: Frequency of Instructors' Suggestion on the entire Status of Conducting Research Projects at UoG

CHAPTER 5: DISCUSSION

The intention of this study was to assess the current research capacity of UoG. This section discusses the major findings of the study by making inferences from both qualitative and quantitative data presented and analyzed in Chapter four. Besides, significant evidences and likely findings from the literatures are discussed in order to enrich the findings of the study. In the discussion, basic research questions are used as a basis to deal with the main findings of the research.

5.1 Research and Community Service Core Process /RCS/ Office of UoG

The new Ethiopian Higher Education Proclamation (650/2009: 4981) declares that each higher education institution has the responsibility to undertake and encourage relevant study, research, and community services in national and local priority areas and disseminate the findings as may be appropriate; undertake, as may be necessary, joint academic and research projects with national and foreign institutions or research centers (FDRE, 2009).

As the research office of higher education institution, the Research and Community Service core process (RCS) office of UoG has been trying its best to manage the research projects proposed and conducted by the academic staff in each year. In the study, it was investigated that the office has good administrative position and led by the general director under the office of Vice President for Academic, Research and Community Service. And the office has inclusive general research objective which dictates conducting basic and applied research in order to generate knowledge and technology that can potentially serve the community so that it will help the university meet its accountability in research.

Likewise, the Journal; the Daily Monitor (Vol.XVI, No.088) stated that higher education institutions are central drivers of globalization. Research universities are among the most globally connected and driven of all sectors of society-while at the same time global connections, the global flow of ideas, global comparisons and rankings, and global people mobility, the most powerful single driver of change in higher education. For instance, University of Gondar is expected to have recognition in research at international, national, regional and local level through its established research office, RCS. However, from the finding; it was examined that the office's recognition in research has been limited to the university level. Though the university had good research start since years before, its current recognition in research might not be beyond the institution.

In the case of the University's RCS office research management system and the availability of its potential staff, the situation reflected in the study was almost related to what is being reflected in other countries of East Africa. Working Group on Capacity Building in Educational Research and Policy Analysis(1992:3) as cited in Mwiria and Komba (1996) found out that the management of educational research in the East African sub-region is characterized by understaffing, under-funding, lack of autonomy, disruption by student strikes and brain drain; individual as opposed to institutional management of research; constant change and transfer of personnel; inability to link the work of the units with work in other institutions that would increase the pool of available expertise; and lack of planning and formulation of clear priorities in building research capacity.

In the same way, at UoG it was discovered and observed that the RCS office's research management system is not that much well staffed and therefore it seems some how at lower rank. These encounters were also further pointed out as the office's research management system looks some how not as conducive as expected by most of the academic staff. This was because of its under sized staff and other variety of challenges that the office faces in the university.

5.2 Instructors' Perception toward Research in Ethiopian HEIs at UoG

One of the major reasons for the existence of a university in the world is to get involved in research activities (Taye, 1993).Familiarizing and carrying out useful researches is one of the missions of higher education institutions (UNESCO, 1997 in Almaz, 2005).The Ethiopian education and training policy stated that higher education should be research oriented (TGE,1994) and in the proclamations of higher education institutions (FDRE, 2003) research is considered as one of the primary tasks of these institutions. So in the eyes of academicians, research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data. Just to enrich and assess the over all research practice of UoG; it was reasonably important to start with examining and addressing the perception of the academic staff of the institution toward the importance of research in HEIs.

Thus, the findings reflected that instructors' belief on the importance of research in HEIs; on the principle of considering research as one of the goals of HEIs as well as the conviction they have about conducting research on community problems for knowledge advancement and

teaching that knowledge to the university students as the primary goal of HEIs were discovered as strong and quietly good. From the recommendation given by the discussants to the argumentative discussion on the idea that research should be conducted consistently with teaching and/or if possible prior to teaching; it was suggested seriously and taught that research should not be conducted only for the sake of teaching specific subject area but also the teacher researchers should go beyond this and try to adapt the research work as their own prior business in any case studies. And finally university instructors' perception toward research in HEIs was identified and judged as good. In general, the importance of research in Ethiopian HEIs in particular to its contribution to teaching was obviously and positively perceived by the majority of the university staff.

In this regard Ethiopian Higher Education Proclamation on research in higher education (FDRE, 2003a in Teshome, 2007:122) also underscores that undertaking research and studies to utilize the country's potentials by laying down necessary educational and institutional systems (article 6) as one of the major objectives of higher education institutions in Ethiopia. According to the Proceedings on Higher Education and Research Policies in Europe approaching the year 2000 (1984), Universities are traditionally the institutions whose primary goal is the advancement of knowledge through research. In their environment much of the new knowledge acquired through research can easily be incorporated in to undergraduate and postgraduate curricula. And of course, there is the benefit for those who carry out research in their subject area (in addition to teaching it) that of necessity they have to acquire a deeper understanding of it and to be more aware of developments in it than do colleagues, who have their teaching on published material.

This is because research is an outlet value for innovation and it is responsible for the broadening and deepening of knowledge (Neary, 2002 in Kiflom, 2009). And the knowledge of instructors about research implies that teacher researchers make research on their teaching practice for the sake of testing the theoretical principles compared to practical implementation and to assure improvement (Gemechu, 2006 in Kiflom, 2009).

Outstandingly, in our case being familiar with the importance of conducting research in HEIs can up grade the teacher researchers' knowledge on how to solve the problems at their disposal, such as in their classroom teaching.

5.3 Instructors' Research Intensity at University of Gondar

The intensity or strength of research at higher education institution would be influenced by its current academic staff research effort. Mainly, factors such as the instructors' research confidence, their total research participation and the proportion of the research projects they ever conducted were considered as the prominent ones that may naturally and professionally affect the research intensity of the university.

As it was substantially investigated through the in-depth interview and document review at the office of Research and Community Service /RCS/ of the university as well as using the survey questionnaire, instructors' research confidence at UoG was found out as high which was expected. But, from the suggestion given; their attitude and/or other variety of problems might have negatively affected their research confidence. During the study, it was also implied that unless an instructor has research confidence on him/her self even with high research skill, it is obvious that success in research may be unthinkable. From the finding, the quantity of the research projects conducted by the sample instructors in the university was discovered as less though the number of these projects under study as well as the size of teacher researchers has been currently increasing.

Lack of in-service research method training to the academic staff and insufficient fund available were emphatically suggested as the major reasons for the minimum size of teacher researchers and research projects conducted the in university since the year 1999 E.C. Because, these might apparently expose the instructors to research skill problems they evidently faced. However, their research participation to the annual research conference of the university was almost revealed as good though equal participation was not observed.

In conclusion, the entire findings more or less reflected that instructors' research intensity of the institution becomes some how good but it can not be concluded as very good.

Nevertheless, the new Ethiopian Higher Education Proclamation (650/2009) recommends that every academic staff member of an institution shall have the responsibility to undertake problem solving studies and researches and transfer knowledge and skills in the specific areas of self-confidence and professional position, that are beneficial to the country; or at least ensure that own teaching is research and study based and continuously updated (FDRE, 2009: 4976). Hence, every academic staff of the university is professionally responsible to develop positive attitude and confidence toward research and conduct the research projects.

5.4 In-Service Research Training Extent in UoG

As presented previously, the observed finding showed that the rate of the training given so far and the proportion of instructors who have taken in-service research training can not be considered as large in the university. This condition might have led these staff to various professional problems. In the realm of academicians, it is nationally and internationally recognized that instructors in HEIs have to be proficient enough in their research skills, practice and participation. There is no a clear justification that only university professors should have these important components but it is also obligatory to all of other academic staff members including even those who have lower academic rank.

For that matter, in the study it was investigated that basic in-service research training given to the academic staff of HEIs could enhance their current research skills, practice and participation. Meaning so as to inject particularly the research back ground to each academic staff, in-service research training can be taken as a compulsory input factor more than ever in this era of science and technology at least to be able to communicate with current changes. To do so, skilled research trainers are required.

However, the finding showed that the University, UoG doesn't have sufficient potential research method trainers though there are few. In these all regards; other researchers have reached with similar conclusions. For example, Yalew (2000) as cited in Kiflom (2009) ensured that teachers who have taken research training did more research than those instructors who haven't taken. Correspondingly, another investigator stated that familiarity with the nature and procedure of research enables teachers to be in a position to think scientifically and effectively about their pupils, their subjects and their work (Hussen, 2000).

Therefore, training lack in research can negatively affect the instructors' professional contribution to their respective disciplines such as teaching research methodology courses to the department students, conducting the research projects as well as their rate of participation in research seminars and conferences hosted by the university.

5.5 Research Audit System in University of Gondar

Ethiopian higher education institutions are more or less desired to comprise their own internal research audit system as far as they need to produce quality research out puts that can bring with dramatic changes and keep sustainable economic and social development of the country. However, what is actually being observed in the study area, University of Gondar is far from this truth.

As it was discovered, no strict selection criteria used to select quality research projects and organized quality research audit system/body at the university. Of course, the university has research proposal reviewers from each respective department designated by the RCS office. But what is actually being observed is as they do not seriously audit the research findings and even the submitted research proposals. Because, there are no strict selection criteria the reviewers based as well as organized auditing system to evaluate the researched findings after all let alone evaluating the published Journals. Rather what is done is accepting and rejecting the proposed projects, which is the preliminary stage of the entire research work not the final.

In fact, this all might be resulted owing to variety of challenges encountered particularly by the reviewers. They are not, for instance; paid for the review they do so that they are obliged to engage themselves in other useful duties rather than seriously and morally evaluating the research projects. To alleviate this problem the institution does not or can not allocate adequate fund.

Similarly, other prominent researchers in the field from Nairobi University; Mwiria and Komba (1996) stated that the quality of the research generated is limited by the lack of adequate opportunities for peer reviews of research findings and conclusions, partly because of fallen morale and also because of the funding crisis being experienced by the sub-region's research institutions. Secondly, many of the works published in local Journals and departments are not really seriously evaluated mainly because there is little competition for such publication opportunities (Mwiria & Komba, 1996).

This all event may directly reflect that how much the quality of research projects conducted in Eastern and Southern Africa including Ethiopia has been degraded especially due to the absence of potential quality research auditors who can consciously, excellently and effectively examine the research findings studied, consult and correct these the seemingly energetic and/or weak research out puts as well as the researchers who always encounter research and outreach challenges at their disposal.

Generally, what we bear in mind from this study is that the RCS office of UoG is too responsible to organize substantially the auditing body/system as soon as possible.

5.6 Research Dissemination and Utilization Modes in UoG

Research dissemination is the process where by research results reach to different audiences (King, 1998).

In UoG, research is apparently conducted to generate knowledge, to solve problems or modify what has been already done, and research findings from the lower to the highest standard are resulted. And the teacher researchers are expected to disseminate these research findings to the end-users. Similarly, King (1998) warranted that researchers have to think about their research result dissemination accesses at least when they attempt to begin the research activities.

Meaning the out puts are desired to be disseminated and utilized by the concerned body such as by policy makers, practitioners of higher education institutions and generally by the community if desirable economic and social changes are to be touched. This would provide ways for communication and interaction among people. And with in the arena of communication, teaching and learning can be evidently performed so that instant and long run behavioral changes would be sustained. Otherwise, no research must be conducted for the sake of it or for fun and in fact not only for the library shelves. Likewise, (Taye, 1993) stated that research is not an activity performed just to keep oneself busy or do some sort of mental exercise.

Of course, at UoG; research dissemination and utilization modes are used though a number of problems may close the way to flow through. Of these modes, research seminars and the annual research conference as well as the research publication system were under investigation. Through the study conducted, the findings showed that the RCS office of the University was identified as the responsible body to disseminate the research findings from the teacher researchers to the end-users. However, the RCS office's degree of disseminating the research findings was not as it was expected. So the status of the University in disseminating the research findings to the end-users; to the surrounding community was rated as some how low.

Besides, it was also examined that Amharic language must be emphasized as a local research language by the staff researchers and used as disseminating mechanism so as to let the local people effectively utilize the research out comes. Because effective dissemination is hampered by the language in which most research results are published, for instance; heavy dependence on the English language and also sometimes sophisticated academic jargon in which results are reported (Mwiria & Komba, 1996:13).

Among the research dissemination mechanisms, it was revealed that the university used research seminars at faculty level and annual research conferences at university level. Of course, in the institution; the students' and the staff annual research conference is an exaggeratedly used research dissemination mode than faculty seminars. Owing to some determinant factors, the annual research conference could be used only once per year where as the research seminars could be organized 2 or 3 times per annum. And therefore, it was suggested that the RCS office should use these research seminars so as to select quality research out puts for the annual research conference. So far the quality of the research findings currently presented to the annual research conference at UoG was rated as medium, and the size of instructors who ever presented their research findings to the annual conference was discovered as very minimal as compared to the total staff size.

Under the study, the research publication system was observed as the second research out put disseminating mode by the university through the RCS office. For that matter, the availability of skillful researchers together with well organized and able research and publication office in the institution was surveyed. Hence, the research publication extent at the RCS office, the availability of potential quality research finding assessors, book publication experiences, and the determinant factors of the research publication system of the university were critically assessed.

Accordingly, the result of the investigation showed that the research publication extent of the RCS office was not as it was anticipated by the majority of the academic staff due to the fact that the office doesn't have its own Journal used to disseminate the research findings to the end-users except the only Journal; Journal of Health and Biomedical Sciences published by the College, which does not always incorporate other faculties of the university. Consequently, the role of the RCS office in using the published materials to disseminate the research findings seemed negligible.

And the absence of organized quality research assessing body in the university was also discovered. This could in turn reflect that the quality of the research findings being published even by the medical and health science college would be under question mark. However, there are good publication experiences shown at UoG. Books are being published by instructors of the university though they are few in number as compared to the size of the staff.

More over, in order to make the research dissemination and utilization process observable through publication, it was also imperative to deal with the determinant factors of the

publication system done at the RCS office of the university, and hence absolute findings such as the absence of responsible, research experienced and skilled staff assigned there in the office, lack of appropriate Journal for some fields of study, communication deficiency among the college and other faculties and the RCS office, nonexistence of specified research review schedule, shortage of sufficient number of experienced people who can serve as the member of the editorial board and editor in chief were investigated as the major determinant factors of the publication process of the university.

By and large, it was actually seen that the instructors' rate of research presentation, the role of the RCS office in research publication and dissemination process of the institution could be considered as minimal.

Finally, with respect to the need and importance of research dissemination and utilization in higher education institutions, the Ethiopian Higher Education Proclamation (2003) declared that not only research undertaking in higher education institutions but also dissemination of its findings to the end users is important (FDRE, 2003).

5.7 The Role of Research in Teaching Performance in UoG

In the study, it was perceived and pointed out that in the strategic plan of the University and its legislation; research has been actually considered as a policy. From the finding, the policy seems to dictate that annual research work plan should go together with annual teaching plan though not too practical. In policy wise, the status of research in the University looks good. However, in order to implement this policy; time has to be properly scheduled for teaching and research work so as to perform each duty regularly with out losing one of them. Hence, the suggestion warranted that teacher researchers should at least allocate 25% of their working time to conduct research.

In addition, the knowledge of the academic staff of the university on the importance of research in university teaching was also investigated. And the finding showed that a greater number of sample instructors have good and relevant knowledge and belief on the fact that research performance of an academic staff should be considered in teacher performance evaluation. They reflected their understanding on how much research work is very vital in enhancing the subject matter knowledge of an instructor, and therefore they concluded that research should be done consistently with teaching.

However, most of them were found out as they have not ever used integrated research and teaching work plan in their course outline as well as did not ever use their research findings

for their course content improvement. Here, it seems clear that merely the general knowledge and belief of an instructor on the role of research in teaching performance may not be taken for granted for his/her research knowledge application to teaching work in UoG. But, an instructor can possess a research based teaching as far as he/she applies his/her research findings to the class room teaching learning process.

Any ways, it was discovered that the University staff believes in the unity of teaching and research so that quality teaching and education would be secured. In view of that, Higher Education and Research Policies in Europe Approaching the year 2000 (1984) stated that the traditional concept of the unity of teaching and research in the universities has certainly contributed very much to the progress and development of our tertiary education system. In view of the fact that, as a rule, a teacher not actively engaged in research can not easily cope with the rapid expansion in his field, i.e. universities should expect every member of their teaching staff to be engaged in some sort of research. Besides, if teachers engage themselves in research activity they will have a multiplier effect on their students. Consequently, it will help in the development of research culture in schools (Hawes, 1976).

However; some of the sample instructors of University of Gondar were seen to suggest that they do not believe in that research should be central to teaching performance. Meaning some argumentative suggestions were uttered and responded. The finding indicated that the link between research and teaching seems some how weak though lots of academicians believe in its integration. Similarly, another finding by Desalegn (2006) also addressed that the integration of teaching and research in the college of education of Addis Ababa University is at lowest level. And the findings of Berhanu (2005, in Kiflom, 2009) also showed that the link between teaching and educational research at Addis Ababa University is not strong one.

In any case, however; more or less a higher education teacher needs to be a proficient researcher as long as our institutions are the responsible entities for any desirable academic policy and curriculum change purpose. Because the education policy and its curriculum must depend on the research evidences generated by the local class room teacher to bring with the actual and relevant social and economical change of our country.

In justifying the need for a teacher to be a researcher, Hawes (1976) observed that the classroom teacher as a potential research-worker starts his task with very great advantages. He knows his own local conditions better than anyone else is likely to do: he has the support and confidence of those with whom he works: the children, the parents, and the community

members...etc. Teacher-based research helps, first to do with the very serious deficiency of educational information with regard to local problems and local conditions. Such data are necessary as a basis for educational planning. Secondly, once a teacher becomes engaged in research activities in which his/her colleagues are also involved, he/she becomes a participant in the process of planning and improving an education system rather than a mere part of a machine (Hawes, 1976).

Generally, in order to be a high quality teacher within higher education, every lecturer has a professional obligation to understand the key conversations going on in the research community...and staff needs to have the time and resources to keep up with their field of study so that they are immersed in its conversations (Barnett, 1990:130-135). Because, a teacher in the classroom is a technical-production manager who has the responsibility for monitoring the efficiency with which learning is being accomplished (Derebssa, 2000).

5.8 Major Factors Hindering Instructors' Research work in UoG

Whilst the institution has been trying its best to meet its research goal through organizing the research projects in each year, a number of hindering factors currently made the condition some how aversive. As it was dealt in the previous section, it was revealed that the number of staff conducted the research projects in the university was minimum in size. And this was because of various hindering factors available in the institution. Among the major influential factors; lack of adequate research fund was repeatedly raised and dealt by the respondents as the most serious influential factor than others. The finding reflected that the majority of the instructors at UoG enormously encountered constraints of fund and access to conduct research as well as could not get the allowed money fast and on time from the institution. This would demotivate the staff researchers even the skilled ones and negatively affect the research status of the University.

In the same vein, other researchers also found out equivalent findings. Before 17 years; Seyoum (1985) found out that when research funds are allocated, getting it on time as need arises could not be possible due to administrative delays. The problem is not only a matter of getting the approved research fund, but it is also getting it exactly on time with out too much red tap (Seyoum, 1985). Unless fund is appropriately allocated to the researcher, conducting research projects will be an imaginary work of him/her. This is because research inevitably calls for recurrent expenditure; frequent travel expenses, transport cost, assistant fees, supplies and charges of secretarial services. The individual researcher can not properly cover these huge

costs (Tsegaye, 2000). And recently, Teshome (2007:123-124) also described in his study that research is a crucial activity and must be assigned a high priority by making major annual allocations of funds, and creation of an enabling environment to conduct research.

Secondly, it was also investigated in the institution that in-service research training was not done as successfully as it was desired. This could let the university live with sustainable scarcity of well qualified and skilled teacher researchers. In this regard, other foreign researchers; Mwiria and Komba (1996) at Nairobi University referring to the Working Group on Capacity Building in Educational Research and Policy Analysis (1992:3) articulated that only a relatively small percentage of educational researchers are well grounded in basic and advanced research skills. According to them, the reasons for this include: limited opportunities for the mastery of relevant skills; limited access to key research equipment such as computers; inadequate exposure to recent literature in their respective fields of interest; and poor training due to a shortage of highly qualified research methodology teachers.

From these their findings, limited opportunities for the mastery of relevant skills and poor training due to the absence of qualified research methodology teachers were considerably the major causes that might have enforced the Kenyatta University to provide in-service research training to its academic staff. This incident has also been similarly reflected at University of Gondar.

Time was also another suggested influential major factor hindering instructors' research work though not as serious as the two; research fund and in-service training. It is one of the important determinant factors that could limit the research attachment of instructors at UoG. In favor of this factor, Firdisa (2000) has listed out that time can be one of the determinant factors of the research happenings of the researchers. Generally, after Firdisa; Abreham (2004) stated the conditions that the researchers need to attain in order to conduct effective research are: attitude and interest in research, research fund, skill in research methodology, motivation and enough time.

5.9 Factors Promoting Research Undertakings in University of Gondar

Every country needs good research universities and centers of high level research, studies and training. Scientific knowledge and skills enable countries to find their own solutions to their problems (Commission for Africa, 2002). All countries should own research universities and centers as far as they need to develop scientific knowledge and skills to go forward in the arena of advancement.

In fact, as repeatedly discussed in this study; University of Gondar currently requires its academic staff to up grade in research skills and base their teaching learning process on pertinent and worth full research findings and provide out reach services which would ensure its quality education provision. To this end, mechanisms to promote research undertakings in the institution had to be examined, found out, designed and implemented properly.

Thus, variety of mechanisms was pointed out by the participants of the study. Up grading the educational status of the instructors, designing research focused postgraduate curriculum, allocating sufficient fund on competitive base, providing in-service research training to the instructors , encouraging group research work between the senior and junior staff , creating collaborated means between the RCS office and other related offices of the university, organizing research infrastructures, fund raising system by the RCS office and availability of potential staff in the RCS office were discovered as the most important major factors strongly mentioned to enhance the capacity of undertaking research projects in the university.

Among these major research promoting factors, up grading the educational status of the instructors was one of the factors highly suggested to enhance the research undertaking capacity of each academic staff at UoG. As a higher education institution, the university needs to design the opportunity of providing successive research focused postgraduate studies or training to its staff if the staff has to be acquainted with the research method skills and develop the research undertaking capacity. In this respect, Tehome (2006b) stated that the slow development of graduate programs in the universities in Ethiopia is a factor for the limited research undertakings. This fact can also imply that the postgraduate program of UoG must give high credit to research method courses. However, the finding showed that the MPH postgraduate curriculum of the university has given only three weeks continuing research method training schedule out of the two years program. In fact, this may show how much little focus has been given to research method skill training in the university.

It was also discovered that the RCS office of the institution has to organize its own means of publishing its own Journal or form a link to other journal press institutions. The creation of publishing out lets is one of the institutional inputs for research undertaking. Institutions of higher learning and other research centers are expected to publish and disseminate what has been discovered so that it could be utilized. To promote research, the creation of academic

Journals and the implementations of a coherent publications policy at different levels are essential (UNESCO, 1998).

More over, at UoG it was also investigated that the research areas proposed and studied must be relevant, worth full, feasible, must regard the priority problems of the country and consider the government's policy in order to implement the findings. In fact, the university has been beginning to look for the research priority areas from the local community just to identify and arrange the research problems for the respective departments and teacher researchers of the institution.

Generally, to implement these all research promoting factors, all the research participants of the study highly called up with that the government should put vigorous emphasis on research in its national policy of the country consequently research undertakings and its utility would be realized in all HEIs.

CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary

The intention of this study was to assess the research capacity in Ethiopian Higher Education Institutions with particular reference to University of Gondar. To do so, "Mixed Methods Design" was employed. Hence, both qualitative and quantitative data were independently collected and analyzed, and concurrently triangulated and discussed. Interviews, document review, and questionnaire were used to get data from instructors. In-depth interviews were held with 6 key informants of the study area including HESC. Survey questionnaire was administered to 120 sample instructors. Among them, 93 participants were found appropriately filled and returned the questionnaire.

Data from the interviews and open-ended questionnaire were qualitatively described based on the major themes of the study. To reveal the direct perspectives of informants, direct quotes were used when ever required. Quantitative data from the questionnaire were tabulated and presented in tables. Descriptive statistics (frequencies, percentages, mean and standard deviation) and inferential statistics (ANOVA, post-hoc tests, and Chi-square) were processed to analyze quantitative data. Concurrently, both qualitative and quantitative data were mixed and discussed.

As one of Ethiopian HEIs, University of Gondar has its own research coordinating office known as Research and Community Service Core Process office (RCS) which has been trying its best to manage the proposed and conducted research projects of the academic staff each year. The office has good administrative position and led by the general director under the office of Vice President for Academic, Research and Community Service. The office has inclusive general research objective which dictates conducting basic and applied research in order to generate knowledge and technology that can potentially serve the community. Hence, it will help the university meet its accountability in research. However, it was observed that the office is not that much well staffed and its research management system looks some how at lower rank and is not as conducive as expected by the majority of the staff.

The finding of the study addressed that instructors' belief on the importance of research in higher education institutions and on the principle of considering research as one of HEIs goals was strong. And also the conviction they have about conducting research on community problems for knowledge advancement and teaching that knowledge to the university students as the primary goal of HEIs were discovered as quite good. Discussants had argumentative

discussion on the idea that research should be conducted consistently with teaching and/or if possible prior to teaching. And hence it was seriously taught that research should be conducted consistently with teaching as one of the primary goals of HEIs. In general, the majority of university instructors' perception toward the importance of research in Higher Education Institution was recognized and judged as good.

With respect to instructors' research intensity at UoG, influential factors such as instructors' research confidence, the proportion of research projects ever conducted, and their entire research participation were inevitably investigated. Subsequently, instructors' research confidence was found out as high which was expected. But, their attitude and/or other problems were suggested as the major hindrance factors that might have affected their research confidence. This might imply that unless an instructor has research confidence even with high research skill, success in research would be unimaginable.

And it was also discovered that the quantity of the research projects conducted by the sample instructors in the university was revealed as less. However, the number of the projects under study as well as the size of teacher researchers has been currently increasing. In fact, lack of in-service research method training to the academic staff and insufficient fund available were identified as the major reasons for the size of staff researchers and research projects being less since the year 1999 E.C. Because this could apparently expose the instructors to the research skill problems they evidently faced. Nevertheless, their research participation to the annual research conference of the university was almost found out as good though equal participation was not apparent.

Generally, it was more or less reflected that instructors' research intensity at the institution becomes some how good though it could not possible to conclude as very good.

In the university, in-service research training is very much required. Basic in-service research training given to the academic staff could enhance their current research skills, practice and participation. So as to inject potentially the research skill to each academic staff, in-service research training can be taken as a compulsory input factor. However, the rate of the training given so far and the proportion of instructors who have taken in-service research training were not significantly considerable. This was because the university does not have its own potential and sufficient research method trainers though there are few trainers.

The University is also desired to comprise its own internal research audit system as far as quality research output is required. However, it was examined that the university does not have

strict selection criteria used to select quality research projects as well as organized internal quality research audit system/body at the university level. Of course, the university has research proposal reviewers from each respective department designated by the RCS office. But what is actually being observed is as they do not seriously audit the research findings and even the submitted research proposals.

At UoG, research is apparently conducted and disseminated. And the teacher researchers are expected to disseminate the research findings to the end-users. In the study, the RCS office of the University was identified as the responsible body to disseminate these research findings. But, its degree of dissemination was not as it was anticipated. From the finding, the students and staff annual research conference, and seminars as well as the research publication are being used as research dissemination and utilization modes. Of course, the University is regularly using the students and staff annual research conference as disseminating mode more than publication.

In fact, books are also being published by instructors though they are few in number as compared to the total staff size. So the role of the RCS office in using the published materials to disseminate the research findings was discovered as minimal. Lastly, it was also examined that Amharic language must be emphasized as a local research language and used as disseminating mechanism so as to let the local people effectively utilize the research outputs.

In general, from these all findings; it could be concluded that the status of the University in disseminating the research findings to the surrounding community was rated as low.

The University staff believes in the unity of teaching and research. The majority of the participants perceived and pointed out that in the strategic plan of the University and its legislation; research has been actually considered as a policy. As the policy, the status of research in the University looks good. From the finding, in order to implement this policy; it was suggested that time has to be properly scheduled for teaching and research work so as to perform regularly each duty without losing one of them. Hence, the suggestion warranted that teacher researchers should at least allocate 25% of their working time to conduct research.

Lastly, it was typically concluded that participants have relevant knowledge and belief on the fact that research performance of an academic staff should be considered in teacher performance evaluation and research should be done consistently with teaching. But, the result of the study showed that as they have not ever used integrated research and teaching work plan in their course outline and they did not ever use their research findings for their course content

improvement. Here, it seems clear that purely the general knowledge and belief of an instructor on the role of research in teaching performance may not be taken for granted for his/her research knowledge application to teaching work.

In fact, the institution has been trying hard to meet its research goal through organizing the research projects each year. But, a number of hindering factors currently made the condition some how reluctant. Through the study, it was revealed that the number of staff conducted the research projects in the university was minimum in size. This was because of various hindering factors. Though those factors are plenty, lack of adequate research fund, unsuccessful in-service research training, and insufficient research work time were repeatedly raised and dealt by the participants as the major influential factors to research work.

To cope up with such and other hindering factors, research promoting mechanisms should be identified. And therefore, up grading the educational status of the instructors, designing research focused postgraduate curriculum, allocating sufficient fund on competitive base, providing in-service research training to instructors, encouraging group research work between the senior and junior staff, creating collaborated means between the RCS office and other related offices of the university, organizing research infrastructures, fund raising system by the RCS office and availability of potential staff in the RCS office were most importantly examined mechanisms to enhance the capacity of research undertakings in the University.

Finally, its own published Journal of the RCS office, and having clear communication between the researchers and the policy makers were also strongly suggested.

6.2 Conclusions

Based on the findings of the study, the following conclusions were made:

1. The University has its own research coordinating office; Research and Community Service Core Process office (RCS) which aimed at promoting basic and applied research in order to generate knowledge and technology that can potentially serve the community. Administratively, the office has good position. However, it is not that much well staffed and its research management system looks some how at lower rank and not conducive.
2. The majority of university instructors have good perception towards the importance of research in HEIs. The conviction they have about conducting research on community problems for knowledge advancement and teaching that knowledge to the university students as the primary goal of HEIs is somewhat good. Hence, it has been critically

learned that research should be conducted consistently with teaching as one of the primary goals of HEIs.

3. Though most university instructors have considerable research confidence, the quantity of the research projects conducted and published in the university is less. Lack of in-service research method training to the academic staff and insufficient fund are the major identified causes which made the proportion fewer since the year 1999E.C. Nevertheless, the number of the research projects under study and the size of teacher researchers have been currently increasing. And instructors' research participation to the annual research conference of the university is recognized as good though equal participation is not seen. In general, Instructors' research intensity at the institution becomes and seen as some how good though not very good.
4. In-service research training has been considered as an unavoidable input factor so as to enhance the instructors' current research skills, practice and participation. Nevertheless, since the university does not have its own sufficient potential research method trainers, its rate and the proportion of instructors who have taken in-service research training so far is not significant.
5. The university does not have organized internal quality research audit system and strict selection criteria used to select quality research projects at the university level. Hence, the submitted research proposals and the research findings are not seriously being audited even if there are research proposal reviewers at department level.
6. The RCS office of the University is identified as the responsible body to disseminate the research findings to the end-users. The students and staff annual research conference and seminars are usually used as research dissemination and utilization modes more than research publication. Some how good book publication experiences being seen in the university could signal the research competence of UoG. Yet, the status of the University in disseminating the research findings to the surrounding community seems low.
7. The strategic plan of the University and its legislation has a research policy that symbolizes good research status of the University. And the research performance of an academic staff is identified as a measure of teacher performance evaluation so that research and teaching should be fertilized together. But, most instructors have not ever used integrated research and teaching work plan in their course outline and did not ever use their research findings for their course content improvement. Hence, mere knowledge and belief on the

role of research in teaching performance may not be taken for granted research knowledge application to teaching work.

8. Currently, lack of adequate research fund, unsuccessful in-service research training in particular more than insufficient research work time made the research practice of the institution some how aversive.
9. Considerably, from the participants' research experience and judgment in the institution, and from the over all findings observed in this study, the research capacity of the university, could be judged and concluded as some how moderate.

6.3 Recommendations

In order to seek solutions to diverse problems, challenges and shortcomings identified in the study, the following recommendations have been emphatically forwarded.

1. The Research and Community Service Core Process office (RCS) of the university has to be well staffed and its research management system should be conducive to all type teacher researchers. The office has to hire its own research skilled potential staff by type who can carefully and reasonably able to review the research proposals, audit the quality of the research findings and work as editor in chief in each field of study. Hence, the staff researchers are motivated to conduct quality research there by their capacity is improved.
2. Research shouldn't be done for the sake of research but it should truly support the development of the country. So university staff in research has to focus on the priority problems of the country. For instance, technology from local or the outside developed world has to be adopted and adapted. Otherwise, resources should not be trivially wasted.
3. Research knowledge and skill of the University academic staff should be enhanced and advanced through increasing the number of instructors in second and third degrees by designing research focused post graduate curriculum. Hence, the proportion of well trained instructors who can undertake research projects would be increased.
4. The university has to organize and perform permanent in-service research training to its academic staff as one of other compulsory tasks of the institution if its academic mission must be met. To do so, it has to bring other advanced research trainers from outside as usual, and finally has to rear its own potential research trainers through this organized in-service research training program.

5. Internal quality research audit body and strict selection criteria have to be organized, devised and promoted in the institution if quality researches are to be conducted. So quality research findings with desirable changes would be reared.
6. The RCS office has to possess its own Journal and book publication experience and capacity of using the published materials to disseminate the research findings to the end-users through enhancing the publication practices of both experienced and inexperienced instructors. To do so, group research work tradition should be encouraged.
7. Amharic language should be emphasized as a local research language to let the research findings effectively utilized by the local people. So English language based research works are to be translated in to Amharic version during dissemination.
8. University instructors have to use integrated research and teaching work plan in their course outline and utilize their research findings for their course content improvement. Hence, their teaching performance would be evidently and practically realized more than theoretically.
9. The University should own a research led policy which dictates that the academic staff that is not able, or need not conduct research and publish a single manuscript with in specified years, can not stay in the university. This kind policy could in turn enforce the staff to conduct research in each discipline and enhance his/her research capacity.
10. Adequate research fund, well furnished research laboratory, infrastructures, and other important inputs should be ready and fulfilled in the university. Because they are energies used to break the inertia in research. To this end, the government has to give due emphasis to university research in its national policy. Consequently, it would be rational and possible to allocate sufficient research fund and other infrastructures.
11. The government has to give due emphasis to research and design technology led national research policy so that all sorts of research works in higher education could be practiced with out any gap between the researchers and the policy makers, and research progressively becomes the matter of both sides and research priority problems are easily identified, studied, and implemented.
12. The study focused on the assessment of the research capacity of University of Gondar only with reference to major aspects. In fact, it does not demonstrate the whole research agenda that requires further investigation.

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APPENDICES

Appendix 1: Questionnaires for University Instructors

Purpose: This questionnaire has been prepared to gather information/data for the study conducted on “An Assessment of the Research Capacity of Higher Education Institutions: The case of University of Gondar”. It is believed that instructors would be good sources of information for this study. Therefore, please fill the following questions according to the instructions given. I do assure that your all respected responses will be kept confidential.

Many thanks to you!

General Directions

1. Don't write your name.
2. Please, try to answer every question according to the instructions provided.
3. If you want to give additional suggestions, use the blank spaces provided.

Part I: Personal detail

1. Name of the college/faculty/School-----2. Name of Your department -----
3. Age

1. 25 years and below	2. 26-35 years	
3. 36-45 years	4. 45 years and above	
4. Sex

1. Male	2. Female	
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5. Educational Status

1. Diploma	2. BA/BSC/BED	
3. MA/MSC/MED	4. PhD	
6. Academic Rank

1. Graduate Assistant I	2. Graduate Assistant II	3. Assistant Lecturer
4. Lecturer	5. Assistant Professor	6. Associate Professor
		7. Professor
7. Service year

1. 5 years and below	2. 6-10 years	3. 11-15 years
4. 16-20 years	5. 21 years and above	
8. Regular teaching load per week

1. 6-10 periods	2. 11-15 periods	
3. 16-20 periods	4. 21 periods and above	

Part II Questions to measure Instructors' Perception toward Conducting and Utilizing Research.

Direction I: For the following close-ended questions, circle your choice that you suggest and use the blank spaces for your further suggestions.

1. As a University instructor, how do you rate the importance of research in a higher institution such as in your University?
 A. Very High B. High C. Medium D. Low E. Very Low
2. The primary goal of establishing higher education institution is conducting research to find out solutions for community problems and teaching findings to the students.
 A. Strongly Agree B. Agree C. Disagree D. Strongly disagree
3. Have you taken research methodology course in your Diploma, Undergraduate /1st degree/, Masters'/2nd Degree/, PhD study when you were a university student?
 A. Yes B. No C. Others, please indicate your level of study /either you are Diploma, 1st, 2nd, or PhD Degree holder / -----
4. If your answer for no.'11' is 'yes', how much the research methodology course you have taken in your study contributed to the advancement of your basic research knowledge and skills?
 A. Very High B. High C. Medium D. Low E. Very Low
5. How do you rate your level of confidence to conduct research if a research problem is provided at your disposal?
 A. Very High B. High C. Medium D. Low E. Very Low
6. Have you ever got basic in-service research training opportunity in your university stay?
 A. Yes B. No C. Others, if Yes-----
7. How often have you ever conducted research in your institution?
 A. More than 3 times B.3 times C.2 times D.1 time E. Not at all
8. Have you been teaching research methodology course in your department?
 A. Yes B. No C. If yes, what is your field of specialization-----
9. Since your employment as a University instructor, how often did you participate in research seminars and conferences organized by your university?
 A. Always B. Some times C. Rarely D. Not at all
10. How often have you ever presented your research findings to your university annual research conference in your University stay?
 A. Yes B. No C. Others, If No-----

11. If you have ever conducted research, would you please list down the **research titles or issues** which you have studied. Tick the mark (✓) whether your research work has been published or unpublished in the following table?

No.	Your research title/s	Published	Unpublished
11.1			
11.2			
11.3			
11.4	Others		

12. Would you please mention the major constraints that limit your research publication process? ----

13. There is conducive environment or favorable research management system in Research and Community Service core process office /RCS/ or the former Research and Publication office /RPO/ of the University.

A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree E. Others, if you disagree-

14. The degree of publishing your research findings is being practiced by the Research and Community Service core process office/RCS/ or the former Research and Publication office /RPO/ of the university as you expected.

A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree

15. Who is the responsible body to disseminate your research work findings in your university?

A. RCS /RPO B. Faculties C. Departments D. Individual Researchers/you/ E. Others,

16. The degree of disseminating the research findings is as high as expected.

A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree

17. Most University instructors including you have enough time to conduct research?
 A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree
18. If you want to conduct research, the financial service you get from your university is sufficient.
 A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree
19. If you want to conduct research, the University's research financial support is fast and on time.
 A. Strongly Agree B. Agree C. Disagree D. Strongly Disagree
20. Is the research work counted as a professional measure in teacher performance evaluation?
 A. Yes B. No C. Suggestion on its importance if yes-----
21. Is the teacher research work considered as a professional measure for teacher promotion to the next rank in your university?
 A. Yes B. No C. Suggestion on its relevance if yes-----
22. How far do you believe that conducting research can enhance your subject matter knowledge and skill for your effective teaching?
 A Very high B. High C. Medium D. Low E. Very Low
23. Do you have annual research plan hand in hand with your annual teaching plan in your course outline?
 A. Yes B. No C. Suggestion, if any-----
24. Research has to be done consistently with teaching.
 A. Strongly agree B. Agree C. Disagree D. Strongly disagree.
25. Can research be considered as prerequisite to teaching to be an effective teacher?
 A. Yes B. No C. Others, if No-----
26. Have you ever used your research findings to improve your course content that you teach?
 A. Yes B. No C. Suggestion, why if no-----
27. Have you ever used your research findings to improve your teaching method that you employ to teach?
 A. Yes B. No C. Suggestion, why if no-----
28. Research is very important in promoting quality teaching and then quality education.
 A. Strongly agree B. Agree C. Disagree D. Strongly disagree.

29. Some of the predictable factors which may promote instructors' research undertaking capacity are listed in the table below. Please, rate the degree of importance of each factor by marking (✓) in the appropriate column. Use the following scales: Least Important =1, Less Important = 2, Important=3, More Important= 4, Most Important=5

No.	Factors Promoting Instructors' Research Undertaking Capacity	1	2	3	4	5
29.1	Instructor's hierarchical educational status ;from Diploma to PhD level					
29.2	Instructor's positive attitude toward the role of research in higher education					
29.3	Instructor's background knowledge about establishing ones University is primarily conducting research on community problems, solving and teaching it					
29.4	Availability of sufficient research work materials such as computers, printers, internet service, published research materials, journals/review of literature/in the library in various field of studies/disciplines/					
29.5	Optimal teaching load					
29.5	The research method course/s/ taken in his/her field of study in University life					
29.6	Instructor's level of confidence to conduct research					
29.7	Opportunity of getting basic in-service research training in the University					
29.8	Opportunity of participating in research seminars and conferences					
29.9	The frequency of presenting the research findings to annual research conference					
29.10	The presence of close contact and cooperation between the University's RCS/RPO/ and other external/outside/ well-known research centers.					
29.11	Well organized and fast research administration system of the university					
29.12	Helpful research management system in the RCS/RPO/					
29.13	The presence of research dissemination means in the institution					
29.14	The occasion of getting encouraging research publication system in the RCS/RPO/					
29.15	Instructor's planned and adequate research work time					
29.16	Convenience of clearly specified budgetary procedures that ensure allocation of research fund					
29.17	Motivating and urgent research fund flow to the research proposal submitted					
29.19	Research work being counted as professional measure in teacher performance evaluation and teacher promotion					
29.20	An experience of integrating annual research plan with annual teaching plan					
29.21	Taking into consideration research work as prerequisite to teaching					
29.22	Promising research oriented campus atmosphere in the University					
	You can write other means of promoting instructor's research capacity					

Direction II: Please rate the entire capacity of the research activities in your university.

30. How do you rate the status or capacity of conducting research practices at your university?

A. Very high

B. High

C. Moderate

D. Low

E. Very low

Part III Suggestions to promote research activities.

Instruction: Please list down any additional suggestion, you as a **professional/an academician** think, that would assist to **promote university research/recommended mechanisms** to build research capacity in your university/.-----

Appendix 2: Interview Guide for key Participants of the Study

The major aim of this interview is to get valid information on the status and contribution of the research practice in the university and to identify factors that might affect seriously the instructors' entire research movement.

Therefore, the opinion of research experienced academic staff of the university is believed to contribute much to the study. The overall purpose is to come up with possible recommendation that is expected to contribute to the effort being made to enhance instructors' involvement in research undertakings. The data will be used only for research purpose. The information will be kept confidential.

• Issues to be raised in the interview session with key research qualified academic staff individually and face to face.

1. How do you see the status of research practice in the University in terms of the involvement of instructors in conducting research?
2. How do you suggest on the idea that whether the primary goal of establishing an institution is conducting research on societal problems for the advancement of knowledge and teaching the findings to the university students?
3. Is there an opportunity of providing in-service basic research method training to the academic staff of the university? If yes, who are the trainers, and how often does the institution provide this training per annum?
4. How many times does the university have research conference per annum? If it is only a one time shot, do you recommend that it is satisfactory and further research conference will not be necessary and designed in the future?
5. How do you assess and rate the status of instructors' research involvement and their areas of study presented to the institution's annual research conference?
6. What major problems do you imagine that may deteriorate the overall research work of the University? Which of the problems are the most severe ones?
7. Can we say that the university has facilitated publishing opportunity of the research findings through the RCS /RPO/? If so, what is the name of the journal published by the university's RCS and recognized at the institutional and/or national level?
8. What are the determinant major factors that would challenge the research publication system at school, faculty, and college or university level?

9. Is there any observable and measurable research audit system used by the institution in order to manage the work and progress of the RCS?
10. How do you see the relevance of the selection criteria which the RCS bases in order to select the submitted research proposals by the instructors?
11. Is there any opportunity and easy mechanism of disseminating the published research findings at least the most critical and change-driven findings to the community in side and out side the university? Which body is responsible to disseminate the published materials? The RCS? Faculties?
12. Is there any research policy indicator in the strategic plan of the university which dictates that the annual research work plan should go hand in hand with annual teaching plan?
13. What do you recommend on the idea that university research work should be done consistently with university teaching if possible prior to teaching?
14. How is the value given to research in teacher performance evaluation?
15. What are the top problems which de motivate teacher researchers that you need to underline so as to achieve the university's vision , mission, , and goals in terms of research.
16. What possible mechanisms/if possible scientific means/ can you suggest to promote the research capacity of the university?

Appendix 3: Interview Guide for the key informant from Research and Community Service Core Process Office/RCS/ of University of Gondar.

1. What is the general objective of the research and Community Service office /RCS/ in relation to the vision, mission and goals of the university? How about its administrative position in the structure of the university?
2. Can we say that the office is well staffed? Meaning, does the office have potential staff members?
3. How do you see the status of research practice in the university in terms of teachers' attitude, size and their participation in conducting research in each year? Any statistical evidence?
4. Does the office prepare basic research in-service training to the academic staff? If so, who are the trainers that the office assigns to train? Does the office have its own mandate to choose the potential research trainers or not, and which selection criteria does it base? How many times is the training given per year?
5. How many times does the university prepare research conference and other research seminars per year? Can we say that one time research conference is enough to create research oriented and research led teaching campus atmosphere? Is there any plan to redesign such program, currently?
6. How do you rate the status of teacher researchers in terms of their quality research findings? Who are the potential assessors of quality research findings that are found out in the university?
7. How can the RCS manage the annual research works submitted by instructors? What are the procedures/criteria/ used by the office to select the appropriate research proposals submitted by the staff?
8. Does the RCS have facilitative publication system? What is the name of the research journal that has been ever published at the institution level?
9. How about the RCS degree of recognition at the regional and national level with respect to its publication and research out put dissemination? What are the top challenging factors that deter the entire research activity of the university, publication system as well as its disseminating process of the research outputs to the community?
10. Can we say that the research fund allocated to the university is sufficient, fast, on time and motivating for research work, or further innovation?
11. Is there any observable and measurable research **review/audit/** system, for instance, to identify the internal quality of the research topic as well as the relevant findings? Or who are the research auditors if available?
12. What possible mechanisms can you suggest, as the research office coordinator of the university, to promote the research capacity of the university

Appendix 4: Cronbach's Alpha Reliability Statistics

	Cronbach's Alpha	N of Items
Instructors' Questionnaire	0.836	50

Item-Total Statistics for Instructors Questionnaire

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item1	142.9545	159.855	.214	.834
Item 2	144.1364	158.504	.284	.833
Item 3	144.0000	162.476	.083	.836
Item 5	143.4091	156.348	.333	.831
Item 6	143.3182	162.323	.028	.839
Item 7	147.5000	164.071	-.048	.837
Item 8	146.9091	153.325	.442	.828
Item 9	147.4545	161.974	.163	.835
Item 10	146.8182	162.442	.116	.835
Item 11	147.4545	164.926	-.100	.839
Item 12	147.4091	164.825	-.113	.838
Item 13	145.6364	160.433	.225	.834
Item 14	145.5909	159.015	.305	.832
Item 15	145.2273	160.470	.027	.846
Item 16	145.5909	163.396	-.003	.838
Item 17	144.8636	157.457	.255	.833
Item 18	146.0909	164.563	-.072	.840
Item 19	145.9091	159.325	.223	.834
Item 20	147.0455	160.522	.235	.834
Item 21	146.8182	159.584	.404	.832
Item 22	142.9091	162.944	.053	.836
Item 23	147.5455	165.117	-.190	.838
Item 24	144.2727	158.589	.254	.833
Item 25	147.0000	159.048	.172	.836
Item 26	147.0909	162.848	.051	.836
Item 27	147.1364	164.790	-.098	.839
Item 28	143.8636	161.076	.230	.834
Item 29.1	143.5455	162.260	.010	.842
Item 29.2	142.9545	157.093	.386	.831
Item 29.3	143.4091	147.491	.735	.821
Item 29.4	143.0000	157.143	.375	.831
Item 29.5	143.6364	150.242	.472	.827
Item 29.6	143.6364	151.195	.550	.826